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A Commitment to Service

Planning, Building & Environmental Services

1195 Third Street, Suite 210
Napa, CA 94559
www.countyofnapa.org

Brian D. Bordona
Director

To: Center for Biological Diversity, c/o Frances Tinney, 1212 Broadway #800, Oakland CA 94612
Vincent Forte, 1237 Rose Lane, Lafayette CA 94549
Rarecat Wines, c/o Sharon Kazan Harris, P.O. Box 801, Rutherford CA 94573
Napa Valley Vineyard Engineering, 176 Main Street Suite B, St. Helena CA 94574
State Clearinghouse

From: Donald Barrella

Subject: Response to Comments - Initial Study/Mitigated Negative Declaration
Forte Partrick Road Vineyard Conversion
Agricultural Erosion Control Plan File #P20-00139-ECPA
Approximately 1 mile west/northwest of the intersection of Partrick Road and Browns Valley Road, Napa, CA 94558: APN 050-030-015
SCH #2023060712

Date: October 16, 2023

Attached is a copy of the Response to Comments for the subject project. The report contains our responses to comments provided on the June 28, Initial Study/Mitigated Negative Declaration, which can also be accessed at Current Projects Explorer | Napa County, CA (countyofnapa.org)

The County could approve the Project on or after **Monday October 16, 2023**.

Should you have any questions, please call Donald Barrella at 707-299-1338 or via e-mail to donald.barrella@countyofnapa.org

Respectfully,

Donald Barrella
Planner III

cc: Brian Bordona, Director PBES (via email)
Patrick Ryan, Interim Deputy Director PBES (via email)
Dana Morrison, Supervising Planner (via email
Chris Apallas, Deputy County Counsel (via email)

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Brian D. Bordona
Director

TO: Application File #P20-00139-ECPA

FROM: Donald Barrella, Planner III

DATE: October 16, 2023

RE: Response to Comments – Forte, Partrick Road Vineyard Conversion
Agricultural Erosion Control Plan (ECPA) #P20-00139-ECPA
Assessor's Parcel Number 050-030-015
SCH #2023060712

INTRODUCTION

This memorandum has been prepared by the County Conservation Division to respond to comments received by the Napa County Department of Planning, Building and Environmental Services (Napa County) on the Proposed Initial Study/Mitigated Negative Declaration (Proposed IS/MND) for the Forte, Vineyard Conversion #P20-00139-ECPA (proposed project). An IS/MND is an informational document prepared by a Lead Agency, in this case, Napa County, that provides environmental analysis for public review. The agency decision-maker considers it before taking discretionary actions related to any proposed project that may have a significant effect on the environment. The Proposed IS/MND analyzed the impacts resulting from the proposed project and where applicable, identified mitigation measures to minimize the impacts to less-than-significant levels.

This memorandum for the Forte Vineyard Conversion Agricultural Erosion Control Plan #P20-00139-ECPA Proposed IS/MND, presents the name of the persons and organizations commenting on the Proposed IS/MND and responses to the received comments. This memorandum, in combination with the Proposed IS/MND, completes the Final IS/MND.

CEQA PROCESS

In accordance with § 15073 of the CEQA Guidelines, Napa County submitted the Proposed IS/MND to the State Clearinghouse for a 30-day public review period starting June 28, 2023. In addition, Napa County circulated a Notice of Intent to Adopt the Proposed IS/MND to interested agencies, individuals, and property owners within 1000 feet of the subject property. The public review period ended on, 2023. During the public review period, Napa County received one comment on the Proposed IS/MND. Table 1 below lists the entity that submitted comments on the Proposed IS/MND during the public review and comment period. The comment letter is attached as identified in Table 1.

TABLE 1
COMMENTS RECEIVED ON THE PROPOSED IS/MND

Comment Attachment	From	Date Received
1	Center for Biological Diversity (CBD)	July 28, 2023

In accordance with CEQA Guidelines § 15074(b), Napa County considers the Proposed IS/MND together with comments received, both during the public review process and before action on the project, prior to adopting the Proposed IS/MND and rendering a decision on the project. The CEQA Guidelines do not require the preparation of a response to comments for negative declarations; however, this memorandum responds to comments received. Based on review of the comments received no new potentially significant impacts beyond those identified in the Proposed IS/MND would occur, no new or additional mitigation measures, or project revisions, must be added to reduce impacts to a less than significant level, and none of the grounds for recirculation of the Proposed IS/MND as specified in State CEQA Guidelines § 15073.5 have been identified. All potential impacts identified in the Proposed IS/MND were determined to be less-than-significant or less-than-significant with mitigation incorporated.

This Response to Comments Memorandum will also be provided to the owner/Permittee as **notice** of potential Local, State and Federal permits or agreements necessary to implement and/or operate this project, and other CEQA requirements including filing fees. Furthermore, project approval if granted shall be subject to conditions of approval requiring any and all such permits or agreements be obtained prior to the commencement of vegetation removal and earth-disturbing activities associated with #P20-00139-ECPA, and that #P20-00139-ECPA shall be subject to any conditions and/or specifications of such permits or agreements.

RESPONSE TO COMMENTS

Comment #1 Center for Biological Diversity (CBD) (Attachment 1)

Response to Comment 1.1:
These comments, including commentary on the Center for Biological Diversity's work in Napa County protecting native species and habitat, and building a healthy climate-resilient future have been acknowledged and entered into the record.

See *Responses to Comments #1.2 through #1.21*, incorporated herein by reference, for responses to EIR preparation, and potential impacts to biological resources, wildfire, water quality, and greenhouse gas emissions.

Response to Comment 1.2:
As disclosed in the Proposed IS/MND, there will not be significant impacts because of the project due to revisions to the project in the form of Mitigation Measures have been made and agreed to by the project proponent. Preparation of an EIR for this project would not significantly add to the disclosures, analysis, or mitigation measures presented in the Proposed IS/MND and is not necessary in light of the County's conclusion that, with mitigation incorporated project-related impacts to biological resources, greenhouse gas emissions, wildfire risks, and risks to water quality would be less than significant.

State CEQA guidelines § 15064(f)(2) state that "*If the lead agency determines there is substantial evidence in the record that the project may have a significant effect on the environment but the lead agency determines that revisions in the project plans or proposals made by, or agreed to by, the applicant would avoid the effects or mitigate the effects to a point where clearly no significant effect on the environment would occur and there is no substantial evidence in light of the whole record before the public agency that the project, as revised, may have a significant effect on the environment then a negative declaration shall be prepared*."

Pursuant to Public Resources Code § 21091(f) and CEQA Guidelines § 15074 the County, after considering the evidence in the Proposed IS/MND (including its supporting studies, modeling and plans), CBD's comments and the responses thereto provided in this response to comments document (*Responses to Comments #1.1 through #1.21*, incorporated herein by reference), and mitigation measures and conditions of approval identified in the Proposed IS/MND, has determined there is adequate documentation (i.e. substantial evidence) in the record supporting the conclusion that the comments have not affected the County's conclusion and determination that the project, as mitigated, would not result in potentially significant impacts to the environment. Additionally, *Responses to Comments #1.3 through #1.21* support the determination that an EIR does not need to be prepared and that potential impacts, including but not limited to, biological resources, wildfire, water quality, and greenhouse gas emissions as a result of the project would not result in potentially significant impacts to the environment.

Furthermore, while many references have been cited in this comment letter, evidence specific to this project and property has not been provided demonstrating that the potential level of impacts analyzed as a result of the proposed project would occur beyond what is disclosed, assessed and mitigated for in the Proposed IS/MND.

Therefore, the Proposed IS/MND adequately assesses, discloses and mitigates potential environmental impacts of the proposed project in accordance with CEQA (California Public Resources Code § 21000 et seq.), the State CEQA Guidelines (California Code of Regulations Title 14, § 15000 et seq.), and *Napa County's Local Procedures for Implementing the California Environmental Quality Act* (Napa County 2015), and the preparation and circulation EIR is not warranted.

Response to Comment 1.3:
As disclosed in the **Project Description** of the proposed IS/MND (Page 1) and CEQA noticing documents, the proposed development is approximately 20.23-acres. The description found in **Exhibit B**[1] of the Proposed IS/MND is not the official project description, as noticed, disclosed, analyzed, and assessed in the Proposed IS/MND; and therefore, does not make for an inaccurate and unstable project description.

The project description in **Exhibit A**[2] of the IS/MND states approximately ±20.3 gross acres of development. This Exhibit was prepared by a Registered Professional Engineer (Drew Aspegren REP#31418), who must follow the Professional Engineers Act, as well as California Code of Regulations, Title 16, Division 5. According to California Code of Regulations Title 16 Division 5 § 475(e)(1) specifying that, *A licensee shall not misrepresent the completeness of the professional documents he or she submits to a governmental agency*.

Furthermore, as disclosed in the **Background Section** of the Proposed IS/MND (Page 3), the proposed project was originally designed to include approximately 21.71 gross acres of vineyard development (with

[1] Biological Resource Assessment, Forte Vineyard Project, Northwest Biosurvey, August 2020.
[2] Forte Vineyard Agricultural Erosion Control Plan, Napa Valley Vineyard Engineering Inc., February 2023.

approximately 16.91-acres of planted vineyard) but was subsequently revised to remove three (3) vineyard blocks located in the western portion of the site and one smaller vineyard block in the eastern portion due to access road development issues.

For these reasons the project description as disclosed and assessed in the Proposed IS/MND is accurate, stable, and complete. Also see *Responses to Comments #1.4 through #1.21,* incorporated herein by reference.

Response to Comment 1.4:
See *Responses to Comments #1.1 through #1.3 and #1.5 through #1.21*, incorporated herein by reference.

Response to Comment 1.5:
As disclosed in **Section IV** (**Biological Resources**) of the Proposed IS/MND, while no special-status plant species were identified within the project area, there is the potential that special-status plant species have established or proliferated since the botanical surveys, resulting in potential impacts to special-status plants and populations that have may have appeared since the original survey dates. To reduce this potential impact to a less than significant level **Mitigation Measure BR-1** will be implemented. This measure would require a floristic survey of the development areas be conducted prior to project initiation to ensure protection and minimization of potential impacts to any special-status plants or populations that may have appeared since the original survey in 2018. With implementation of **Mitigation Measure BR-1**, impacts on special status plant species would be reduced to a less than significant level.

> **Mitigation Measure BR-1:** The owner/permittee shall incorporate the following measure into #P20-00139-ECPA-ECPA prior to approval to minimize potential impacts to special-status plant species:
>
> a. Prior to commencement of vegetation or earthmoving activities associated with installation of #P20-00139-ECPA, a floristic survey of the development areas shall be conducted by a qualified biologist or botanist, for any special-status plant species. Any special-status plants or populations found shall be mapped. To the fullest extent practicable, removal of special-status plants shall be avoided through adjustments to development area boundaries to avoid and provide special-status plants/populations and provide them with a minimum 25-foot buffer. In accordance with NCC § 18.108.100, Vegetation preservation and replacement) any special-status plants/populations that cannot be avoid shall be replaced on-site at a ratio of 2:1 at locations within similar habitat. For such removal, a replacement plan shall be prepared by a qualified botanist, ecologist or the like for review and approval by the Director prior to commencement of vegetation or earthmoving activities. The replacement plan shall include i) a site plan showing the locations where replacement plants will be planted, ii) a plant pallet composed of the special-status plant species being removed including sizes and/or application rates: seed mixes shall not contain species known to be noxious weeks and any non-native grasses should be sterile varieties, iii) planting notes and details including any recommended plant protection measures, iv) invasive species removal and management specifications, v) an implementation schedule, vi) performance standards with a minimum success rate of 80%, and vii) a monitoring schedule for a period of at least five years to ensure success criteria are met.

Regarding special-status bat species, as disclosed in **Section IV** (**Biological Resources**) of the Proposed IS/MND, while no potential bat habitat trees were identified within the project area; and no historic or current signs were found during the surveys indicating use by bats, there is the potential for bats to occupy the two (2) trees in the project area that would be removed, resulting in a potentially significant impact. However, to

ensure that potential impacts to special-status bat species are minimized, **Mitigation Measure BR-3** will be implemented to reduce this potential impact to a less than significant level.

With respect to foraging habitat, as disclosed in the Proposed IS/MND the open grassland habitats through the central of the project site (encompassing approximately 40-acres) and the woodlands to the east and west of the development areas (encompassing approximately 26-acres) would be available for wildlife use.

Mitigation Measure BR-3: The owner/permittee shall revise Erosion Control Plan #P20-00139-ECPA prior to approval to include the following measures to minimize impacts associated with the potential loss and disturbance of special-status bat species:

a. Bat habitat tree removal and trimming between August 31 through October 15, and March 1 to April 15: Under the supervision of a qualified biologist (defined as having demonstrable qualifications and experience with the particular species for which they are surveying), potential bat habitat trees shall be removed or trimmed in a two-phased system conducted over two consecutive days. The first day (in the afternoon), limbs and branches will be removed by a tree cutter using chainsaws only. Limbs with cavities, crevices and deep bark fissures will be avoided, and only branches or limbs without those features will be removed. On the second day, the entire tree will be removed. All felled trees shall remain on the ground for at least 24 hours prior to disposal to allow any present bats within the trees to escape.

Regarding the American badger, as disclosed in **Section IV** (**Biological Resources**), while this species was not identified during the surveys of the project site conducted by the project biologist, and no evidence of species use was identified, the project site contains friable soils a habitat requirement for American badger. While this species is not anticipated to occur within the project area or site, there is the potential for the American badger to have occupied the project site after the surveys were conducted, resulting in a potential impact to this species.

To reduce potential impacts to the American Badger special-status and protected bird species, bat species and animal species as a result of the project to a less than significant level, **Mitigation Measures BR-4** would be implemented. Implementation of these measures would reduce these potential impacts to the American Badger a less than significant level.

Mitigation Measure BR-4: The owner/permittee shall revise Erosion Control Plan #P20-00139-ECPA prior to approval to include the following measures to minimize impacts to the American badger:

a. A qualified biologist shall conduct a pre-construction survey for the American badger within the project area and adjacent habitat within a minimum of 50 feet from the project area. The preconstruction survey shall be conducted no earlier than 14 days prior to when vegetation removal and ground disturbing activities are to commence. A copy of the survey results shall be provided to the County Planning Division prior to commencement of work. Should ground disturbance commence more than 14 days from the survey date, surveys shall be repeated.
b. If any occupied burrows are discovered the project area, the owner/permittee shall implement an appropriate buffer from the burrow(s), as determined by a qualified biologist and approved in writing by the County in collaboration with CDFW. If the Project cannot avoid impacts to the occupied burrow the Project shall consult with CDFW regarding next steps before proceeding and implement CDFW recommendations such as preparing and implementing an American badger relocation plan.

For these reasons potential impacts to these species have been reduced to a less than significant level through the implementation of specie specific mitigation measures identified in the Proposed IS/MND. Furthermore, the commenter has not provided any evidence specific to this project or property demonstrating that the potential level of impacts analyzed as a result of the proposed project would occur beyond what is disclosed and assessed in the Proposed IS/MND.

Also See *Responses to Comments #1.1 through #1.4 and #1.6 through #1.21*, incorporated herein by reference.

Response to Comment 1.6:
Deferred mitigation refers to the practice of putting off the precise determination of whether an impact is significant, or precisely defining required mitigation measures, until a future date. All proposed mitigation measures have been formulated, disclosed and assessed in the Proposed IS/MND pursuant to Public Resources Code § 21080 et seq and the CEQA Guidelines (PRC §15070 et seq). Therefore, the public has been given appropriate and adequate opportunity to review mitigation measures pursuant to CEQA, and mitigation has not been differed. Furthermore, these measures clearly explain how they will be implemented, who is responsible for implementation, and when and where they will occur, consistent with CEQA.

It should also be noted that the California Department of Fish and Wildlife (CDFW), a **Trustee Agency** with responsibility under CEQA pursuant to CEQA Guidelines § 15386 for reviewing projects that could impact fish, plant, and wildlife resources, has been notified of this proposed project and provided the Proposed IS/MND to review, has not commented on the project or the adequacy of the Proposed IS/MND or its mitigation measures. CDFW is also considered a **Responsible Agency** if a project would require permits issued under the California Endangered Species Act (CESA), the Lake and Streambed Alteration (LSA) Program, or other provisions of the Fish and Game Code that afford protection to the state's fish and wildlife trust resources.

Regarding the American badger, as disclosed and assessed in **Section IV** (**Biological Resources**) of the Proposed IS/MND pursuant to CEQA, while this species was not identified during the surveys of the project site conducted by the project biologist, and no evidence of species use was identified, the project site contains friable soils, which is a habitat requirement for American badger. While this species is not anticipated to occur within the project area or site, there is the potential for the American badger to occupy the project site after the surveys were conducted, resulting in a potential impact to this species, therefore mitigation specific to this species is being implemented (**Mitigation Measure BR-4**). This measure incudes adequate provisions to identify and avoid impacts to this species. Also See *Responses to Comment #1.5*, incorporated herein by reference.

Specific to potential avian impacts and mitigation, as disclosed and assessed in **Section IV** (**Biological Resources**) of the Proposed IS/MND, while special-status avian species were not observed during the reconnaissance-level biological surveys, migratory birds and raptors have the potential to nest within the trees in the project area and adjacent woodlands. Tree removal and temporary and intermittent increases in noise levels may cause nest abandonment and death of young or loss of reproductive potential at active nests located near project activities, which are consider potential direct and indirect impacts to special-status species and protected avian species. Therefore, consistent with CEQA **Mitigation Measure BR-2** is being implemented to reduce potential impacts to a less than significant level. This measure includes adequate provisions to identify and avoid impacts to avian species in accordance with CEQA Guidelines. Also See *Responses to Comment #1.5*, incorporated herein by reference.

Furthermore, with respect to foraging habitat, as disclosed in the Proposed IS/MND the open grassland habitats through the central of the project site (encompassing approximately 40-acres) and the woodlands to the east and west of the development areas (encompassing approximately 26-acres) would be available for wildlife habitat and use.

For these reasons the Proposed IS/MND has adequately disclosed and mitigates for potential impacts to the American Badger and avian species.

Response to Comment 1.7
As identified in Section 4.4 (Wildlife Assessment) of the project's Biological Resource Assessment (Northwest Biosurvey, August 2020: **Exhibit B** of the Proposed IS/MND), **"***Habitat for the following invertebrate, fish, and herptile species has not been found, and therefore are not likely to be found on the property due to the lack of cool, perennial water on the site: Steelhead-Central California Coast DPS (rainbow trout), California giant salamander, Foothill yellow-legged frog, California red-legged frog*."

Regarding the Coast Range and Red-bellied Newt, which are salamander in the subfamily Pleurodelinae, because of to the lack of cool, perennial water on the site necessary for salamanders, as identified in project's Biological Resource Assessment (**Exhibit B** of the Proposed IS/MND). Because the project areas are situated in upper elevation grassland habitats that are over 400 feet from the on-site mapped blue-line stream and over 700 feet from the onsite pond/wetland habitat, and over 0.15 miles (±800 feet) from any riparian habitat associated with Browns Valley Creek, as disclosed in **Section IV (Biological Resources)** of the Proposed IS/MND and associated site-specific Biological Resources Assessment, the Proposed IS/MND appropriately ruled out any potential impacts to these species.

With respect to the Western Pond Turtle, given that the potential pond/wetland habitat is over 700 feet from the project area, the Proposed IS/MND and associated site-specific Biological Resources Assessment appropriately ruled out any potential impacts to this species and its habitat.

For these reasons the Proposed IS/MND appropriately and adequately disclosed potential biological impacts pursuant to CEQA. Also see *Responses to Comments #1.1 through #1.6 and #1.8 through #1.21*, incorporated herein by reference.

Response to Comment 1.8
This comment contains commentary and opinion that does not provide any new or additional evidence, above and beyond the Project's site-specific Biological Resources Assessment, demonstrating that mountain lions are in the area or that the potential level of impacts analyzed because of the proposed project would occur beyond what is disclosed in the Proposed IS/MND. Further the commentary provided does not raise a fair argument that the project would affect mountain lions.

Regarding wildlife movement, see *Responses to Comments #1.9*, incorporated herein by reference.

Response to Comment 1.9
As disclosed in **Environmental Setting Section** of the Proposed IS/MND (Page 2), surrounding and adjacent land uses consist generally of rural residential and undeveloped lands, interspersed with vineyards, to the north, south and west, and urban residential to the east in the City of Napa.

As identified in Section 6.3 (Wildlife Value of Woodlands in the Survey Area) of the project's Biological Resource Assessment (Northwest Biosurvey, August 2020: **Exhibit B** of the Proposed IS/MND), because of its location between denser residential development to the east and existing vineyard development to the west, the property forms a critical habitat linkage between extensive tracts of natural habitat to the north and south; however, slopes on the property are steep and movement corridors are therefore likely to emphasize the lower north-south terrain along the western half of the property, and that the relatively isolated riparian habitat along the Browns Valley Creek tributary, which passes from north to south through this portion of the property, would serve as a particularly important component of this corridor.

Section 8.2 of the project's Biological Resource Assessment (Potential Impacts and Proposed Mitigation for Biological Resources) states that *"The tributary to Brown's Valley Creek that extends through the western edge of the property provides an important wildlife corridor between woodland habitats within the project area. Any project component that would effectively block wildlife movement along this corridor would result in habitat fragmentation. Additionally, the open grassland habitats through the center of the parcel allow free movement between woodlands to the east and west. Blocking this movement with continuous vineyard block development would eliminate this movement through the property*."

The project's Biological Resource Assessment further indicates that "*The Brown's Valley tributary through the western edge of the property should be preserved with a 75-foot radius non-development buffer.",* and that *"Vineyard block fencing should be limited to the vineyard blocks and should not extend between blocks."*

As disclosed in **Section IV** (**Biological Resources**) of the Proposed IS/MND, the proposed project has been designed to avoid the tributary to Browns Valley Creek and provide it with an approximate 400-foot setback buffer to maintain this wildlife movement corridor, and because new wildlife exclusion fencing would encompass each the seven (7) development areas around their peripheries, the open grassland habitats through the central of the project site would also be maintained to allow wildlife movement and use between woodlands to the east and west of the site.

Additionally, with respect to movement area/habitat, as disclosed in the Proposed IS/MND the open grassland habitats through the central of the project site (encompassing approximately 40-acres) and the woodlands to the east and west of the development areas (encompassing approximately 26-acres) would be available for wildlife habitat and use.

For these reasons the Proposed IS/MND appropriately and adequately disclosed potential impacts to wildlife movement pursuant to CEQA. Also see *Responses to Comments #1.1 through #1.8*, incorporated herein by reference.

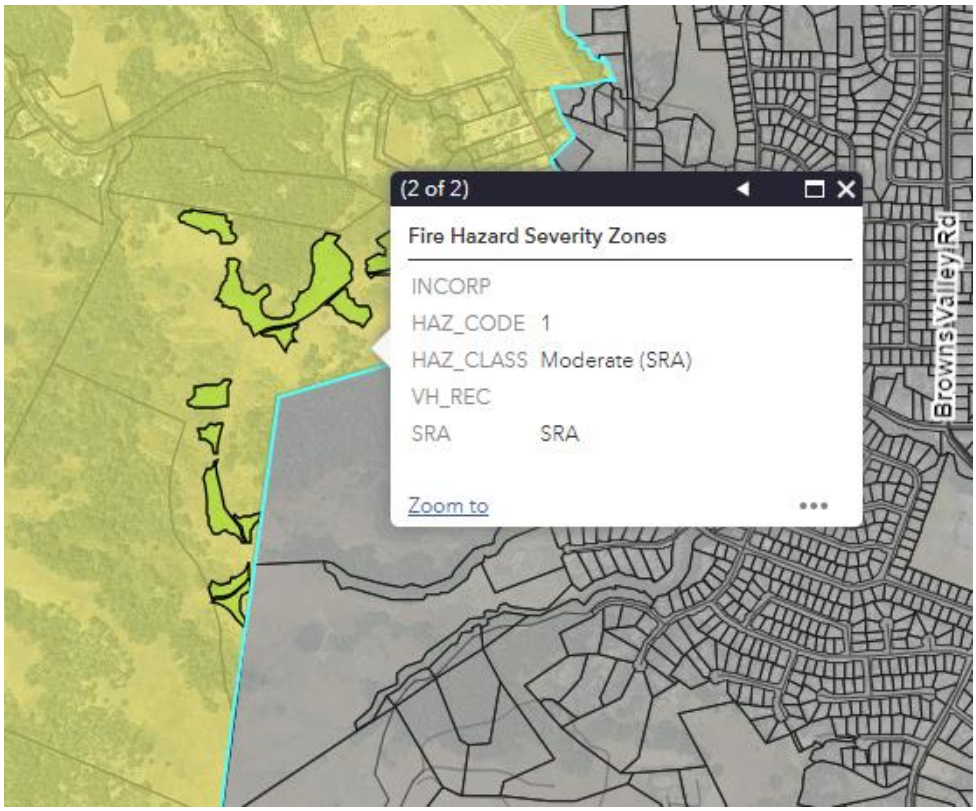
Response to Comment 1.10

The Proposed IS/MND correctly identifies the Fire Hazard Severity Zone as Moderate, based on the Napa County GIS sensitivity layers[3]. Further, the project site is not located within an area containing vegetation typically associated with high wildfire prone areas such as coniferous forests that contain blade-leaf or needle-leaf evergreens with plentiful fine, twiggy, dry or dead materials.

While the comment provides extensive commentary and citations on California's fire history, recent wildfire damage, potential economic impacts of wildfires, and that wildfires disproportionately affect low-income and

[3] Source data: https://osfm.fire.ca.gov/media/6636/fhszs_map.pdf

minority communities, it does not raise a fair argument that the potential risk of fire associated with this project would be a significant impact requiring mitigation. Furthermore, the Proposed IS/MND does not disclose, or otherwise claim, that the vineyard project would result in increased fire safety by creating fire breaks or that the vineyard would substantially reduce fire spread.



As disclosed in **Section IX** (**Hazards and Hazardous Materials**) and **Section XX** (**Wildfire**) of the Proposed IS/MND the risk of fire in vineyards is very low due to limited amount of fuel, combustibles, and ignition sources that are present. Vineyards are irrigated and cover crops are typically mowed in May and August, thereby reducing the fuel loads within the vineyard. The removal of vegetation and the management of vineyard results in an overall reduction of fuel loads within the project area as compared with existing conditions. Additionally, as disclosed in **Section IX** during construction there would be negligible numbers of workers visiting the project site, approximately 10 to 20, on a temporary basis to implement the ECPA and install vineyard, and approximately 10 to 20 workers would also visit the site on a seasonal basis for subsequent vineyard operations during peak seasonal activities such as harvest and pruning. Therefore, there would not be a permanent substantial increase in the number of people working or residing at or near the project site to be affect by fire or substantially increase the potential for fire.

As further disclosed in these sections, project construction would require the use of vehicles and heavy equipment for grading and other activities, and these vehicles and equipment could spark and ignite flammable vegetation. During construction, the risk of igniting a fire would be low because vegetation would be cleared prior to developing the vineyard, and the risk would be temporary due to the short duration of construction (one phase of approximately six month). The proposed project does not include any infrastructure or structures that would exacerbate fire risk; therefore, the proposed project would not increase the exposure of people or structures to wildland fires. While the project site is within an area that historically has experienced wildfires, the proposed project would not significantly exacerbate wildfire risk or expose

large numbers of people to increased fire risks. Therefore, the County has appropriately determined that potential wildfire impacts as a result of the project would be less than significant.

Response to Comment 1.11
As disclosed in **Section X** (**Hydrology and Water Quality**) of the Proposed IS/MND the County requires all discretionary permit applications (such as use permits and ECPAs) to complete necessary water analyses in order to document that sufficient water supplies are available for the proposed project, and to assess the potential impacts of groundwater pumping on hydrologically connected navigable waterways, the County's WAA guidance requires applicants to perform a Tier 3 analysis for new or replacement wells, that are located within 1,500 feet of designated "Significant Streams." [4]

A Water Availability Analysis (WAA) was prepared to determine if the proposed increase in groundwater water demand because of the proposed project would result in a significant impact to groundwater supplies (Napa Valley Vineyard Engineering Inc., November 7, 2022 - **Exhibit G** of the Proposed IS/MND). The WAA estimates the onsite groundwater recharge, overall availability, and existing and proposed groundwater use to disclose and assess potential impacts on groundwater in accordance with the WAA Guidance Documented adopted by the County May 12, 2015.

Long-term average groundwater recharge was estimated as the percentage of rainfall that falls on the parcel that percolates into the underlying aquifer. The percentage of rain that has the potential to infiltrate varies depending on factors such as rates of evaporation and transpiration, soil type and geology that exists at the site, and average annual rainfall. Based on available climatological data, site-specific information, and other available data and analysis relevant to potential recharge, the WAA (**Exhibit G** of the Proposed IS/MND), which uses an average annual rainfall of 26.58 inches per year (in/year) over the approximately 95-acre project site's land area available for recharge and an 11% deep percolate recharge rate, estimates the average annual groundwater recharge of project site to be approximately 23.2 AF/year (**Exhibit G**).

The average annual rainfall utilized in the recharge analysis includes precipitation data over a recent 10-year span (2011 to 2021) that includes times of below-average and above-average rainfall, and therefore inherently includes drought year conditions. Further, the project's WAA conservatively utilizes an average rainfall/precipitation rate that appropriately represents more recent climatological conditions, and results in a more conservative estimate of potential recharge during dry years, in that it utilizes perception data from the immediate past. The project is estimated to have an annual future groundwater demand of 7.8 AF/year, which is below the estimated average annual recharge volume of 23.2 AF/year identified in the WAA.

Considering: i) anticipated annual water use of the proposed project of approximately 7.8 AF/year is well below the anticipated average annual groundwater recharge rate of approximately 23.2 AF/year; ii) there are no off-site wells or springs within 500 feet of the proposed project wells, iii) there are no significant streams within 1,500 feet of the proposed project wells, iv) there is no evidence to date indicating that there are groundwater problems or declining well production in the this area of the County, and v) the standard Groundwater Management condition below (if approved), the proposed project is anticipated to result in less than significant impacts to groundwater supplies, groundwater recharge, and local groundwater aquifer levels.

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

Groundwater Management, Wells – Conditions of Approval:

The Owner/Permittee shall be required (at the permittee's expense) to record well monitoring data (specifically, static water level no less than quarterly, and the volume of water no less than monthly). Such data shall be provided to the County upon request or if the PBES Director determines that substantial evidence indicates that water usage is affecting, or would potentially affect, groundwater supplies. Water usage shall be minimized by use of best available control technology and best water management conservation practices.

In order to support the County's groundwater monitoring program, well monitoring data as discussed above shall be provided to the County if the PBES Director determines that such data could be useful in supporting the County's groundwater monitoring program. The project well shall be made available for inclusion in the groundwater monitoring network if the PBES Director determines that the well could be useful in supporting the program.

In the event that changed circumstances or significant new information provide substantial evidence that the groundwater system referenced in the Erosion Control Plan #P20-00139-ECPA would significantly affect the groundwater basin, the PBES Director shall be authorized to recommend additional reasonable conditions on the owner/permittee, or revocation of this permit, as necessary to meet the requirements of the Napa County Code and to protect public health, safety, and welfare.

With respect to Significant Streams, as disclosed the proposed project wells would be located outside of the 1,500-foot buffer of nearby "Significant Streams" (Napa County GIS Significant Streams and Significant Streams 1,500ft buffer layers). The closest Significant Streams are over 1,850 feet and over 2,600 feet from the proposed wells (**Exhibit G** of the Proposed IS/MND): therefore the project is not subject to a Tier 3 analysis.

Because of the distances from proposed wells to Significant Streams, impacts to public trust resources are not anticipated because there is no hydraulic connection to navigable water. The public trust doctrine requires the state and its legal subdivisions to "consider," give "due regard," and "take the public trust into account" when considering actions that may adversely affect a navigable waterway. (*Environmental Law Foundation v. State Water Resources Control Bd.* [2018] 26 Cal.App.5th 844, 861, 868; *San Francisco Baykeeper, Inc. v. State Lands Com.* [2018] 29 Cal.App.5th 562, 569.) There is no "procedural matrix" governing how an agency should consider public trust uses. (*Citizens for East Shore Parks v. State Lands Com.* [2011] 202 Cal.App.4th 549, 576.) Rather, the level of analysis "begins and ends with whether the challenged activity harms a navigable waterway and thereby violates the public trust." (*Environmental Law Foundation*, 26 Cal.App.5th at p. 403.). As disclosed and assessed in this Initial Study, it has been concluded that no harm to (or less-than-significant impacts on) a navigable waterway would result from the proposed project.

Furthermore, evaluating project impacts within a regulatory scheme like CEQA is sufficient "consideration" for public trust purposes. (*Citizens for East Shore Parks*, 202 Cal.App.4th at pp. 576–577.) The courts have refused to impose factual evaluation requirements or procedural constraints on agencies considering the public trust. (*Citizens for East Shore Parks*, 202 Cal.App.4th at p. 577; *World Business Academy*, 24 Cal.App.5th at p. 509.).

The project's impacts on all streams are anticipated to be avoided due to the distances between project wells and Significant Streams and setbacks provided to other water courses: the proposed project has been designed to avoid ephemeral streams and provide them with setbacks greater than the required minimum of 35-feet, typically a +50-foot setback buffer is provided form ephemeral streams. The County Definitional (Blue-line)

Streams in the area (that are not identified as Significant Streams) have been provided with greater setbacks than the minimum required which range from 85 feet to 150 feet, pursuant to NCC § 18.108.025(B), typically a +400-foot setback buffer is provided form Blue-line streams. As indicated above the closest Significant Streams are over 1,850 feet and over 2,600 feet from the proposed wells (**Exhibit G** of the Proposed IS/MND).

Also see *Responses to Comments #1.12 through #1.16*, incorporated herein by reference.

Response to Comment 1.12
As disclosed in the **Project Description** of the proposed IS/MND (Page 1) the proposed development would be irrigated by two proposed wells as identified and shown in the Project ECPA and its Water Availability Analysis (**Exhibit A** and **Exhibit G**, respectively, of the Proposed IS/MND). Furthermore, as disclosed in the **Background Section** of the Proposed IS/MND (Page 3), existing improvements on the project site are limited to approximately 0.75 miles of dirt access roads and no existing well is identified.

The commenter notes that the statement "because the project contains an existing well which is not being altered, EO N-7-22 does not apply" appears in the disclosure on Page 29 of the Proposed IS/MND. This phrase was a mere inadvertent typographical error and clearly is inapplicable based on the totality of the information in the IS/MND. Given that throughout the Proposed IS/MND and supporting studies and plans (see **Exhibit A** and **Exhibit G**, prepared by a Registered Professional Engineer (Drew Aspegren REP#31418))[5], the inadvertent inclusion of this statement does not affect the analysis or conclusions of this impact category (**Section X – Hydrology and Water Quality**). Furthermore, this typo in the Proposed IS/MND does not result in an inaccurate and unstable project description, or materially affect the disclosures and analysis therein.

Regarding construction wells without approval, as disclosed in **Section X** (**Hydrology and Water Quality**) of the Proposed IS/MND and in *Response to Comment #1.11* (incorporated herein by reference) the County requires all discretionary permit applications to complete necessary water analyses to document sufficient water supplies are available for the proposed project, and to assess the potential impacts on the groundwater aquifer and hydrologically connected navigable waterways, consistent with the Board of Supervisors direction regarding procedures to implement Executive Order N-7-22 for issuance of new, altered or replacement well permits and discretionary projects that would increase groundwater use. Therefore, analysis of the two proposed wells prior to issuance of well construction permits pursuant to NCC § 13.12.260 **(Wells - Permit requirements)** is appropriate and required. Furthermore, this Response to Comments Memorandum will also be provided to the owner/Permittee as **notice** of potential Local, State and Federal permits or agreements necessary to implement and/or operate this project, including County-issued well permits. In short, the owner/applicant cannot construct the proposed wells without a permit and should the well permit applications not be consistent with (or in substantial conformance with) the project description, disclosures and analysis of the Proposed IS/MND, a new WAA will be required to assess any alternate well locations.

Also see *Response to Comments #1.3 and #1.13 through #1.16*, incorporated herein by reference.

Response to Comment 1.13
Hydrologic and erosion analyses were conducted according to standardized methods required by the County. Hydrologic and geologic impact analyses in the Proposed IS/MND were based on a variety of sources

[5] Registered Engineers must follow the Professional Engineers Act, as well as California Code of Regulations, Title 16, Division 5. According to California Code of Regulations Title 16 Division 5 § 475(e)(1) specifying that, *A licensee shall not misrepresent the completeness of the professional documents he or she submits to a governmental agency.*

including modeling, site visits, historic conditions, and existing technical data: see **Exhibit D** (Napa Valley Vineyard Engineering Inc., July 15, 2020, USLE Analysis, Forte Vineyard Project) and **Exhibit E** (Napa Valley Vineyard Engineering Inc., January 7, 2021, Hydrology Analysis, Forte Vineyard Project) of the Proposed IS/MND.

Models used in analysis incorporated data particular to the region the project is located, as well as site-specific data, such as groundcover types for determining runoff and erosion rates. Modeling allows for analysis of long-term historic trends of geologic and hydrologic patterns in the area and are helpful in predicting future trends and determining post-project conditions. For example, the Hydrology and Erosion Analysis and modeling requires inputs to determine rainfall for design storms, the topographic definition of Project Watersheds, and descriptions of vegetative cover and soils to determine runoff characteristics. These are site-specific and project-specific modeling inputs that ensure results are specific to the impact analysis for the Proposed Project.

Engineering methods were used to estimate erosion rates (U.S. Department of Agriculture [USDA] Universal Soil Loss Equation) and runoff rates (USDA TR 55). Such methods are utilized in Napa County to provide quantitative estimates of erosion and runoff under pre-project conditions and ECPA design (or post-project) that meet County standards of no increase in erosion or runoff. A Professional Engineer prepared the soil loss and hydrologic modeling (See *Response to Comment #1.3*, incorporated herein by reference), and County planning and engineering staff were involved in the ECPA and modeling review and Technically Adequacy determination of the Proposed Project.

Napa County Planning and Engineering staff and Napa Valley Vineyard Engineering (preparers of the soils loss and hydrologic study), verified the various modeling inputs, including pre-project vegetation communities and post-project cover specifications, and hydromodification devices to come to a consensus regarding modeling inputs and parameters to generate accurate project specific modeling.

As indicated in the Proposed IS/MND, all of the mitigation measures would be imposed as enforceable conditions of approval on the Project, if approved, and that the project would also be subject to the conditions of approval identified in the Proposed IS/MND, which include the Erosion and Runoff Control (i.e., Hydromodification) Installation and Operation, and Oversight and Operation" provisions pursuant to NCC § 18.108.135, that the project would be inspected and monitored annually for a minimum of three years until the Project is deemed stable and the measures are determined to be functioning appropriately. Thereafter, the County performs random spot checks to ensure continued maintenance over the life of a project.

Erosion and Runoff Control (i.e., Hydromodification) Installation and Operation – Conditions of Approval: The following conditions shall be incorporated by referenced into Erosion Control Plan #P20-00139-ECPA pursuant to NCC Chapter 18.108 (Conservation Regulations):

- Permanent Erosion and Runoff Control Measures: Pursuant to NCC § 18.108.070(L) installation of runoff and sediment attenuation devices and hydromodification facilities including, but not limited to, rolling dips, fiber rolls, and permanent no-till cover crop (or adequate mulch cover applied annually), shall be installed no later than October 15 during the same year that initial vineyard development occurs. This requirement shall be clearly stated on the final Erosion Control Plan. Additionally, pursuant to NCC § 18.108.135 "Oversight and Operation" the qualified professional that has prepared this erosion control plan #P21-000066-ECPA) shall oversee its implementation throughout the duration of the proposed project, and that installation of erosion control measures, sediment retention devices, and

hydromodification facilities specified for the vineyard have been installed and are functioning correctly. Prior to the first winter rains after construction begins, and each year thereafter until the proposed project has received a final inspection from the county or its agent and been found complete, the qualified professional shall inspect the site and certify in writing to the planning director, through an inspection report or formal letter of completion verifying that all of the erosion control measures, sediment retention devices, and hydromodification facilities required at that stage of development have been installed in conformance with the plan and related specifications, and are functioning correctly.

- Cover Crop Management/Practice: The permanent vineyard cover crop shall not be tilled (i.e., shall be managed as a no-till cover crop) for the life of the vineyard and the owner/permittee shall maintain a plant residue density of 80% within the vineyard blocks and the associated vineyard avenues. Cover crop may be disked between rows and sprayed under vines or otherwise cultivated after April 1; after three years a permanent, no-till cover shall be established. Should the permanent no-till cover crop need to be replanted/renewed during the life of the vineyard, cover crop renewal efforts shall follow the County "Protocol for Replanting/Renewal of Approved Non-Tilled Vineyard Cover Crops" July 19, 2004, or as amended.

For these reasons the County has appropriately disclosed and determined pursuant to CEQA that the proposed project as designed would have a less than significant impact on soil loss, erosion, runoff, sedimentation, and water quality. Furthermore, the commenter has not identified the specific mitigation measures that are alleged to be ineffective or failed on other projects.

Also see *Response to Comments 1.3, #1.15, and #1.16*, incorporated herein by reference.

Response to Comment 1.14
See *Responses to Comment #1.3, #1.11, and #1.12*, incorporated herein by reference.

Further, the *Vineyard Area Citizens for Responsible Growth* citation[6] [The "ultimate question under CEQA is not whether an EIR establishes a likely source of water but whether it adequately addresses the reasonably foreseeable *impacts* of supplying water to the project."].) has been achieved in the Proposed IS/MND, in that a project-specific WAA[7] has been prepared to consider and assess the project's water source and potential impacts to groundwater, and that proposed project wells are over 1,500 feet from the closest Significant Stream. As disclosed in **Section X** (**Hydrology and Water Quality**) of the Proposed IS/MND the proposed wells are over 1,850 feet and over 2,600 feet from Significant Streams, and based on the County's WAA Guidance Document, it is presumed surfacewaters (i.e. Significant Streams) that are over 1,500 feet from a groundwater well are likely to be disconnected from the stream; and therefore, would result in a less than significant effect on surfacewaters.

Significant impacts to surface water flows (i.e, Significant Streams) may result from groundwater extraction if there is a contribution of the groundwater source to surface flow, this is typically related to shallow groundwater tables within substrate (such as alluvium) that allows groundwater flow to feed surface water resources.

[6] *Vineyard Area Citizens for Responsible Growth v. City of Rancho Cordova* (2007) 40 Cal.4th 412, 434
[7] Napa Valley Vineyard Engineering Inc., November 2022: **Exhibit G** of the proposed IS/MND

In this case the predominate substrate within the project site is mapped as the Great Valley Complex (KJgv) which consists of interbedded standstone, shale and residual soil. The remainder of the project site is interspersed with Colluvium (Qc) and Landslide Deposits (Qls), with small pockets of Alluvium (Qa) and Alluvial Fan Deposit (Qf) located along the eastern and western peripheries of the site (Figure 2 and Figure 3, Gilpin Geosciences, April 2020, Engineering Geological Evaluation, Forte Vineyard - **Exhibit F** of the Proposed IS/MND).

Accordingly, the two proposed project wells are not anticipated to be connected to or reduce surface flows in nearby mapped Significant Streams, supporting the determination in the Proposed IS/MND that impacts to surface waters or Public Trust resources would be less than significant.

Response to Comment 1.15
See Responses to Comments #1.13 and #1.14, incorporated herein by reference.

Project and site specific soil loss and hydrologic modeling and analyses were conducted during the preparation of the ECPA, which were then peer-reviewed and found to be technically adequate by the Napa County Engineering Division. Summaries of the results of these analyses, prepared by Napa Valley Vineyard Engineering (NVVE) are presented in **Section VII** (**Geology and Soils**) and **Section X** (**Hydrology and Water Quality**) of the Proposed IS/MND, consistent with CEQA Guidelines § 15147.

As described in the NVVE Hydrologic Analysis (**Exhibit E** of the Proposed IS/MND) and Soil Loss Analysis (**Exhibit D**), modeling software was utilized to analyze pre- and post-project development conditions. Although computer modeling was used, as is industry standard, the model inputs were based on existing conditions that were ground-truthed by NVVE and Napa County Engineering Division staff. Relevant conditions for estimating a site's runoff and soil loss conditions include: soil types, precipitation data, watershed boundaries, and land use/vegetation. Soil data were obtained from the NRCS's Web Soil Survey for Napa County. Precipitation data were obtained from the National Oceanic and Atmospheric Administration data. Watershed boundaries were delineated using topographic mapping for this property. Existing vegetation and land uses were delineated based on recent aerial imagery and field review. Therefore, the existing conditions were documented and the Proposed IS/MND and supporting Studies/Exhibits to establish the environmental baseline conditions of the property as documented, modeled, and disclosed based on surveys of the property performed in 2020.

As stated above, consistent with CEQA requirements, the baseline conditions of the project site and area are summarized in the Proposed IS/MND, and detailed technical information and studies that are included in the Proposed IS/MND Exhibits.

Therefore, baseline conditions in the Proposed IS/MND were not hypothetical, they relied on site visits and other available information specific to the site in addition to modeling. Hydrologic and erosion analyses followed accepted USDA methodology and account for the role of cover types in runoff and erosion processes. Runoff characteristics of different vegetation types are represented by "Curve Numbers" (CN) in the HydroCad methodology, and the hydrologic effect of the conversion of grassland to vineyard is represented by the appropriate CN. While the replacement of grassland with vineyard in HydroCad predicts runoff increases the ECPA includes construction of flow attenuation basins to compensate for the predicted increase in runoff. Similarly, the USDA Universal Soil Loss Equation (USLE) methodology predicts low erosion rates under grassland: refer to **Exhibit D** and **Exhibit E** of the Proposed IS/MND.

For these reasons the Proposed IS/MND has adequately and appropriately characterized the baseline geologic and hydrologic conditions and potential affects as a result of the project pursuant to CEQA. Also see *Response to Comment #1.2*, incorporated herein by reference.

Response to Comment 1.16

While the Proposed IS/MND does not specifically list the types and quantities of fertilizers, pesticides and herbicides that will be used, it is disclosed that a detailed listing of fertilizers and other chemicals, application methods, application amounts, number of annual applications, and annual amounts of chemicals that are anticipated to be utilized for ongoing vineyard maintenance and operation of the proposed vineyard is provided within Supplemental Project Information forms on file at the Planning Department, which area also available on the County's Current project explorer[8]. The information about pesticides and their use in California is noted.

The comment alludes to and references that the project is in proximity to the Lake Hennessey drainage. This is incorrect. As disclosed in the Proposed IS/MND, almost the entirety of the project site and project area is in the Browns Valley Creek Drainage: the southern tip of the project site and approximately 0.53 acres of the project area are located in the Napa River Lower Napa City Reach Drainage. Lake Hennessey is located over 11 miles to the north of the project site.

Impacts related to hazardous materials (including fuels, pesticides, and fertilizers), and measures to avoid or minimize those impacts, are discussed in **Section IV** (**Hazards and Hazardous Materials**) of the Proposed IS/MND. The proposed project would include buffers of at least 50 feet from aquatic resources, comply with the laws and regulations governing the transportation and management of hazardous materials to reduce potential hazards, and implement the best management practices in the Hazardous Materials Conditions of Approval identified in the Proposed IS/MND. These measures would ensure that impacts associated with use of hazardous materials on water quality would be minimized to a less than significant level.

With respect to the buffers noted above, as disclosed in the Proposed IS/MND The National Resource Conservation Service recommends a minimum 50-foot-wide vegetated buffer from aquatic resources (such as streams, ephemeral drainages, and wetlands) because under most conditions it is generally an adequate buffer width to provide enough vegetation to effectively entrap and filter chemicals, nutrients, and sediment thereby, facilitating degradation within buffer soils and vegetation (USDA 2000). Streams and wetlands delineated in the project site are shown in **Exhibits A** and **B** of the Proposed IS/MND. The closest wetland is located over 200 feet from the project area. The closest ephemeral streams to the project area are provided with +50-foot buffers, and the County Definitional (Blue-line) Stream has been provided with +400-foot setbacks, well in excess of the minimum required which ranges from 85 feet to 150 feet, pursuant to NCC § 18.108.025(B). Furthermore, during construction equipment and hazardous materials would be located/stored within the staging area in Block G. Onsite storage of hazardous materials may occur once the vineyard is developed, which would occur within the project area. Any chemical mixing or washing would occur in the vineyard/project.

Therefore, as disclosed in the Proposed IS/MND, the risk of potentially hazardous materials reaching or affecting adjacent water courses or other aquatic resources is significantly reduced because: i) the proposed project would maintain buffers of at least 50 feet from potential wetlands; ii) the proposed project would

[8] Forte ECPA Application P20-00139.pdf - PBES Cloud v2.0: https://pbes.cloud/index.php/s/SLZHgWgZWEY4obK?dir=undefined&path=%2FCirculated%20Initial%20Study&openfile=6261

provide setbacks buffers of at least 50 feet form ephemeral and +400 feet from definitional streams in conformance with code provisions; and iii) only federal and/or California approved chemicals would be applied to the vineyard in strict compliance with applicable state and federal law. Additionally, project approval, if granted, would also be subject to the standard condition of approval below 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.

Additionally, the Proposed Project must achieve performance standards for the discharge of nutrients and pesticides pursuant to the Water Boards Waste Discharge Requirements for vineyards of 5-acres or larger that are locate in the Napa River and Sonoma Creek watersheds[9].

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

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

Response to Comment 1.17

As disclosed in **Section XXI** (**Mandatory Finding of Significance**) of the Proposed IS/MND, the project site is located predominately in the Browns Valley Creek Drainage, and that the southern tip of the project site and approximately 0.53 acres of the project area are located in the Napa River Lower Napa City Reach Drainage. The Browns Valley Creek Drainage contains approximately 1,381 acres. In 1993, vineyard acreage within this drainage was approximately 110-acres, or ±8.0% of the drainage. Since 1993 approximately 143-acres of additional vineyard (or 10.0% of the drainage) have been developed to vineyard, resulting in approximately 18% of the drainage (or approximately 253-acres) containing vineyard. The Napa River Lower Napa City Reach Drainage contains approximately 7,321-acres. In 1993, vineyard acreage within this drainage was approximately 90-acres, or ±1.0% of the drainage. Since 1993 approximately 153-acres of additional vineyard (or ±2.0% of the drainage) have been developed to vineyard, resulting in approximately 3% of the drainage (or approximately 243-acres) containing vineyard.

It is estimated based on evaluation of the County's GIS layer identifying Potentially Productive Soils within the Browns Valley Creek Drainage that there are approximately 594 acres (±43% of the drainage) having the potential to be developed to vineyard. This, in conjunction with existing and approved vineyard development

[9] https://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/agriculture/vineyard/final_docs/Vineyard%20General%20WDRs%20-%207-17.pdf

(approximately 253-acres), results in a total potential build out of approximately 847-acres or approximately 61% of the drainage. Within the Napa River Lower Napa City Reach Drainage there is approximately 248-acres of Potentially Productive Soils (±3% of the drainage) having the potential to be developed to vineyard. This, in conjunction with existing and approved vineyard development (approximately 243-acres), results in a total potential build out of approximately 491-acres or approximately 7% of the drainage. The Potentially Productive Soils layer includes lands with characteristics that have been found to be suitable for potential future vineyard development. However, this total does not take into consideration other site-specific limitations such as watercourses requiring setbacks, wetlands, other water features, rare or special-status plants and animal species, or cultural resources, nor does the layer take into account other factors influencing vineyard development, such as sun exposure, soil type, water availability, or economic factors.

While it is not possible to precisely quantify the acreage and location of additional vineyard development that may be proposed by property owners in these drainages in the future, it is possible to make a conservative estimate based on previous trends. To estimate the amount reasonably foreseeable vineyard that may be developed over time, the acreage of vineyard development including approved vineyard projects in the cumulative environment (i.e., Browns Valley Creek Drainage and the Napa River Lower Napa City Reach Drainage) over the last 30 years (1993-2023) were used to project an estimation of vineyard development for the next three to five years. Over the past 30 years within the Browns Valley Creek Drainage and the Napa River Lower Napa City Reach Drainage, approximately 10-acres of agriculture were developed per year (296 divided by 30). Combined with Napa County policies and other site selection factors that limit the amount of land that can be converted to vineyard, the development of approximately 30 to 50-acres over the next three to five years within the Browns Valley Creek and Napa River Lower Napa City Reach Drainages are considered reasonable estimates. NCC Chapter 18.108 includes policies that require setbacks of 35 to 150 feet from watercourses, avoiding and setting back from wetlands, and retention of 70% of the vegetation canopy cover, and General Plan Conservation Policy CON-24c that requires the retention of oak woodland at a 2:1 ratio, which limits the amount of potential vineyard acreage that could be converted within the watershed. It has been the County's experience with ECPA projects that there are generally site-specific issues, such as oak woodland preservation, wetlands, other water features, special-status plant and animal species, or cultural resources that further reduce areas that can be developed to other land uses. Additionally, the vineyard acreage projections for the next three to five years do not consider environmental factors that influence vineyard site selection, such as sun exposure, soil type, water availability, slopes greater than 30%, or economic factors such as land availability, cost of development or investment returns.

It is further disclosed in the Mandatory Findings of Significance Section with respect to Air Quality and GHG, that the proposed project includes the removal of vegetation and installation of vineyard and erosion control measures concurrent with other projects in the San Francisco Bay Area Air Basin that would generate emissions of criteria pollutants, including suspended PM and equipment exhaust emissions. As discussed in **Section III** (**Air Quality**) and shown in **Table 3** (Emissions from Vineyard Development and Operation) criteria pollutant emissions associated with development and operations are anticipated to be well below identified thresholds, and therefore are not expected to result in project or cumulatively significant impacts. Additionally, the proposed project would be subject to standard air quality conditions of approval (should the proposed project be approved) that requires implementation of Air Quality BMPs to further reduce potential less than significant air quality effects of the proposed project and ongoing operation. Conversion of existing vegetation and disturbance of soil would result in releases of carbon dioxide, one of the gasses that contribute to climate change (**Tables 7** and **8**). As discussed in **Section VIII (Greenhouse Gas Emissions)**, the proposed project is not anticipated to result in substantial or significant GHG emissions, and includes the installation of grapevines and a permanent no-till cover crop, which may off-set (in whole or in part) potential impacts

related to reductions in carbon sequestration. Potential contributions to air quality impacts associated with the proposed project, including GHG emissions and loss of sequestration, would be considered less than cumulatively significant through project design (i.e., scope and scale) and implementation of standard conditions of approval. Furthermore, implementation of **Mitigation Measure BR-5** would further offset potential emissions of the project.

Regarding biological resources it is disclosed that a project-specific Biological Resource Assessment with Botanical Surveys and Delineation of Waters of the U.S. (Northwest Biosurvey, August 2020 - **Exhibit B**) was performed for the proposed project to evaluate potential habitat loss and disturbance to plant and wildlife species because of the proposed project. The reconnaissance surveys included database records searches to identify the presence or potential presence of special-status species within the project area. The database records searches included the CNDDB, CNPS, and Napa County databases. As discussed in **Section IV** (**Biological Resources**), wetlands were identified in the project site but outside of the project area and have been provided minimum 50-foot setback buffer. No special-status plant species are present within the development area and six special-status animal species have the potential to occur within the development; however, with the implementation of **Mitigation Measures BR-1** through **BR-5**, impacts on these species would be less than significant. Therefore, the proposed project would not contribute to a cumulatively significant impact to special-status plants and animals or habitats.

With respect to soil loss, runoff and sedimentation, it was disclosed that because geologic impacts associated with future agricultural projects would receive the same scrutiny under CEQA and the County's General Plan Goals and Policies (in particular General Plan Conservation Element Policy CON-48, which requires development projects to result in no net increase in sediment erosion conditions and soil loss as compared to existing conditions), it is not unreasonable to anticipate that those projects would also have a less than significant project-specific and cumulative impact on erosion and associated sedimentation. And that because hydrologic impacts associated with future agricultural projects would receive the same scrutiny under CEQA and County General Plan Policy CON-50(c), which requires development projects to be designed so that peak runoff following development is not greater than predevelopment conditions, it is not unreasonable to anticipate that those projects would also have a less than significant project specific and cumulative impact on hydrologic conditions.

In general, the geographic areas affected in the cumulative context depends on the nature of the resource and impact being analyzed (CEQA Guidelines § 15130[b][2]). No fixed standards apply, and the agency has discretion to apply its expertise in selecting an appropriate assessment area (City of Long Beach v. Los Angeles Unified Sch. Dist, (2009) 176 CA4th 889). Furthermore, the cumulative analysis utilized available data which related to those projects requiring County approval. No dataset is readily available to assess all cumulatively considerable projects in the region and CEQA does not require a lead agency to seek out new data that is not readily available.

Also see *Response to Comments #1.1 through #1.21* incorporated herein by refence.

Response to Comment 1.18

As disclosed in **Section VII** (**Greenhouse Gas Emissions**) of the Proposed IS/MND emissions from both the construction and operational phases of the proposed project, including the change in the project site's carbon storage and carbon sequestration potential with the conversion of existing grassland to vineyard. The methodology and assumptions used for the analysis are consistent with those recommended by the Bay Area Air Quality Management District (BAAQMD). The analysis recognizes that there would be an increase in

GHG emissions with development of the proposed project; however, this increase would be considered less than significant when compared to BAAQMD's thresholds. See also *Response to Comment #1.17 and #1.19* incorporated herein by reference.

Further, in light of the Court of Appeal's decision on the Walt Ranch ECPA[10] pertaining to offsetting potential GHG sequestration loss as a result of the project, **Mitigation Measure BR-5** includes provisions that would result in the permanent preservation of approximately 0.51-acres of developable oak woodland and vegetation cover canopy, that is located outside of stream setbacks and on land with slopes less than 30%, and the planting of six (6) trees to replace the two (2) oak trees being removed. Therefore, the loss in carbon sequestration from the proposed removal of trees is adequately offset after incorporation of **Mitigation Measure BR-5**, by permanently protecting from development three times the amount of lost carbon sequestering oak woodland, which is located on developable land, and replacing individual oak tree removal a 3:1 ratio. Therefore, the loss in carbon sequestration from the proposed tree removal is more than offset after incorporation of **Mitigation Measure BR-5**, by permanently protecting from development three times the amount of lost carbon sequestration. The loss in carbon stock of the grassland would be offset by the planting of new vineyard in the development area.

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

The County acknowledges that given the emerging nature of this subject, other data sources are also available, which provide a wide range of carbon storage and sequestration values, however the comment does not provide any alternative carbon storage factors for grasslands. Furthermore, this comment primarily contains commentary that does not provide new or additional evidence demonstrating the potential level of GHG impacts analyzed as a result of the proposed project would occur beyond what is disclosed in the Proposed IS/MND, or that raise a fair argument that the project as mitigated and conditioned may have a potentially significant GHG impact.

Response to Comment 1.19

The proposed IS/MND does not utilize VMT as a threshold to weigh potential project GHG impacts against, it is disclosed in **Section VII** (**Greenhouse Gas Emissions**) of the Proposed IS/MND to support the operational emissions analysis: VMT is also disclosed in this section as it precedes the **Transposition Section** (**Section XVII**) where further VMT disclosers and analysis occurs. Furthermore, the Proposed IS/MND does not dismiss possible GHG impacts with a conclusory reference to guidelines that were formulated for a different purpose as the comment claims.

[10] #P11-00205: Living Rivers Council v. County Of Napa: 2019 WL 4746753

As disclosed in the GHG Section of the Proposed IS/MND, on April 20, 2022, the BAAQMD adopted updated thresholds of significance for climate impacts.[11] The updated thresholds to evaluate GHG and climate impacts from land use projects are qualitative and geared toward building and transportation projects. Per the BAAQMD, all other projects should be analyzed against either an adopted local Greenhouse Gas Reduction Strategy (i.e., Climate Action Plan (CAP)) or other threshold determined on a case-by-case basis by the Lead Agency. If a project is consistent with the State's long-term climate goals of being carbon neutral by 2045, then a project would have a less-than-significant impact as endorsed by the California Supreme Court in Center for Biological Diversity v. Department of Fish & Wildlife (2015) 62 Cal. 4th 204). There is no proposed construction-related climate impact threshold at this time.) GHG emissions from construction represent a very small portion of a project's lifetime GHG emissions. The proposed thresholds for land use projects are designed to address operational GHG emissions which represent the vast majority of project GHG emissions.

On April 20, 2023, the BAAQMD published updated CEQA guidance to assist lead agencies in evaluating air quality and climate impacts from proposed land use projects and plans (referred to as the 2022 CEQA Guidelines). The 2022 CEQA Guidelines are advisory for local and regional governments in the San Francisco Bay Area Air Basin. They contain nonbinding recommendations for how a lead agency can evaluate, measure, and mitigate air quality and greenhouse gas impacts generated from land use construction and operational activities. Additionally, the guidelines include the new climate impact thresholds adopted by BAAQMD on April 20, 2022, using performance-based standards requiring new guidance on evaluating the climate impacts of land use projects and plans.

The BAAQMD 2022 CEQA Guidelines do not replace the State CEQA Statute and Guidelines; rather, they are designed to provide BAAQMD-recommended procedures for evaluating potential air quality and climate impacts during the environmental review process that are consistent with CEQA requirements.

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

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

As stated above, the April 2022 update to BAAQMD thresholds of significance do not include construction-related impact thresholds, as GHG emissions associated with the energy used to develop, prepare and plant the project area represent a very small portion of a project's lifetime GHG emissions. The "Construction

[11] CEQA Thresholds for Evaluating the Significance of Climate Impacts, BAAQMD April 2022, https://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/updated-ceqa-guidelines.

Emissions" analysis below is for disclosure purposes only, as there is no threshold against which to analyze the potential significance of impact. "Operational Emissions" of the vineyard are quantified and include: i) any reduction in the amount of carbon sequestered by existing vegetation that is removed as part of the project (referred to as Operational Sequestration Emissions below); and ii) ongoing emissions from the energy used to maintain and farm the vineyard, including vehicles (such as haul trucks, pick-up trucks) and worker vehicle trips (referred to as Operational Equipment Emissions below).

With respect to Construction Emissions, they include Equipment Emissions and Project Site missions. Equipment Emissions, as discussed in **Section III (Air Quality)** of the Proposed IS/MND, three County Certified EIRs assessed and analyzed potential air quality and GHG emissions associated with vineyard development. Within those EIRs potential GHG emissions associated with construction equipment were calculated and disclosed. An estimation of potential construction equipment emissions per acre of vineyard development was derived using conservative emissions results from these EIRs. The Circle-S Ranch EIR anticipated approximately 4,293 metric tons (MT) CO_{2e} of construction equipment emissions for a 459-acre vineyard development, resulting in approximately 9.4 MT CO_{2e} of construction equipment emissions per acre of vineyard development.[12] Using this emission factor it is anticipated that Construction Equipment Emissions associated with the proposed ±20.23 gross acres of vineyard development would be approximately 190.2 MT CO_{2e} (20.23 acres multiplied by 9.4 MT CO_{2e}).

Project Site Emissions are emissions resulting from vegetation removal and soil preparation associated with the conversion of approximately 9.85 acres of existing vegetation to vineyard. Because there is not yet a universally accepted scientific methodology or modeling method to calculate GHG emissions due to vegetation conversion and soil disturbance, the GHG Emissions Checklist and associated carbon stock factors developed as part of the 2012 Draft CAP efforts are utilized to determine potential project site carbon stocks and emissions. Utilizing the 2012 Draft CAP carbon stocks and the acreages of vegetation types within the development area, total carbon stocks for the development area are estimated to be approximately 77.9 MT C or approximately 286.0 MT CO_{2e} (**Table 7**).

Table 7 – Estimated Development Area Carbon Stocks/Storage

Vegetation Type/Carbon Storage	Development Area Acreage	Carbon Storage/Stock per Acre (MT C/acre)	Total Carbon Storage (MT)	Total Carbon Storage in MT CO2e
Grassland	17.79	1.4	24.9	91.4
Shrubland (Chaparral)	2.27	16.2	36.8	135.1
Oak Woodland	0.17	95.1	16.2	59.5
Total			**77.9**	**286.0**

Sources: Napa County Draft Climate Action Plan, March 2012; Napa County Conservation Division, April 2023.

As disclosed, because there is currently no scientific agreement about the percentage of carbon that would be lost (or emitted) from soils through grading, some analyses have suggested 20 to 25% while others have suggested 50%.[13] Using 50% as a more conservative estimate, the proposed project could result in one-time

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

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

development area construction emissions from vegetation removal and soil preparation (i.e., grading and soil ripping) of approximately 208.8 MT CO_{2e} (**Table 8**).

Table 8 – Estimated Project Carbon Emissions Due to Vegetation Removal

Vegetation Type/Carbon Storage	Development Area Acreage	Carbon Loss/Emission per Acre (MT C/acre)[1]	Total Carbon Loss/Emission (MT)	Total Carbon Loss/Emission in MT CO2e
Grassland	17.79	0.80	14.2	52.1
Shrubland (Chaparral)	2.27	12.1	27.5	100.9
Oak Woodland	0.17	89.6	15.2	55.8
Total			**56.9**	**208.8**

Sources: Napa County Draft Climate Action Plan, March 2012; Napa County Conservation Division April 2023.

With respect Operational Equipment Emissions, the referenced vineyard development EIRs also assessed ongoing vineyard operation emissions associated with vehicles and equipment. Estimated potential construction equipment emissions per acre of vineyard development were derived using the most generous emissions results from these EIRs. The Suscol Mountain Vineyard EIR anticipated approximately 373 MT CO_{2e} of operational emissions for a 560-acre vineyard, resulting in approximately 0.67 MT CO_{2e} of operational emissions per acre of vineyard per year. Using this emission factor, it is anticipated that Operational Equipment Emissions associated with the proposed a ±20.23-acre agricultural development would be approximately 13.6 MT CO_{2e} (20.23 multiplied by 0.67 MT CO_{2e}).

Operational Sequestration Emissions are emissions associated with loss of sequestration due to land use change (i.e., the conversions of existing vegetation to vineyard) have been calculated based on the Annual Carbon Sequestration Factors within the 2012 Draft CAP, which indicates that oak woodlands sequester 0.425 CO_2 acre per year, while grasslands, shrublands and developed are essentially zero. Utilizing these factors, it is anticipated that the annual emissions associated with changes in carbon sequestration because of land use changes would be approximately 1.27 MT C per year or 4.7 MT CO_{2e} per year.[14]

Grapevines are photosynthetic plants and therefore have value in terms of carbon capture. Additionally, the use of cover crops, which are also photosynthetic plants, tends to result in less soil CO_2 loss from vineyard soils. Carbon sequestration loss would be further offset by the proposed vineyard, which would likely act as a sink for atmospheric CO_2, depending on the longevity of grapevine roots and the quantity of carbon stored in deep roots. In addition to vines, the sequestration of atmospheric carbon is also achieved by the soil between vine rows through cover-cropping.

Table 9 – Estimated Overall Project-Related GHG Emissions

Construction Emissions in Metric Tons of $C0_{2e}$		Annual Ongoing Emissions in Metric Tons of $C0_{2e}$	
Source	**Quantity**	**Source**	**Quantity**
Vehicles and Equipment	190.2	Vehicles and Equipment	13.6
Vegetation and Soil	208.8	Loss of Sequestration	4.7
Total	**399.0**	**Total**	**18.3**

Source: Napa County Conservation Division August 2022

[14] 0.17 acres of oak woodland times 0.425 MT C = 0.07 MT C, and 20.06 acres of grassland times 0.057 MT C = 1.2, totaling 1.27 MT C.

Based on the above estimates, the overall project emissions project could result in one-time construction emissions of up to 399.0 MT CO_2e and annual ongoing emissions associated with vineyard operations (including loss of sequestration) estimated to be approximately 18.3 MT CO_2e per year (**Table 9**).

As disclosed because there is no adopted CEQA significance threshold at the state, regional, or local level for construction-related GHG emissions, the County has therefore evaluated the significance of one-time project-generated emissions of up to approximately 399.0 MT CO_2e by considering the size of the proposed vineyard in relation to projected vineyard development in the County. The program level EIR for the 2008 Napa County General Plan Update (SCH#2005102088 certified June 3, 2008) projected 12,500 acres of new vineyard development in the County between 2005 and 2030. The County concluded in the General Plan EIR that emissions from all sources over the planning period would result in significant and unavoidable GHG emissions despite measures adopted to address the impact. Because this determination was based on emissions from all sources, not just agriculture, the General Plan did not determine that emissions solely from projected agricultural development would result in significant unavoidable impacts.

As disclosed above and in **Section IV (Biological Resources),** the proposed project would result in the removal of two trees that encompass approximately 0.17-acres of woodland and associated vegetative canopy cover. Overall, there is approximately 26.21-acres of oak woodland and associated vegetation cover canopy in the project parcel; therefore, the project would retain approximately 99.3% of the woodlands vegetative cover canopy on the parcel.

With implementation of **Mitigation Measure BR-5**, the project would result in the permanent preservation of approximately 0.51-acres of otherwise developable oak woodland and vegetation cover canopy, that is located outside of stream setbacks and on land with slopes less than 30%, and the planting of six (6) trees to replace the two (2) oak trees being removed. Therefore, the loss in carbon sequestration from the proposed removal of trees is adequately offset after incorporation of **Mitigation Measure BR-5**, by permanently protecting from development three times the amount of lost carbon sequestering oak woodland, which is located on developable land, and replacing individual oak tree removal a 3:1 ratio. Therefore, the loss in carbon sequestration from the proposed tree removal is more than offset after incorporation of **Mitigation Measure BR-5**, by permanently protecting from development three times the amount of lost carbon sequestration. The loss in carbon stock of the grassland would be offset by the planting of new vineyard in the development area.

Specific to grassland, the loss in carbon stock of the grassland would be offset by the planting of new vineyard in the development area. The CAP estimates one acre of vineyard has an above-ground carbon stock of 1.2 MT C/acre and the soil carbon in vineyards is estimated at 34 MT C. Additionally, the use of cover crops tends to reduce carbon dioxide loss from vineyard soils.

Therefore, conversion of woodland and grassland to vineyard in conjunction with **Mitigation Measure BR-5** is anticipated to result in either a comparable or increased carbon storage on the site and would be consistent with the State's long-term climate goals, resulting in a less than significant impact as disclosed in the Proposed IS/MND. Also see *Response to Comments #1.18 and #1.20* incorporated herein by refence.

Lastly, it is unclear why the comment suggests that an EIS (Environmental Impact Statement) is necessary to fully analyze the impact, especially given a project specific assessment based on county specific data and information sources was included in the Proposed IS/MND.

Response to Comment 1.20
As detailed in *Response to Comments #1.18 and #1.19* (incorporated herein by refence) the Proposed IS/MND justifies the carbon sequestration and storage values utilized in its GHG analysis. Furthermore, while the comment states that current science shows that shrublands have a carbon sequestration value of 22.5-34.1 MT CO2e/acre (as opposed to 16.2 CO2e/acre in the Proposed IS/MND), and that Northern California and Oregon forests store an average of 178 MT CO2e/acre in their biomass (as opposed to 95.1 MT CO2e/acre for oak woodlands), only 2.27-acres of shrubland and 0.17-acre of oak woodland are being removed due to the project. Given the acreages involved of these two vegetation types, the assertion that the carbon emitted by the Project might be higher by orders of magnitude is not supported.

Therefore, the proposed IS/MND and appropriately and adequately disclosed and assessed potential GHG impacts consistent with CEQA.

Response to Comment 1.21
See *Responses to Comments #1.1 through #1.20,* incorporated herein by refence. Additionally, the Center for Biological Diversity will be notice of future events associated with this application.

List of Attachments
Attachment 1 – Center for Biological Diversity letter dated July 28, 2023

July 28, 2023

Sent via email (with attachments by electronic file transfer)

Donald Barrella
Napa County Department of Planning, Building and Environmental Services
1195 Third Street Suite 210
Napa, California
donald.barrella@countyofnapa.org

Re: Comments on Forte Vineyard Conversion Agricultural Erosion Control Plan (ECPA) #P20-00139-ECPA

Dear Mr. Barrella:

These comments are submitted on the Forte Vineyard Conversion Agricultural Erosion Control Plan (#P20-00139-ECPA). The Center for Biological Diversity ("Center") has reviewed the Initial Study and Mitigated Negative Declaration ("IS/MND" or "MND") and found that the Plan would result in loss of biological resources and in negative impacts to wildfire risks, water quality, and greenhouse gas emissions. These impacts, in turn, would harm human communities. The Center urges the County to prepare and circulate an Environmental Impact Report ("EIR") for the Project prior to taking any further action on the Project application.

The Center is a non-profit, public interest environmental organization dedicated to the protection of native species and their habitats through science, policy, and environmental law. The Center has over 1.7 million members and online activists throughout California and the United States. The Center and its members have worked for many years to protect imperiled plants and wildlife, open space, air and water quality, and overall quality of life for people in Napa County.

Life on Earth is experiencing a sixth mass extinction driven primarily by habitat loss and fragmentation, and climate change is an increasing threat. Combating the extinction and climate crises requires bold action to ensure we protect remaining biodiversity and open space. This not only helps wildlife, but it is essential to building a healthy, climate-resilient future for all Californians. Native landscapes help us regulate our climate, purify our air and water, pollinate our crops, and create healthy soil. Thoughtful land use planning that protects native biodiversity and increases access to nature will help ensure all County residents experience the physical and mental health benefits of nature while bringing the state closer to its commitment to conserve more than 30 percent of its lands and coastal waters by 2030 under executive order N-82-20.

1.1

I. THE COUNTY MUST PREPARE AN EIR FOR THE PROJECT.

CEQA was enacted for the state to "take all action necessary to protect, rehabilitate, and enhance the environmental quality of the state" and to "[e]nsure that the long-term protection of the environment . . . shall be the guiding criterion in public decisions." (Pub. Res. Code § 21001.) The CEQA Guidelines state that "CEQA was intended to be interpreted in such a manner as to afford the fullest possible protection to the environment within the reasonable scope of the statutory language," and that "[t]he purpose of CEQA is . . . to compel government at all levels to make decisions with environmental consequences in mind." (CEQA Guidelines § 15003.) CEQA is an information document and, as such, "requires full environmental disclosure." (*Communities for a Better Environment v. City of Richmond* (2010) 184 Cal.App.4th 70, 89.)

Only when "there is no substantial evidence in light of the whole record before the public agency that the project . . . may have a significant effect on the environment" may an agency prepare a negative declaration or mitigated negative declaration instead of an EIR. (Pub. Res. Code § 21064.5; see also *id.* §§ 21064, 21080(c).) A mitigated negative declaration, in particular, is prepared "when the initial study has identified potentially significant effects on the environment, but . . . revisions in the project plans or proposals . . . would avoid the effects or mitigate the effects to a point where clearly no significant effect on the environment would occur" and there is no substantial evidence the project may have a significant effect on the environment. (*Id.* § 20164.5.) If there is substantial evidence that a project may have a significant effect on the environment, an agency must prepare an EIR. (*Id.* § 21080(d).)

If an agency is presented with so much as "a fair argument that a project may have a significant effect on the environment, the lead agency shall prepare an EIR even though it may also be presented with other substantial evidence that the project will not have a significant effect." (CEQA Guidelines § 15064(f)(1); see also *No Oil, Inc. v. Los Angeles* (1974) 13 Cal.3d 68, 75.)

The CEQA Guidelines provide guidance for determining if a project's effects are significant. Such a determination "calls for careful judgment on the part of the public agency involved, based to the extent possible on scientific and factual data" and a "consider[ation of] the views held by members of the public in all areas affected." (Id. § 15064(b)-(c).) The lead agency must consider both direct and indirect physical changes in the environment caused by the project. (*Id*. § 15064(d).)

CEQA also requires consideration of cumulative impacts. An EIR is required "if the cumulative impact may be significant and the project's incremental effect, though individually limited, is cumulatively considerable . . . when viewed in connection with the effects of past projects, the effects of other current project, and the effects of probable future projects." (*Id*. § 15064(h)(1).) Cumulatively considerable environmental effects require a mandatory finding of significance. (*Id*. § 15065(a)(3).)

CEQA also has a substantive mandate and requires effective mitigation. "[P]ublic agencies should not approve projects as proposed if there are feasible alternatives or feasible

1.2

mitigation measures available which would substantially lessen the significant environmental effects of such projects." (Pub. Res. Code § 21002.) CEQA requires mitigation measures to be "fully enforceable through permit conditions, agreements, or other measures." (See *id.* §21081.6(b); CEQA Guidelines § 15126.4(a)(2).) "Formulation of mitigation measures should not be deferred until some future time." (CEQA Guidelines § 15126.4(a)(1)(B).)

The Project's impacts on biological resources, wildfire risks, water quality, and greenhouse gas emissions are not adequately analyzed or mitigated. Any one of these factors alone is sufficient to warrant preparation of an EIR.

1.2 cont.

II. THE PROJECT LACKS AN ACCURATE AND STABLE PROJECT DESCRIPTION.

The IS/MND violates the CEQA requirement to provide an "accurate, stable, and finite" description of the proposed Project. (*Cnty. of Inyo v. City of Los Angeles* (1977) 71 Cal.App.3d 185, 193.) The IS/MND is unclear on the most fundamental fact about the Project: how big it is. Although the Initial Study claims that the Project consists of 20.23 gross acres of vineyard, the Biological Resources Assessment in Appendix B says that the proposed vineyard will total 21.74 acres. (Initial Study at 1; Appendix B at 1.) An "accurate, stable and finite project description is the *sine qua non* of an informative and legally sufficient" environmental review. (*Cnty. of Inyo v. City of Los Angeles* (1977) 71 Cal.App.3d 185, 193; (*San Joaquin Raptor Rescue Center v. County of Merced* (2007) 149 Cal.App.4th 645, 655 (project description held unstable and misleading) [hereinafter "*San Joaquin Raptor*"].) "However, a curtailed, enigmatic or unstable project description draws a red herring across the path of public input." (*San Joaquin Raptor*, 149 Cal.App.4th, at 655.).

An inaccurate or truncated project description is prejudicial error because it fails to "adequately apprise all interested parties of the true scope of the project." (See *City of Santee v. Cnty. of San Diego* (1989) 214 Cal.App.3d 1438, 1454-55 [hereinafter "*City of Santee*"].) "Only through an accurate view of the project may the public and interested parties and public agencies balance the proposed project's benefits against its environmental cost, consider appropriate mitigation measures, assess the advantages of terminating the proposal and properly weigh other alternatives." (*San Joaquin Raptor*, 149 Cal.App.4th, at 655.)

1.3

Especially for a Project of this size, the inconsistency in total acreage is a significant inaccuracy that undermines the rest of the analysis. For one, it calls into question the accuracy of the maps of the Project site. The maps in the Initial Study show vineyard blocks that avoid most of the site's heavily wooded areas. (ISMND Figure 2) However, if the Project footprint were actually an acre and a half bigger, then those maps could not be accurate and the public would have no way to know where the additional acres of vineyard would be located. Further, the inconsistency undercuts the GHG calculations, which depend on precise figures for acreage of vegetation that will be removed. The GHG analysis concludes that each acre of lost oak woodland would emit 89.6 million tons of carbon from lost sequestration. (IS/MND at 25.) Because this section of the Initial Study anticipates losing only 0.17 acres of oak woodland, the total carbon emission from lost oak woodland is 15.2 million tons. (*Id.*) However, if the true

acreage was an acre and a half bigger and the extra acreage was oak woodland, then that would mean the initial study undercounted lost carbon sequestration by 134.4 million tons.

This lack of clarity renders the Project description unstable, such that the MND fails to inform decision-makers and the public of the true scope of the Project from which all interested parties could assess the direct and indirect environmental effects of the Project. (*City of Santee*, 214 Cal.App.3d, at 1454-55; *San Joaquin Raptor*, 149 Cal.App.4th, at 655; *Communities for a Better Environment v. City of Richmond* (2010) 184 Cal.App.4th 70, 83-86.)

1.3 cont.

III. THE IS/MND LACKS AN ADEQUATE ANALYSIS OF AND MITIGATION FOR THE PROJECT'S IMPACTS TO BIOLOGICAL RESOURCES

Napa County is a biodiversity hotspot both within California and globally. It is located within the California Floristic Province, one of five Mediterranean biomes around the world known for high levels of plant diversity and endemism (Cowling et al., 1996; Rundel et al., 2016). Due to its dynamic topography, which ranges in elevation from 0 to 4,200 feet above mean sea level, and its varying microclimates, Napa County boasts a unique and diverse assemblage of habitats that host numerous plants and wildlife (Napa County, 2005). Despite covering only 0.5% of California's area, Napa County supports more than one third (>1100) of California's native plant species and 150 special-status plant and wildlife species, including the federally-threatened California red-legged frog, the endangered Ridgway's rail, and the threatened steelhead trout, Central California Coast DPS (Napa County, 2005; Thorne et al., 2004). These ecosystems are the backbone of Napa's idyllic scenery, and they provide important ecosystem services vital to the County's prosperity and way of life, such as water quality protection and erosion control. However, development and agricultural expansion into important habitats threaten these biological communities. CEQA requires the lead agency to disclose, analyze and mitigate all impacts on special-status species, including species listed under the Federal Endangered Species Act and California Endangered Species Act. The IS/MND fails to comply with this requirement.

1.4

The IS/MND fails to adequately describe and analyze the Project's impacts to special-status species and sensitive habitats in and near the Project area. The IS/MND erroneously concludes that the Project will have less than significant impacts to biological resources, without providing substantial evidence to support these claims. The IS/MND fails to mitigate the Project's significant impacts to special-status species and habitats as well as local and regional wildlife connectivity. Given these shortcomings, we urge the County fully analyze and disclose the Project's significant environmental impacts in a full EIR.

A. The IS/MND's Analysis of Potential Impacts to Biological Resources Relies on Outdated and/or Inadequate Surveys.

1.5

The IS/MND's wildlife surveys are grossly inadequate to establish a reliable baseline of existing environmental conditions present at the Project site. Under CEQA, an environmental review document must evaluate the potential environmental impacts of the project as compared to the existing environmental conditions (the "baseline"), so that the Project's impacts can be

meaningfully analyzed and compared to alternatives. (CEQA Guidelines § 15125(a); *see County of Amador v. El Dorado County Water Agency* (1999) 76 Cal.App.4th 931, 952; *Neighbors for Smart Rail v. LA County Metropolitan Transit Authority* (2013) 57 Cal.4th 310, 315.) The evidence provided in the IS/MND's analysis of impacts to biological resources does not meet this standard.

The MND states that a "full, in-season floristic-level survey was conducted for the project" (Exhibit B p.4), yet surveys were only completed on two dates: May 31 and August 23, 2019. Flowering time varies between species and even individuals, and is highly dependent on ecological conditions (Cho et al., 2017). Climate change has also impacted flowering time (Stuble et al., 2021), leading to earlier flowering for many plants, especially annuals (Fitter & Fitter, 2002; Munson & Long, 2017). By limiting surveys to just two days – and entirely omitting plants that bloom in early spring and late fall – it is very possible that the surveyors missed plants that had already flowered, had yet to flower, or that flowered for a short time between the two survey dates. In addition, California has experienced a significant shift in ecological conditions after the wet winter of 2022-2023. This is true of the Project site as well. The MND's biological surveys were conducted in 2019, a year with significantly lower precipitation than 2023. Spring rains this year have resulted in the reemergence of rare and endangered plant species (e.g. Cowan, 2023). It is extremely likely that this wet winter has impacted plants in the Project area as well. The MND must conduct additional follow-up surveys to reassess the baseline conditions and potential impacts to sensitive species and habitats after the significant increase in precipitation over the past year. Further, the MND suggests that the botanical survey was only conducted in the proposed vineyard blocks (15 acres), not throughout the full project area (21 acres) (Exhibit B p.24). The MND's botanic surveys have therefore omitted 28% of the Project area, a significant portion that may be impacted by the proposed Project.

The MND's survey of pallid bats is also inadequate. The MND acknowledges that "denser woodlands on the project site have the potential to contain habitat for pallid bats" (MND p.13), yet its survey of bat habitat was limited only to "mature trees within the proposed vineyard blocks" (Exhibit B p.24), excluding the remaining habitat in the Project area, as well as the oak woodlands immediately surrounding the Project area, which contain suitable roosting habitat. The MND concludes that the only potential impact of the Project to pallid bats is the removal of two oak trees, which may harbor roosting bats (MND p.13). The MND fails to assess whether the Project area is used for foraging and other non-roosting purposes, despite the presence of suitable foraging habitat. Further, the MND fails to assess impacts to potential roosting habitat surrounding the Project site, which would also be impacted by the proposed vineyard blocks and associated human use and activities. The bat surveys as conducted are therefore insufficient to determine whether Pallid bats may be impacted by the Project.

In addition, the MND's assessment of American badger is vague and insufficient. Although the MND states that American badger "was not identified during the surveys of the project site" (MND p.13), Exhibit B provides no details of such survey. The mere statement that the species "was not identified"—when it appears that surveyors were neither looking for it, nor trained to find it—does not support a conclusion that the Project will not affect American badgers. Given that suitable American badger habitat occurs in and near the Project area, a

1.5 cont.

targeted survey of American badger occurrence – including unoccupied dens – must be conducted.

Without an accurate, current baseline, it is impossible to establish that there is no "fair argument" that the project may have a significant effect on the environment. Therefore, the Applicant must perform new, updated wildlife and plant surveys to establish reliable baseline conditions regarding biological resources in a full EIR. (CEQA Guidelines § 15064(f)(1); see also *No Oil, Inc. v. Los Angeles* (1974) 13 Cal.3d 68, 75.)

1.5 cont.

B. The MND's Proposed Mitigation for Impacts to the Special-Status Animals are Insufficient and Improperly Deferred

Because members of the public must be given an opportunity to review mitigation measures before a negative declaration is approved, an MND that defers formulation of mitigation measures to the future is legally inadequate. *Pub Res C §21080*(c)(2); 14 Cal Code Regs §15070(b)(1). See *Save the Agoura Cornell Knoll v City of Agoura Hills* (2020) 46 CA5th 665, 688, 693, 791 (finding an MND inadequate for deferral of mitigation); *League for Protection of Oakland's Architectural & Historic Resources v City of Oakland* (1997) 52 CA4th 896 (finding an MND inadequate for deferral of mitigation).

a. American Badger

The MND's analysis and mitigation of impacts to American badgers are insufficient and improperly deferred. Mitigation measure BR-4 states that a survey for American badger "will be conducted within the project area and adjacent habitat within a minimum of 50 feet from the project area" before construction, and if occupied burrows are discovered, a buffer "determined by a qualified biologist and approved in writing by the County in collaboration with CDFW" will be implemented. Alternatively, if a burrow is unavoidable, the Project "shall consult with CDFW regarding next steps" (MND p.14). These vague plans provide insufficient detail for the public and decision makers to ascertain whether such measures would adequately mitigate the Project's impacts to American badgers in the Project area, violating CEQA. Additionally, the MND's conclusion that such mitigation will reduce impacts to less than significant ignores key aspects of the biology and natural history of American badgers. The American badger is a wide-ranging mesocarnivore that is particularly sensitive to fragmentation (Crooks, 2002). Regardless of the individual den buffer proposed in mitigation measure BR-4, the permanent destruction and alteration of suitable American badger habitat due to the proposed Project would potentially impact the local and regional viability of the population. The Project's impacts to the American badgers must be fully evaluated and disclosed to the public. Unfortunately, the MND falls short in this regard.

1.6

b. Migratory and Nesting Birds, including the Northern Spotted Owl, a federally- and state-threatened species

The MND fails to adequately assess and mitigate impacts to resident and migratory birds. The diverse habitats in the Project Area, including coast live oak woodland, coast live oak forest, and grassland provide significant food resources and shelter to migratory birds. For example,

white-tailed kite, golden eagle, and peregrine falcon—all California fully-protected species—have all been documented in and around the Project Area.[1] In addition, northern spotted owls, a federally- and state-threatened species, are known to occur in the region, and designated critical habitat occurs near the Project site.[2] Northern spotted owls primarily nest in forested areas, while edges between forests and other diverse habitats—such as those present in and around the Project site—are important foraging habitats in California (Bonham, 2016). The Project must assess it impacts to this sensitive species, and other migratory birds.

The MND also fails to mention that the Project Area lies between multiple California Audubon-designated Important Bird Areas ("IBA") for resident and migratory birds within the Pacific Flyway, a north-south migratory corridor the extends from Alaska to Patagonia.[3] The Napa Lakes IBA is less than 15mi northeast of the Project Area, and the San Pablo Bay Wetlands IBA is approximately 7mi south of the Project Area. IBAs are critical for regional, state, and global connectivity particularly for migratory birds that require habitat along their migratory path to find food, shelter, and nesting habitat. Of particular importance are the diverse habitats (oak woodland, oak forest, and grasslands) in the Project Area that likely provide critical nesting and resting habitat for both resident and migratory birds. The Project's impacts to the migratory birds must be analyzed, disclosed, and mitigated.

1.6 cont.

C. The MND Lacks Analysis and Mitigation for Impacts to Special-Status Herpetofauna and Fish.

The MND fails to include any consideration of special-status herpetofauna or fish in its analyses. The MND erroneously concludes that only "six (6) special-status animals could occur within or near the project site. White-tailed kite (*Elanus leucurus*), Coopers hawk (*Accipiter cooperii*), Yellow warbler (*Setophaga petechia*), Yellow-breasted chat, Pallid bat (*Antrozous palidus*), and American badger (*Taxidea taxus*)" (MND p. 13). The MND provides no analysis of amphibian or reptile fauna that may exist in the Project Area.

However, based on Project descriptions in the MND, suitable habitat for numerous special-status amphibians, reptiles, and fish occurs in and adjacent to the Project area. Such habitats include seasonal wetlands, an unnamed blue-line stream that is a tributary to Browns Valley Creek, and several ephemeral streams (MND p.14). Contrary to what is stated in the MND Exhibit B table 3, these habitats are suitable for western pond turtles (WPT), California red-legged frogs (CRLF), and rainbow trout/steelhead. In addition, the proximity to Browns Valley Creek (approx. 800 feet north of Project site; MND p.14) means the Project site may serve as an upland habitat for these and other numerous other special-status species like foothill yellow-legged frogs (FYLF), California giant salamanders, coast range newts, and red-bellied newts. FYLF have been documented up to 40 m (131 ft) from streams (Bourque, 2008) while CRLF have been found to migrate about 600 feet between breeding ponds/streams and non-breeding upland habitat, with some individuals roaming over 4,500 feet from the water (Fellers & Kleeman, 2007). Coast range newts have been documented traveling up to a mile from

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[1] eBird Species Maps: https://ebird.org/map
[2] California Natural Diversity Database (accessed July 21, 2023).
[3] Audubon Important Bird Areas of California, available at https://www.audubon.org/important-bird-areas/state/california?field_iba_status=1&priority=2 (Accessed July 21, 2023).

breeding ponds (Trenham, 1998). Western pond turtle nests have been found up to 1,919 feet from aquatic habitats and individuals have been documented to move regularly between aquatic habitats with long-distance movements of up to 2,018 feet (Sloan, 2012). In fact, all of these species have been documented near the Project site and have the potential to occur in the Project site.[4] Because special-status herpetofauna and fish do use the site, and impacts to special-status species are presumed to be significant, this alone establishes a fair argument that the Project may have a significant impact and means that an EIR is required. (CEQA Guidelines § 15064(f)(1); see also *No Oil, Inc. v. Los Angeles* (1974) 13 Cal.3d 68, 75.)

a. California Central Coast distinct population segment (DPS) of Rainbow Trout/Steelhead, a federally-threatened species

Rainbow trout/steelhead (hereafter "steelhead") occur throughout California, but their numbers have been declining throughout the state for the past several decades. They are highly sensitive to disturbance, habitat modification, and pollution, and are therefore a valuable indicator species of watershed health. The California Central Coast distinct population segment (DPS) of steelhead (hereafter "steelhead") is a federally-threatened species that occurs in Browns Valley Creek and throughout the Napa River watershed (Koehler & Blank, 2011). Adult steelhead often migrate upstream after winter storms when high storm flows start to recede, allowing them to access small and often intermittent streams, like the unnamed blue-line stream and numerous ephemeral streams in the Project area, which are their preferred spawning habitat.

The MND states that almost all of the Project site lies in the Browns Valley Creek drainage, itself a tributary of the Napa River (MND p.2). Browns Valley Creek is designated critical habitat for the Central California Coast DPS of steelhead. An unnamed blue-line stream and numerous ephemeral streams run through the property and drain into Browns Valley Creek (MND p.3). It is therefore possible that the streams in and near the Project site – including ephemeral streams – may provide suitable steelhead habitat, and degradation of these waterways and drainages could have downstream impacts on Browns Valley Creek and steelhead that use the creek and its tributaries as live-in, move-through, and spawning habitat. Yet the MND failed to mention steelhead at all. As detailed below (Section III. B. and Section III. C.), the MND's proposed mitigation for impacts to water quality – which would significantly affect steelhead and other fish – are insufficient. The MND must include a full assessment of suitable habitat and possible steelhead presence in and around the Project site, including directly downstream of the Project, and adequately analyze and mitigate the Project's impacts to this federally-threatened species.

b. Western Pond Turtle, a candidate species under the Federal Endangered Species Act and a California Species of Special Concern

1.7 cont.

[4] See iNaturalist database for observations of California giant salamander (https://tinyurl.com/493f9bm7); coast range newt (https://tinyurl.com/yv9fywfm); red-bellied newt (https://tinyurl.com/3wxz2v4t); California red-legged frog (https://tinyurl.com/2p9xbh55); foothill yellow-legged frog (https://tinyurl.com/3rvb899j); western pond turtle (https://tinyurl.com/2s4anrvy)

The MND completely ignores the Project's potential impacts on Western Pond Turtles ("WPT"), a special-status species. The MND correctly states that potential habitat is present in the pond on the property (Exhibit B, Table 3, p.19), but the potential WPT habitat extends to the numerous wetlands and streams as well as upland habitat like grassland, oak woodland, and oak forest in the Project. Yet, the MND does not show that there was any attempt to determine whether WPT are present in the Project site or surrounding area. Given the diversity of suitable habitat present in the Project site, this is unacceptable. The MND fails to adequately assess and mitigate impacts to WPT.

c. Special-Status Amphibians

Amphibians are the most threatened vertebrate group with more than 40% of species threatened and approximately 200 species collapsing to or near extinction since the 1970s (Alroy, 2015; Stuart et al., 2004). According to researchers at the U.S. Geological Survey (USGS), amphibian populations in the U.S. are declining at an alarming rate of almost 4% per year (Grant et al., 2016). Amphibians are important in many terrestrial and aquatic ecosystems because they play key roles in the food chain and carbon cycle (Arribas et al., 2015; Best & Welsh, Jr., 2014; Rowland et al., 2016; Semlitsch et al., 2014). They face numerous threats, including habitat loss and degradation, invasive species, chemical contaminants (e.g., pesticides), disease, roads, and climate change (Brehme et al., 2018; Bucciarelli et al., 2020; Hayes et al., 2006; Riley et al., 2005; T. A. Yap et al., 2015)(Brehme et al., 2018; Bucciarelli et al., 2020; Hayes et al., 2006; Riley et al., 2005; Yap et al., 2015). We must do more to protect these populations before it is too late.

Based on the description of the Project site provided in the MND, numerous special-status amphibians are likely occur on the site (detailed below). Habitats in and adjacent to the Project area include seasonal wetlands, an unnamed blue-line stream that is a tributary to Browns Valley Creek, and several ephemeral streams (MND p.14). Intermittent and ephemeral rivers and streams are often underestimated habitats despite their importance. Recent scientific literature states that "[i]n many intermittent streams, remnant pools persist after flow ceases and provide refuge for aquatic organisms" (Bogan et al., 2019). The researchers state:

> Remnant pools in intermittent streams should be a focus of conservation efforts in regions with a Mediterranean climate, especially during extreme droughts. Native fauna adapted to harsh intermittent flow regimes can thrive in these habitats, whereas non-native taxa may fare poorly. Furthermore, remnant pools supported by deep groundwater sources, such as those along geological faults, may provide both ecological refuge and evolutionary refugia for freshwater biota. (Bogan et al., 2019)

Hydroperiod diversity is important for native amphibian population stability. Intermittent and ephemeral habitats are important refugia from invasive fish and American bullfrogs that outcompete and prey upon native amphibians in permanent waterbodies. They may also be important refuge and recovery sites for native amphibian species after extreme drought. Many native amphibian species, like CRLF, coast range newts, Pacific chorus frogs, and western toads

1.7 cont.

are adapted to successfully reproduce in seasonally-drying wetlands, including intermittent streams and vernal pools. But during dry years some species may go to permanent waterbodies to breed while species with long-lived adult forms may be able to recover quickly from a skipped breeding season. Although amphibian population declines due to drought have been observed, these adaptations make them more resilient than invasive species to rebound and recover (Moss et al., 2021). In fact, researchers have found that invasive fish and bullfrogs were extirpated from several permanent ponds that had completely dried out during extreme drought, which, once refilled with water, opened up new sites for native species to re-colonize (Moss et al., 2021). This indicates that conserving intermittent and ephemeral waterways is vital for native amphibians to persist, particularly in areas where invasive species may occur or have the potential to occur. As climate change intensifies, preservation of connected habitats with diverse hydroperiods is vital for the persistence and metapopulation dynamics of native amphibians. Yet the MND fails to acknowledge the importance of intermittent and ephemeral waters and erroneously excludes amphibians from any analysis, contradicting the best available science.

i. California Red-Legged Frog, a Federally-Threatened Species and Northwest/North Coast Clade Foothill Yellow-Legged Frog, a California Species of Special Concern

The MND fails to adequately assess and mitigate impacts to California Red-Legged Frog ("CRLF"), a federally-threated species and Foothill Yellow-Legged Frog ("FYLF," Northwest/North Coast clade), a California species of special concern. These two frog species occur in the region and may occur in the Project site; therefore, the Project has the potential to directly and indirectly impact CRLF and FYLF and their habitats. If CRLF or FYLF are present in the Project area, vineyard development may directly harm or kill individuals. Additionally, breeding and upland habitat may be degraded and/or destroyed through the conversion of coyote brush scrub and grassland habitats to vineyard rows. Local and regional connectivity important for the species' metapopulation dynamics and climate resilience may also be impacted, especially considering the Project site's importance as a "critical habitat linkage between tracts of natural habitat to the north and south" (MND p.14). Yet the MND fails to adequately assess and mitigate the Project's impacts to CRLF or FYLF.

ii. California Giant Salamander, Coast Range Newt, and Red-Bellied Newt, California Species of Special Concern

Contrary to what the MND states in Exhibit B Table 3 (p.18), habitats in and adjacent to the Project area may be suitable for California giant salamanders and red-bellied newts, both species of special concern, as well as coast range newts, especially considering the Project site's proximity to Browns Valley Creek. Although the Project area is not within the portions of the range where the coast range newt is designated as a species of special concern, it is situated well within the species distribution. All of these salamander species have been observed near the Project site, and may occur in the Project area.[5] These sensitive amphibian species are considered environmental health indicators and the Project's impacts on them should be evaluated.

1.7 cont

[5] See iNaturalist database for observations of California giant salamander (https://tinyurl.com/493f9bm7); coast range newt (https://tinyurl.com/yv9fywfm); red-bellied newt (https://tinyurl.com/3wxz2v4t)

D. The MND Does Not Adequately Describe the Environmental Baseline for Mountain Lion, a Specially Protected Mammal.

The MND fails to adequately describe, assess, and mitigate impacts to mountain lions (*Puma concolor*). Despite being a special-status species known to occur in and near the area, the MND understates the importance of the Project area to local mountain lions and their long-term survival, omitting them from the MND entirely.

Ample scientific evidence indicates that mountain lion populations are struggling to survive and that human activity and land use that inhibits habitat connectivity has adverse impacts on mountain lions. Continued habitat loss and fragmentation has led to 10 genetically isolated populations within California. There are six identified mountain lion populations in the ESU, and several are facing an "extinction vortex" due to high levels of inbreeding, low genetic diversity, and high human-caused mortality rates from car strikes on roads, depredation kills, rodenticide poisoning, poaching, disease, and increased human-caused wildfires (Benson et al., 2016, 2019; Ernest et al., 2003, 2014; Gustafson et al., 2018, 2021; Riley et al., 2014; Vickers et al., 2015). The primary driver of this extinction vortex is lack of connectivity (T. Yap & Rose, 2019).

There is plenty of evidence documenting the effects of human activity specifically on mountain lions. One study found that mountain lions are so fearful of humans and noise generated by humans that they will abandon the carcass of a deer and forgo the feeding opportunity just to avoid humans (Smith et al., 2017). The study concluded that even "non-consumptive forms of human disturbance may alter the ecological role of large carnivores by affecting the link between these top predators and their prey" (Smith et al., 2017). In addition, mountain lions have been found to respond fearfully upon hearing human vocalizations, avoiding the area and moving more cautiously when hearing humans (Smith et al., 2017; Suraci et al., 2019). Other studies have demonstrated that mountain lion behavior is negatively affected when exposed to other evidence of human presence, such as lighting or vehicles/traffic (Smith et al., 2015; Y. Wang et al., 2017; Wilmers et al., 2013). Therefore, both physical and behavioral barriers drive genetic isolation, and continued land use that further fragments mountain lion habitat without adequately minimizing impacts to functional connectivity will harm puma populations in the area. The Project will result in decreased connectivity, especially given its importance as "critical habitat linkage between tracts of natural habitat to the north and south" (MND p.14). The MND fails to consider how the Project will significantly impact how mountain lions navigate the landscape by creating new human-made barriers and decreasing opportunities for them to move freely between heterogeneous habitats.

Mountain lions are a key indicator species of wildlife connectivity and healthy ecosystems. As the last remaining wide-ranging top predator in the region, the ability to move through large swaths of interconnected habitat is vital for genetic connectivity and their long-term survival. In addition, impacts to mountain lions in the region could have severe ecological consequences; loss of the ecosystem engineer could have ripple effects on other plant and animal species, potentially leading to a decrease in biodiversity and diminished overall ecosystem function. Many scavengers, including California condors, kit foxes, raptors, and numerous insects, would lose a reliable food source (Barry et al., 2019; Ruth & Elbroch, 2014). Fish, birds,

1.8

amphibians, reptiles, rare native plants, and butterflies would potentially diminish if this apex predator were lost (Ripple et al., 2014; Ripple & Beschta, 2006, 2008). In fact, a recent literature review found that mountain lions are important ecosystem engineers and have been documented to have ecological interactions with at least 485 plant and animal species (LaBarge et al., 2022). The MND must adequately disclose, assess, and mitigate the Project's impacts to mountain lions in and near the Project area in order to ensure their long-term survival as well as the long-term health of the area's biodiversity and ecosystems.

This is yet another example of the site's importance to special-status species, the impacts to which are, again, presumed significant. The impacts to any one of these species alone would establish a fair argument of a significant impact and require the preparation of an EIR. Given the number of special-status species that will be impacted, the choice to prepare an MND is indefensible.

1.8 cont.

E. The MND Fails to Adequately Analyze and Mitigate the Project's Impacts to Wildlife Movement and Habitat Connectivity.

Habitat connectivity is vital for wildlife movement and biodiversity conservation. Limiting movement and dispersal with barriers (e.g., development, roads, or fenced-off croplands) can affect animals' behavior, movement patterns, reproductive success, and physiological state, which can lead to significant impacts on individual wildlife, populations, communities, and landscapes (Ceia-Hasse et al., 2018; Cushman, 2006; Haddad et al., 2015; Trombulak & Frissell, 2000; Van Der Ree et al., 2011). Individuals can die off, populations can become isolated, sensitive species can become locally extinct, and important ecological processes like plant pollination and nutrient cycling can be lost. In addition, connectivity between high quality habitat areas in heterogeneous landscapes is important to allow for range shifts and species migrations as climate changes (Cushman et al., 2013; Heller & Zavaleta, 2009). Lack of wildlife connectivity results in decreased biodiversity and degraded ecosystems.

Connectivity among and between natural waterways and upland riparian habitat is essential for native fish species like the steelhead and trout too. The shade and erosion control from riparian vegetation provide cool and clear streams that are ideal for spawning and rearing (Lohse et al., 2008; Moyle et al., 2011). Encroachment and over-aggressive removal and degradation of riparian areas have been identified as major drivers of declines in California's freshwater and anadromous fish(Grantham et al., 2012; Lohse et al., 2008; Moyle et al., 2011; Opperman et al., 2005; Pess et al., 2002). Many other species, including mountain lions and bobcats, often use riparian areas and natural ridgelines as migration corridors or foraging habitat (Dickson et al., 2005; J. A. Hilty & Merenlender, 2004; Jennings & Lewison, 2013).

In addition to providing habitat connectivity, buffer zones around the County's aquatic habitats are essential to protect the County's high diversity of plants, fish, aquatic invertebrates, birds, amphibians, and reptiles. The streams (perennial and intermittent), wetlands (including vernal pools), and reservoirs throughout the County support numerous special-status flora and fauna, including steelhead trout, western pond turtles, and California red-legged frogs. Species that rely on these aquatic habitats also rely on the adjacent upland habitats (*e.g.*, riparian areas along streams, grassland habitat adjacent to wetlands). In fact, 60% of amphibian species, 16%

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of reptiles, 34% of birds and 12% of mammals in the Pacific Coast ecoregion (which includes Napa County) depend on riparian-stream systems for survival (Kelsey & West, 1998). Additionally, fish rely on healthy upland areas to influence suitable spawning habitat (Lohse et al., 2008), and agricultural encroachment on these habitats has been identified as a major driver of declines in freshwater and anadromous fish (Lohse et al., 2008; Moyle et al., 2011). And other sensitive species that are known or are likely to occur in the area, like FYLF, CRLF, California giant salamanders, coast range and red-bellied newts, and numerous bird and bat species inhabit and move through riparian areas.

The MND does not adequately analyze the Project's impacts to wildlife connectivity. The MND correctly states that the Project site is "critical habitat linkage between tracts of natural habitat to the north and south" and that "the Browns Valley Creek tributary… which runs along the western edge of the property provides an important movement corridor between woodland habitats in this region" (MND p.14). However, the MND fails to mention the area has been identified as CDFW as an "Irreplaceable and Essential Corridor"[6] and the Conservation Lands Network (CLN) has identified much of the Project area as "Areas Essential to Conservation Goals"[7]. Yet the MND erroneously claims that impacts to wildlife connectivity would be less than significant: "Because wildlife movement and use within the project site has been maintained through project design, and wildlife exclusion has been sited to encompass each individual development area, the proposed project and associated wildlife exclusion fencing is not anticipated to reduce wildlife use or interfere with wildlife movement in the area" (MND p.14-15). The MND claims that the 400-foot buffer around the Browns Valley Creek tributary and the proposed wildlife exclusion fencing around the seven proposed vineyard blocks are sufficient mitigation for impacts to wildlife connectivity but fail to provide evidence to back up this claim.

On the contrary, the wildlife corridors described in the MND are not adequate to ensure wildlife connectivity. Buffer zones of 400 feet along streams and wetlands may be locally adequate to alleviate water quality concerns in the short-term, but they are often insufficient for wildlife protection (Fischer & Lindenmayer, 2000; Kilgo et al., 1998; Semlitsch & Bodie, 2003). A literature review found that recommended buffers for wildlife often far exceeded 325 feet, well beyond the largest buffers implemented in practice (Fischer & Lindenmayer, 2000; Robins, 2002). For example, Kilgo et al. (1998) recommend more than 1,600 feet of riparian buffer to sustain bird diversity. In addition, amphibians have been found to migrate over 1,000 feet between aquatic and terrestrial habitats through multiple life stages (Cushman, 2006; Fellers & Kleeman, 2007; Semlitsch & Bodie, 2003; Trenham & Shaffer, 2005). Specifically, the California red-legged frog, a threatened species that occurs and has designated critical habitat within Napa County, was found to migrate about 600 feet between breeding ponds and non-breeding upland habitat and streams, with some individuals roaming over 4,500 feet from the water (Fellers & Kleeman, 2007). Other sensitive species that may occur in and around the Project site, such as western pond turtles and coast range newts, have been found to migrate over 1,300 feet and 10,000 feet respectively from breeding ponds and streams (Semlitsch & Bodie, 2003; Trenham, 1998).

1.9 cont.

[6] California Department of Fish & Wildlife Areas of Conservation Emphasis (https://apps.wildlife.ca.gov/ace/)
[7] Conservation Lands Network Explorer Tool (https://www.bayarealands.org/explorer-tool/)

Accommodating the more long-range dispersers is vital for continued survival of species populations and/or recolonization following a local extinction (Cushman, 2006; Semlitsch & Bodie, 2003). In addition, more extensive buffers provide resiliency in the fact of climate change-driven alterations to these habitats, which will cause shifts in species ranges and distributions (Cushman et al., 2013; Heller & Zavaleta, 2009; Warren et al., 2011). This emphasizes the need for sizeable riparian and upland buffers around streams and wetlands in Napa County, as well as connectivity corridors between heterogeneous habitats. While the biological assessment performed for the MND are not sufficient to determine whether the Project site has the above species present, the MND should consider the steps that need to be taken to protect potential habitat, while supporting the regional biodiversity by minimizing its impact on crucial riparian habitats and adjacent terrestrial habitats.

The MND claims that "project design" maintains wildlife connectivity but fails to account for the edge effects produced by the proposed layout of vineyard blocks and associated human use and activities. As shown in the MND, the layout of the vineyard blocks includes numerous disconnected blocks on the property, which creates unnecessary habitat fragmentation and edge effects. In fact, the disjointed arrangement of vineyard blocks creates breaks and edge effects in otherwise viable habitat. Edge effects of development in and adjacent to critical linkage areas, like the proposed Project, will likely impact key, wide-ranging predators, such as mountain lions, bobcats, and American badgers (Crooks, 2002; Delaney et al., 2010; Lee et al., 2012; Riley et al., 2006; Smith et al., 2015, 2017; Vickers et al., 2015; Y. Wang et al., 2017), as well as smaller species with smaller home ranges, such as song birds, bats and other small mammals, and herpetofauna (Benítez-López et al., 2010; Bunkley & Barber, 2015; Cushman, 2006; Delaney et al., 2010; Gray, 2017; Kociolek et al., 2011; McClure et al., 2013; Slabbekoorn & Ripmeester, 2008; Ware et al., 2015). Limiting movement and dispersal can affect species' ability to find food, shelter, mates, and refugia after disturbances like fires or floods. Individuals can die off, populations can become isolated, sensitive species can become locally extinct, and important ecological processes like plant pollination and nutrient cycling can be lost. Negative edge effects from human activity, such as domestic pets, pollutants, invasive weeds, and increased fire frequency, have been found to be biologically significant up to 300 meters (~1000 feet) away from anthropogenic features in terrestrial systems (Environmental Law Institute, 2003). The MND does not specify the distances between vineyard blocks, but in numerous cases these distances appear to be less than 100 feet (Exhibit A). Such small areas between vineyard blocks are not large enough to provide effective wildlife corridors. The proposed Project would significantly impact wildlife connectivity.

The MND fails to consider and adequately mitigate impacts to functional connectivity in the Project design and ignores the best available science. Effective, functional corridors are continuous (not fragmented by roads or other anthropogenic features like vineyards), wide enough to overcome edge effects, dominated by native vegetation, and have equal or higher habitat quality than core habitat patches (Bennett et al., 1994; Brooker et al., 1999; J. A. Hilty & Merenlender, 2004). Edge effects of development and habitat degradation from the proposed Project would only result in low quality habitat in and around the Project area that would not be able to support the area's biodiversity or facilitate wildlife movement.

1.9 cont.

It is widely recognized that the continuing fragmentation of habitat by humans threatens biodiversity and diminishes our (humans, plants, and animals) ability to adapt to climate change. In a report for the International Union for Conservation of Nature (IUCN), world-renowned scientists from around the world stated that "[s]cience overwhelmingly shows that interconnected protected areas and other areas for biological diversity conservation are much more effective than disconnected areas in human-dominated systems, especially in the face of climate change" and "[i]t is imperative that the world moves toward a coherent global approach for ecological connectivity conservation, and begins to measure and monitor the effectiveness of efforts to protect connectivity and thereby achieve functional ecological networks" (J. Hilty et al., 2020). The MND erroneously concludes that Project impacts to wildlife movement would be less than significant and fails to adequately assess and mitigate impacts to wildlife connectivity.

The proposed Project will result in habitat loss and edge effects due to increased human presence and activities that will further degrade a critical connectivity area. The MND fails to adequately disclose, assess, and mitigate the Project's impacts to wildlife connectivity. Because there is a fair argument that these impacts will be significant after mitigation, an EIR is required.

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IV. THE MND FAILS TO ADEQUATELY ANALYZE AND MITIGATE THE PROJECT'S WILFIRE IMPACTS.

The MND incorrectly states that the Project site is located within a Moderate Fire Hazard Severity Zone (FHSZ), when in fact it is located within a High FHSZ and adjacent to a Very High FHSZ (Figure 1, below). This is a significant and egregious mischaracterization that fails to describe accurate baseline conditions and inappropriately minimizes the potential impacts of the Project on wildfire.

The MND fails to provide any analyses on the Project's impacts to wildfire risk and omits any consideration of the area's fire history. Wildfires due to lightning strikes and Indigenous cultural burning have occurred on California's landscapes for millennia. They're a natural and necessary process for many of California's ecosystems. But some of the recent fires have been exceptionally harmful to communities. In the past 200 years since European colonization, forced relocation and cultural genocide of Native Tribes, fire suppression and poor land management combined with poor land-use planning that places more people in fire-prone landscapes have shifted historical fire regimes throughout the heterogeneous ecosystems of the state. In addition, hotter, drier and more extreme weather conditions due to climate change make the landscape more conducive to wildfire ignitions and spread. Yet the MND fails to adequately consider how disrupted fire regimes and climate change worsening wildfire conditions will affect the Project's impacts to wildfire risk.

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Almost all (95-97%) contemporary wildfires in California have been unintentionally caused by people, including powerlines, car sparks, arson, etc. (Balch et al., 2017; Keeley & Syphard, 2019). The proposed Project will bring more people and increased human activity into fire-prone landscapes and increase ignition risk. Such a Project requires careful and comprehensive analyses of the area's fire history, the various ecosystems' fire ecology, and potential mitigation measures to reduce risk of ignition and fire within and adjacent to the Project area and spreading to nearby communities.

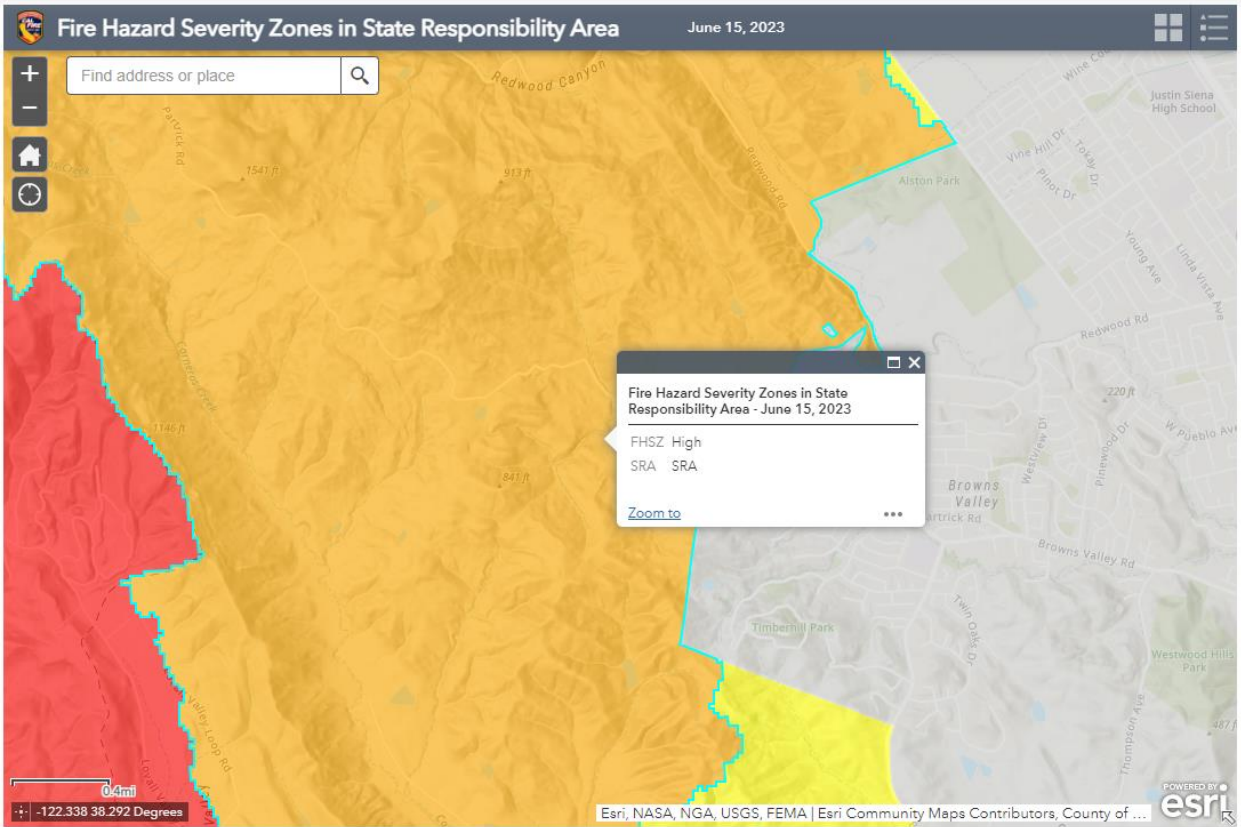

Figure 1. Screenshot of CAL FIRE Map of Fire Hazard Severity Zones in State Responsibility Area centered on the Project site. The map shows the Project Area lies within a High FHSZ (orange area). Screenshot taken on July 20, 2023.

A. The MND Fails to Adequately Assess and Mitigate the Project's Wildfire Impacts.

The MND fails to provide evidence that the Project would have less than significant wildfire related impacts. As detailed in a 2021 Center Report (T. Yap et al., 2021), development in highly fire-prone areas increases unintentional ignitions, places more people at risk (within and downwind of the Project area), and destroys native habitats that support high levels of biodiversity. Almost all contemporary wildfires in California (95-97%) are caused by humans in the wildland urban interface (Balch et al., 2017; Radeloff et al., 2018; Syphard et al., 2007; Syphard & Keeley, 2020). For example, the 2019 Kincade Fire, 2018 Camp and Woolsey fires, 2017 Tubbs and Thomas fires, and 2020 Silverado and Zogg fires were sparked by powerlines or electrical equipment. The 2020 Apple Fire and 2018 Carr Fire were caused by sparks from a vehicle, the 2020 El Dorado Fire was caused by pyrotechnics at a gender-reveal celebration, the 2020 Blue Ridge Fire was likely caused by a house fire.

The Project would increase the potential for wildfire ignitions to occur by placing more people in a fire-prone landscape and introducing ignition sources, particularly vehicles and

1.10 cont.

electrical equipment. The Project would also place more people in harm's way should a fire ignite in the Project area and spread elsewhere. Recent wildfires have been exceptionally harmful to people. Between 2015 and 2020 almost 200 people in the state were killed in wildfires, more than 50,000 structures burned, hundreds of thousands of people had to evacuate their homes and endure power outages, and millions were exposed to unhealthy levels of smoke and air pollution. This has been shown with the 2018 Camp Fire that burned 19,000 structures; the smoke caused dangerously high levels of air pollution in the Sacramento Valley and Bay Area and CARB found that high levels of heavy metals like lead and zinc traveled more than 150 miles (California Air Resources Board, 2021).

Wildfire impacts disproportionately affect low-income and minority communities. As discussed in the Center's 2021 Built to Burn report (T. Yap et al., 2021):

> Past environmental hazards have shown that those in at-risk populations (*e.g.*, low-income, elderly, disabled, non-English-speaking, homeless) often have limited resources for disaster planning and preparedness (Richards, 2019). Vulnerable groups also have fewer resources to have cars to evacuate, buy fire insurance, implement defensible space around their homes, or rebuild, and they have less access to disaster relief during recovery (Davis, 2018; Fothergill & Peek, 2004; Harnett, 2018; Morris, 2019; Richards, 2019).
>
> In addition, emergency services often miss at-risk individuals when disasters happen because of limited capacity or language constraints (Richards, 2019). For example, evacuation warnings are often not conveyed to disadvantaged communities (Davies et al., 2018). In the aftermath of wildfires and other environmental disasters, news stories have repeatedly documented the lack of multilingual evacuation warnings leaving non-English speakers in danger. (Axelrod, 2017; Banse, 2018; Gerety, 2015; Richards, 2019). Survivors are left without resources to cope with the death of loved ones, physical injuries and emotional trauma from the chaos that wildfires have inflicted on their communities.
>
> Health impacts from wildfires, particularly increased air pollution from fine particulates ($PM_{2.5}$) in smoke, also disproportionately affect vulnerable populations, including low-income communities, people of color, children, the elderly and people with pre-existing medical conditions (Delfino et al., 2009; Hutchinson et al., 2018; Jones et al., 2020; Künzli et al., 2006; Reid et al., 2016).
>
> Increased $PM_{2.5}$ levels during wildfire events have been associated with increased respiratory and cardiovascular emergency room visits and hospitalizations, which were disproportionately higher for low socioeconomic status communities and people of color (Hutchinson et al., 2018; Jones et al., 2020; Liu et al., 2017; Reid et al., 2016). Similarly, asthma admissions were found to have increased by 34% due to smoke exposure from the 2003 wildfires in Southern California, with elderly and child age groups being the most affected (Künzli et al., 2006).

1.10 cont.

> Farmworkers, who are majority people of color, often have less access to healthcare due to immigration or economic status. They are more vulnerable to the health impacts of poor air quality due to increased exposure to air pollution as they work. Yet farmworkers often have to continue working while fires burn, and smoke fills the air, or risk not getting paid (Herrera, 2018; Kardas-Nelson et al., 2020; Parshley, 2018).

In addition, there are significant economic impacts of wildfires on residents throughout the state. One study estimated that wildfire damages from California wildfires in 2018 cost $148.5 billion in capital losses, health costs related to air pollution exposure, and indirect losses due to broader economic disruption cascading along with regional and national supply chains (D. Wang et al., 2021). Meanwhile the cost of fire suppression and damages in areas managed by the California Department of Forestry and Fire (Cal Fire) has skyrocketed to more than $23 billion during the 2015-2018 fire seasons. The MND fails to adequately assess and mitigate the Project's impacts to wildfire risk.

B. The MND Relies on Unsubstantiated Claims About Fire Safety and Vineyards.

The MND claims that "the risk of fire in vineyards is very low due to limited amount of fuel, combustibles, and ignition sources that are present" (MND p.42). This claim is unsubstantiated. Although data from the 2017 and 2020 wildfires in Napa (courtesy of Napa County and CalFire) show that large blocks of vineyards can be protective for many structures, vineyards and structures along the fringes, like the proposed Project, were still vulnerable to wildfire, and small, isolated vineyards did not act as effectively as fire breaks or substantially reduce fire spread. Fires burned through many vineyards – at least 27 and 31 wineries confirmed damage to wineries, vineyards, wine stock, or other structures on their property in 2017 and 2020, respectively (Mobley, 2020a; Orlin & Steade, 2017). When looking at addresses in the areas that burned in the 2017 fires, addresses located within vineyards were only 9% less likely to burn compared to addresses located outside of vineyards (i.e., 13.1% of addresses located within the fire footprint and located on a vineyard were destroyed compared to 22.3% of addresses within the fire footprint that were not located on a vineyard).

Building more vineyards and placing more people in high fire-prone areas will increase ignition risk and threaten the communities and habitats that are already reeling from the past years' wildfires. And as mentioned previously, wildfires disproportionately affect low-income and minority communities. Some workers rely on income from the seasonal work of grape harvesting to support their families throughout the year. In 2020 hundreds of farmworkers, many undocumented, were sent into evacuation areas and even within the fire footprint so that they could harvest grapes, exposing them to toxic levels of wildfire smoke while most residents evacuated (Brown, 2020; Cotsirilos, 2021). More vineyards in high fire-prone areas could increase farmworker exposure to unsafe and unhealthy working conditions. The MND fails to adequately disclose, assess, and mitigate these impacts.

C. The Economic Risk of More Vineyards in High Fire-prone Areas is High.

1.10 cont.

Planting more vineyards in high wildfire-prone areas will not necessarily reap the assumed economic gains of grape and wine production. As drought intensifies and wildfires occur year-round, the ability to irrigate and the increasing risk of grapes being exposed to smoke (smoke taint), are becoming more challenging (Mobley, 2020b). Although the 2017 harvest was not affected by smoke taint (fires occurred in the fall, after most grapes were harvested), the 2020 harvest saw an estimated $600 million in lost revenue due to actual and perceived smoke taint issues from the Hennessey/LNU fires over the summer (before the grapes were harvested). (Downey Brand LLP, 2021). The Napa wine industry lost an estimated $2 billion in 2020 due to burned vineyards, destroyed inventory, and smoke taint. (Wilkinson, 2021).

1.10 cont.

V. THE MND DOES NOT ADEQUATELY DISCLOSE OR MITIGATE THE PROJECT'S WATER QUALITY IMPACTS

Over the past ten years—the present year (2023) notwithstanding—California has been in the grip of a historic drought, with the entire state facing reductions in available water supply. Due to the heavy precipitation over the past year, several drought restrictions have been lifted (e.g. California Executive Order N-5-23). However, drought in California will continue long in the future, increasing in frequency and intensity with climate change (Cook et al., 2015; Garfin et al., 2018). As California Executive Order N-5-23 ("EO N-5-23") states, "the multi-year nature of the current drought, which began three years after the record-setting drought of 2012-2016, continues to have significant, immediate impacts on communities across California with vulnerable water supplies, farms that rely on irrigation to grow food and fiber, and fish and wildlife that rely on stream flows and cool water."

Napa County has extracted more groundwater than the sub-basin can sustainably yield for the last three years in a row. (Napa 2023.) To maintain water supplies through the increasingly extreme cycles of drought and heavy rain that scientists predict for California, Napa County must pump water out of the aquifer no faster than the aquifer is recharged. If this site is developed, then less of the rain that falls on the parcel will infiltrate into the water table to recharge groundwater, at the same time that the site pumps out groundwater.

1.11

It is in this context that the Project seeks approval to add over 15 acres of vines—acres to which the irrigation tap can't be shutoff in dry years—in the Napa River watershed. Despite the current respite from drought conditions, as the frequency and intensity of droughts in California increase due to climate change, it is critical that land use decisions be made based on robust and thorough water supply analyses. As EO N-5-23 states, "next winter's hydrology is uncertain and the most efficient way to preserve the State's improved surface water supplies is for Californians to continue their ongoing efforts to make conservation a way of life." The MND completely ignores the reality in which the proposed Project would operate and fails to include a legally adequate assessment and discussion of the Project's demand for water, the available supply, nor the environmental consequences of providing the needed supply.

A. The MND Proposes Constructing New Wells Without Approval, in Violation of Applicable Law.

The Project includes the construction of two new groundwater wells that would supply drip irrigation to the proposed vineyard (MND p.1, p.30; Exhibit A). As stated in the MND, California Executive Order N-7-22 ("EO N-7-22") "requires prior approval of a new groundwater well (or approval of an alteration to an existing well) in a basin subject to the Sustainable Groundwater Management Act" (MND p.29). The MND then states that "because the project contains an existing well which is not being altered, EO N-7-22 does not apply" (MND p.29), contradicting multiple other statements in both the MND (p.1, p.30) as well as Exhibit A. Regardless of whether there is an existing well, the Project proposes constructing two new wells, and so the prior approval requirement does apply. The conflicting claims presented in the MND do not meet the standard of an "accurate, stable project description," violating CEQA. The Applicant must rectify these inconsistencies and disclose and comply with the appropriate regulatory requirements that apply to the two proposed new wells in the Project site. 1.12

B. The Project's Proposed Mitigation for Erosion, Runoff, and Sediment Is Inadequate to Reduce Impacts to Less Than Significant Levels.

The MND's unsupported conclusion that water quality impacts will be less than significant with mitigation is disconcerting, given that there is ample evidence in Napa County that the types of mitigation measures proposed to be included in the Project have been ineffective or have gone unenforced and unimplemented for other similar projects in Napa. Land use mismanagement and lack of environmental oversight have led to degraded waterways from agricultural runoff, changes in flow, and increased erosion, sedimentation, and water temperatures (Higgins 2006; Higgins 2010). These impacts are evident in the Napa River's muddy waters and the loss of native fishes that once thrived in these waters, such as Coho salmon (which have been extirpated) and steelhead trout (Higgins 2006). The Napa River remains on the U.S. Environmental Protection Agency's 303(d) list of impaired waters due to excessive sediment and nutrient pollution from historical and current land use practices, including vineyard conversions, grazing, and urbanization.[8] Given the extensive and well-documented history of the failure of mitigation measures like those proposed in the MND (combined with the County's sporadic enforcement of these measures), the County can no longer rely on "paper mitigation" to claim that soil erosion, runoff, and sediment impacts to water quality will be less than significant for vineyard conversion projects like the Project. 1.13

For example, the MND is vague and states that cover planting will reduce the effects of runoff and erosion (MND p.1, p.20), but the MND fails to analyze or explain what types of vegetation will be used as cover, and how that vegetation compares to naturally occurring and currently present vegetation. It is therefore impossible to adequately evaluate whether this proposed mitigation measure will effectively reduce the Project's impacts to erosion, runoff, and sedimentation. The Applicant must provide information on the specific cover crop to be used and analyze its efficacy.

In addition, the proposed buffers around wetland and riparian areas are also insufficient. Insufficient terrestrial buffers from aquatic habitats can lead to degraded waterways from

[8] U.S. Environmental Protection Agency, How's My Waterway? Napa River, non-tidal. Accessed at: https://mywaterway.epa.gov/waterbody-report/CA_SWRCB/CAR2065002020160701061256/2022

agricultural runoff, changes in flow, and increased erosion, sedimentation, and water temperatures (Higgins, 2006, 2010). This would have significant negative impacts to numerous amphibian species as well as rainbow trout/steelhead (California Central Coast DPS), a federally-threatened species that occurs and has designated critical habitat in the adjacent Browns Valley Creek (Koehler & Blank, 2011). The MND fails to adequately assess the Project's impacts to special-status and sensitive species in and adjacent to the Project area, including downstream impacts.

1.13 cont.

C. The MND Fails to Consider the Impacts of Reduced Flows.

The MND states that the Project will create a total groundwater demand of 7.80 acre feet per annum ("afa"), out of an "average annual groundwater recharge" of approximately 23.2 afa (MND p.30). By measuring the Project's anticipated groundwater usage against the "average annual groundwater recharge" rather than the existing condition (of virtually no groundwater extraction on the property), the MND uses the improper baseline for its analysis (MND p.30-31). The MND's projection that the Project will not use all of the "average annual groundwater recharge" does not automatically support a finding that there will be no impact to the watershed and Browns Valley Creek. (*See Vineyard Area Citizens for Responsible Growth v. City of Rancho Cordova* (2007) 40 Cal.4th 412, 434 [The "ultimate question under CEQA is not whether an EIR establishes a likely source of water but whether it adequately addresses the reasonably foreseeable *impacts* of supplying water to the project."].)

Additionally, the MND has not demonstrated that the Project's water use will not have an impact on flows in Browns Valley Creek and its tributaries present in the Project site (and, accordingly, on water supply and impacts to aquatic species and designated critical habitat for the federally threatened California Central Coast DPS of steelhead, as a result). The MND cannot merely conclude that if the Project would require less water annually than the level of precipitation that falls on the property, there will be no adverse impact on water supply to Browns Valley Creek (and, accordingly, the Napa River). The MND fails to address the likelihood that groundwater pumping and changes to the surface use on the project site will divert or reduce surface or subsurface flow rates from these drainages and reduce water levels or water quality in Browns Valley Creek downstream of the Project.

1.14

CEQA requires lead agencies to show how much water a Project will use, where that water will come from, and the potential impacts associated with acquiring the supply. (See *Vineyard Area Citizens v. Rancho Cordova* (2007) 40 Cal.4th 412, 434.) Installation of a new vineyard would lock in water demand for decades which makes it necessary for an environmental review of such a project to clearly state how much water the vineyard will require over the planning horizon.

D. The MND Uses an Improper Baseline for Erosion, Runoff, and Sedimentation.

1.15

The MND's water quality impacts analysis fails to establish an accurate baseline of existing environmental conditions at the Project site. The MND fails to provide sufficient

observational data on baseline soil characteristics, erosion conditions, and runoff dynamics, and is overly reliant on abstract modeling.

The MND fails to adequately characterize existing erosion or runoff conditions at the Project site. The MND provides a brief description of the soil types in the Project site but does not describe existing conditions based on field data gathered from the Project site at all. Instead, the MND describes soil loss calculations that were prepared using the Universal Soil Loss Equation, a modelling approach that estimates current and future soil conditions (p.20; Exhibit D). USLE results suggest that "the proposed vineyard project will not result in increased soil loss" (Exhibit D p.3). Similarly, water runoff calculations were performed using HydroCAD modeling (Exhibit G), the results of which concluded that "the proposed vineyard development with appropriate mitigation measures will not increase the peak runoff rate in the affected watersheds" (Exhibit E). However, neither of these modelling analyses—nor their ultimate conclusions—are based on actual data collected at the Project site.

Hydrologic modeling of *hypothetical* existing sediment, erosion, and runoff conditions is no substitute for an *actual* determination and description of existing environmental conditions on the project site, which would include, at a minimum, field measurements, water quality samples, rain gauge monitoring, and other data. Recent studies show that the accuracy of soil erosion modeling is highly dependent on calibration to site-specific conditions that must be determined with observational data (Batista et al., 2019; Efthimiou, 2018). Because the MND's assertions that there will be no impact to water quality, erosion, or runoff are highly reliant on the findings of the soil analysis and hydrological study, these studies should be informed by extensive and detailed site-specific baseline data derived from observational study. Otherwise, the studies' conclusions could be highly inaccurate and therefore fail to constitute substantial evidence to support the MND analysis.

Additionally, the MND's heavy reliance on the appended soil erosion and hydrology studies (Exhibit D, E) obfuscates the method of analysis and makes the impact conclusions difficult to understand. The MND must include this critical information upfront, in the document, rather than burying it in appendices. "[D]ata in an EIR must not only be sufficient in quantity, it must be presented in a manner calculated to adequately inform the public and decision makers, who may not be previously familiar with the details of the project." (*Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova* (2007) 40 Cal.4th 412, 442 [stating that "information scattered here and there in EIR appendices, or a report 'buried in an appendix,' is not a substitute for a good faith reasoned analysis." (brackets, ellipses, and some internal quotation marks removed)].)

These shortcomings are especially problematic here because the MND uses its hypothetical baseline to support one of the MND's most startling and implausible conclusions: that converting existing natural coyote brush scrub and grassland on steep slopes above natural streams to agricultural use will actually *lessen* erosion, sedimentation, and runoff (MND p.33).

Modeling is no substitute for an adequate baseline analysis, especially when the MND conclusion is inconsistent with abundant evidence showing that natural vegetation cover plays a critical role in regulating water flow, maintaining water quality, promoting groundwater recharge, and maintaining overall watershed health. Conversion of grasslands and forests to

1.15 cont.

vineyards has been shown to impede groundwater recharge rates in Northern California (Grismer & Asato, 2012). Further, vineyard conversions are associated with more severe erosion and runoff than other types of agricultural use (Cossart et al., 2020).

The MND must be revised to describe an accurate baseline for the Project's water quality impacts that reflects a detailed and evidence-based evaluation of current sedimentation and erosion conditions on the project site. Until the MND provides such an analysis to use as a baseline for evaluating impacts, it cannot properly analyze—nor provide adequate mitigation for—the Project's erosion, sedimentation, and runoff impacts. In this case, the lack of an accurate baseline rooted in observational data and site-specific detail precludes an adequate analysis of the Project's impacts.

1.15 cont.

E. The MND Fails to Sufficiently Analyze the Impacts of Pesticide and Nutrient Pollution on Water Quality

The MND does not adequately analyze or mitigate the harmful effects of pesticides, herbicides, or fertilizers on wildlife, habitat, and water quality.

Over 25 million pounds of pesticides were used on wine grapes in 2021 in California (California Department of Pesticide Regulation, 2021a). The most widely used pesticide on wine grapes in the state is sulfur. Researchers at the Center for Environmental Research and Children's Health at the University of California, Berkeley, found that use of asthma medication and adverse respiratory symptoms increased in children that lived up to 1 kilometer away from where sulfur spraying had occurred (Raanan et al., 2017). Other widely used pesticides on wine grapes in California include 1,3-dichloropropene (1,3-D), paraquat dichloride, simazine and imidacloprid (California Department of Pesticide Regulation, 2021b). Both 1,3-D and imidacloprid are classified by the U.S. Environmental Protection Agency ("U.S. EPA") as "very highly toxic" to aquatic invertebrates (U.S. Environmental Protection Agency, 1998, 2022), and 1,3-D is listed by the California Office of Environmental Health Hazard Assessment ("California OEHHA") under California's Proposition 65 as causing cancer in humans.[9] A collaborative study done by National Institutes of Health and the Parkinson's Institute and Clinical Center in Sunnyvale, CA found that use of paraquat is positively associated with the development of Parkinson's disease in people (Tanner et al., 2011). Simazine is listed by California OEHHA under California's Proposition 65 as causing developmental toxicity and female reproductive toxicity in humans.[10]

1.16

The MND fails to provide any information whatsoever about the types and quantities of fertilizers, pesticides, and herbicides that will be used in the proposed vineyard Project in violation of CEQA's requirement of "full environmental disclosure." (*Communities for a Better Environment v. City of Richmond* (2010) 184 Cal.App.4th 70, 89.). Instead, the MND states that

[9] California OEHHA. Chemicals. 1,3-Dichloropropene. Available at: https://oehha.ca.gov/chemicals/13-dichloropropene.

[10] California OEHHA. Proposition 65. Atrazine, Propazine, Simazine and their Chlorometabolites DACT, DEA and DIA Listed Effective July 15, 2016 as Reproductive Toxicants. Available at: https://oehha.ca.gov/proposition-65/crnr/atrazine-propazine-simazine-and-theirchlorometabolites-dact-dea-and-dia-0.

"a detailed listing of fertilizers and other chemicals, application methods, application amounts, number of annual applications, and annual amounts of chemicals that are anticipated to be utilized for ongoing vineyard maintenance and operation of the existing and proposed vineyard is provided within Supplemental Project Information forms on file at the Planning Department." Accordingly, the MND does not place any limits on the type or amount of pesticides, herbicides, or fertilizers that may be used on the project site, or disclose what chemicals are permitted or forbidden from being used. The MND has no basis for reaching its conclusion that these impacts would be mitigated to less than significant levels. (*Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova*, (2007) 40 Cal. 4th 412, 427.) Further, omitting this information and analysis from the MND obscures the Project's plans regarding fertilizers, pesticides, and herbicides and denies the public their rightful opportunity to assess the project's impacts to water quality.

The MND also fails to provide any evidence that the usage of chemicals on the project site would have less than significant impacts on water quality (including fertilizers, herbicides, and pesticides for ongoing vineyard maintenance; MND p.27, p.32). Instead, the MND suggests that compliance with federal and/or California laws and regulations around chemical use will be sufficient mitigation to prevent said chemicals from having any impacts to water quality. Complying with pertinent regulations on pesticide use does not dispel CEQA's requirement to provide analysis of the impacts of pesticide use. *Californians for Alternatives to Toxics v. Department of Food & Agriculture* (2005) 136 Cal.App.4th 1, 16. Additionally, meeting regulatory standards "may not be applied in a way that would foreclose the consideration of other substantial evidence showing that there might be a significant environmental effect from a project." *Protect the Historic Amador Waterways v. Amador Water Agencies* (2004) 116 Cal.App.4th 1099, 1108.

Further, the MND asserts that erosion control measures and stream setbacks will reduce the likelihood and amount of pesticides and nutrient pollution that reach streams or wetlands in or near the Project site but fails to provide evidence for this claim. Rather than providing estimates of pesticide and fertilizer use and potential impacts on water quality, the MND merely states that applying +50-foot buffers will minimize impacts, presumably compared to a baseline without compliance with pollution control regulations. However, planning to minimize pollution and runoff does not obviate the need to predict or quantify the amounts and impacts of fertilizers and pesticides that will be used and that will inevitably affect water quality. Even if levels of contaminants will likely remain below regulatory thresholds, the MND should provide estimates that allow the public to assess the project's contributions to water quality trends and cumulative impacts. Moreover, though the project's nutrient and pesticide use may be small relative to Lake Hennessey or the Napa River, the smaller streams closer to the project could be intensely impacted by smaller amounts of pesticide and nutrient inputs. Studies show that small and intermittent waterways are particularly vulnerable to eutrophication from nutrient inflows. Some chemical pollutants have also been shown to persist longer in intermittent streambeds compared to perennial streams (Chiu et al., 2017).

The Applicant must fully describe, analyze, and mitigate the impacts of fertilizers, pesticides, herbicides, and other chemicals to water quality as well as wildlife in and around the Project site, including downstream areas of the Napa River watershed.

1.16 cont.

F. The MND Fails to Adequately Analyze and Mitigate the Project's Cumulative Impacts to the Watershed

The MND provides no analysis or discussion of cumulative impacts to the Napa River watershed. Cumulative impacts from smaller projects add up and have a significant impact on watershed health. Studies have shown that land use patterns at the watershed scale are correlated with water quality, carbon sequestration, and the level of species abundance and biodiversity (Grantham et al., 2012; Lohse et al., 2008; Opperman et al., 2005; Padilla et al., 2010; Pess et al., 2002). For example, higher levels of vineyard/agricultural conversion and exurban development within watersheds have been associated with increased fine sediment inputs to streams (Lohse et al., 2008; Opperman et al., 2005), reduced diversity of aquatic macroinvertebrates (Lawrence et al., 2011), reduced abundance and diversity of native fishes (Lohse et al., 2008; Pess et al., 2002), and reduced carbon sequestration (Padilla et al., 2010). These studies indicate that land use planning and policies need to consider impacts at the watershed scale to implement effective mitigation that actually safeguard important natural resources like special-status species, water quality, and erosion control.

1.17

VI. THE MND DOES NOT ADEQUATELY DISCLOSE OR MITIGATE THE PROJECT'S GREENHOUSE GAS IMPACTS

A. Climate Change Is a Catastrophic and Pressing Threat to California.

A strong, international scientific consensus has established that human-caused climate change is causing widespread harms to human society and natural systems, and that climate change threats are becoming increasingly dangerous. The impacts of climate change are already being felt by humans and wildlife. Human-induced climate change, including more frequent and intense extreme events, has caused widespread adverse impacts and related losses and damages to nature and people. (IPCC 2022.) This rise in weather and climate extremes has led to some irreversible impacts, as natural and human systems are pushed beyond their ability to adapt. (IPCC 2022.)

Thousands of studies conducted by researchers around the world have documented changes in surface, atmospheric, and oceanic temperatures; melting glaciers; diminishing snow cover; shrinking sea ice; rising sea levels; ocean acidification; and increasing atmospheric water vapor. (USGCRP 2017.) In California, climate change will result in impacts including, but not limited to, increased temperatures and wildfires and a reduction in snowpack, precipitation levels, and water availability.

1.18

In the IPCC's most recent report, entitled Climate Change 2022: Impacts, Adaptation and Vulnerability, it found that warming is proceeding even faster than anticipated, and the best-case scenario for climate change is slipping out of reach. (IPCC 2022.) The report now estimates that, over the next 20 years, the world will cross the global warming threshold of 1.5°C. And unless there are immediate, rapid and large-scale reductions in greenhouse gas emissions, limiting warming to close to 1.5°C—or even 2°C—will be beyond reach. The United Nations Secretary

General described the forecasts in this report as an "atlas of human suffering." (Borenstein 2022.)

In response to inadequate action on the national level, California has taken steps through legislation and regulation to fight climate change and reduce statewide GHG emissions. Enforcement and compliance with these steps are essential to help stabilize the climate and avoid catastrophic impacts to our environment. California has a mandate under AB 32 to reach 1990 levels of GHG emissions by the year 2020, equivalent to approximately a 15 percent reduction from a business-as-usual projection. (Health & Saf. Code, § 38550.) Based on the warning of the Intergovernmental panel on Climate Change and leading climate scientists, Governor Brown issued an executive order in April 2015 requiring GHG emission reduction 40 percent below 1990 levels by 2030. (Executive Order B-30-15 (2015).) The Executive Order is line with a previous Executive Order mandating the state reduce emission levels to 80 percent below 1990 levels by 2050 in order to minimize significant climate change impacts. (Executive Order S-3-05 (2005).) In enacting SB 375, the state has also recognized the critical role that land use planning plays in achieving greenhouse gas emission reductions in California.

The state Legislature has found that failure to achieve greenhouse gas reduction would be "detrimental" to the state's economy. (Health & Saf. Code § 38501(b).) In his 2015 Inaugural Address, Governor Brown reiterated his commitment to reduce greenhouse gas emissions with three new goals for the next fifteen years:

- Increase electricity derived from renewable sources to 50 percent;
- Reduce today's petroleum use in cars and trucks by 50 percent;
- Double the efficiency of existing buildings and make heating fuels cleaner.

(Brown 2015 Address.)

Although some sources of GHG emissions may seem insignificant, climate change is a problem with cumulative impacts and effects. (*Ctr. for Biological Diversity v. Nat'l Highway Traffic Safety Admin.* (9th Cir. 2008) 538 F.3d 1172, 1217 ("the impact of greenhouse gas emissions on climate change is precisely the kind of cumulative impacts analysis" that agencies must conduct).) One source or one small project may not appear to have a significant effect on climate change, but the combined impacts of many sources can drastically damage California's climate as a whole. Therefore, project-specific GHG emission disclosure, analysis and mitigation is vital to California meeting its climate goals and maintaining our climate.

Given the increasingly urgent need for drastic action to reduce GHG emissions, the MND/IS's failure to fully disclose, analyze, mitigate, or consider alternatives to reduce the Project's significant climate change effects is all the more alarming.

1.18 cont.

B. The MND Dismisses the Project's VMT Impacts to GHG Emissions Based on a Threshold That Is Only Appropriate for Transportation Impacts, Not for Climate Impacts.

1.19

The IS/MND uses Transportation Impact Study Guidelines from the County to conclude that a project that generates 110 or fewer daily trips is presumed to have a less than significant

VMT impact. (IS/MND at 38.) This is an inappropriate threshold to use to analyze GHG impacts because the guidelines "establish a protocol for evaluating a project's effects *on transportation*" (emphasis added). (Napa County 2021 at 2) Additional vehicle trips generated by a project will impact transportation via adding traffic to the roads, and they will impact GHG emissions via emitting carbon. These are different kinds of impacts, analyzed in different sections of an environmental review document, and a particular project might have impacts in one category but not another. Dismissing possible GHG impacts with a conclusory reference to guidelines that were formulated for a different purpose does not show that there is "no substantial evidence" that that Project will not have a substantial effect. (Pub. Res. Code § 21064.5) Therefore, an EIS is necessary to fully analyze the impact. (*Id*.)

1.19 cont.

C. The MND Uses Values for Carbon Sequestration That Are Too Low And Underestimate The Project's Carbon Emissions.

Habitats like shrublands, grasslands, deserts, and riparian habitats offer vast opportunities to effectively sequester carbon. The Project will remove many acres of these habitats. (Yap 2023.) Further destruction and degradation of California's habitats will diminish our ability to effectively combat climate change. To improve our chances of limiting global warming, we must do more to protect and enhance valuable carbon sinks across diverse habitats.

Current science shows that shrublands have a carbon sequestration value of 22.5-34.1 MT CO2e/acre. (Yap 2023.) However, the IS/MND uses a value of 16.2 CO2e/acre for carbon sequestration in scrubland. (IS/MND at 25.) Further, research in Northern California and Oregon shows that forests store an average of 178 MT CO2e/acre in their biomass. (Hudiburg 2011.) The IS/MND uses 95.1 MT CO2e/acre for oak woodlands. (IS/MND at 25.) The IS/MND does not justify the carbon sequestration values it uses, leaving open the possibility that the real amount of carbon emitted by the Project might be higher by orders of magnitude.

1.20

VII. CONCLUSION

Thank you for the opportunity to submit comments on the IS/MND for the Forte Vineyard Erosion Control Plan. The IS/MND has not adequately analyzed or mitigated impacts to biological resources, wildfire, water quality, or greenhouse gas emissions. The County should instead prepare and circulate an EIR for the Project prior to taking any further action on the Project application.

Please add the Center to your notice list for all future updates to the Project and do not hesitate to contact the Center with any questions at the numbers or email addresses listed below.

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Sincerely,

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References

Alroy, J. (2015). Current extinction rates of reptiles and amphibians. *Proceedings of the National Academy of Sciences*, *112*(42), 13003–13008. https://doi.org/10.1073/pnas.1508681112

Arribas, R., Díaz-Paniagua, C., Caut, S., & Gomez-Mestre, I. (2015). Stable Isotopes Reveal Trophic Partitioning and Trophic Plasticity of a Larval Amphibian Guild. *PLOS ONE*, *10*(6), e0130897. https://doi.org/10.1371/journal.pone.0130897

Axelrod, J. (2017, December 13). California wildfires spark issues of bilingual emergency communications. *American City and County*. https://www.americancityandcounty.com/2017/12/13/california-wildfires-spark-issues-of-bilingual-emergency-communications/

Balch, J. K., Bradley, B. A., Abatzoglou, J. T., Nagy, R. C., Fusco, E. J., & Mahood, A. L. (2017). Human-started wildfires expand the fire niche across the United States. *Proceedings of the National Academy of Sciences*, *114*(11), 2946–2951. https://doi.org/10.1073/pnas.1617394114

Banse, T. (Director). (2018, April 20). *How Do You Say 'Evacuate' In Tagalog? In A Disaster, English Isn't Always Enough*. NWPB. https://www.nwpb.org/2018/04/20/how-do-you-say-evacuate-in-tagalog-in-a-disaster-english-isnt-always-enough/

Barry, J. M., Elbroch, L. M., Aiello-Lammens, M. E., Sarno, R. J., Seelye, L., Kusler, A., Quigley, H. B., & Grigione, M. M. (2019). Pumas as ecosystem engineers: Ungulate carcasses support beetle assemblages in the Greater Yellowstone Ecosystem. *Oecologia*, *189*(3), 577–586. https://doi.org/10.1007/s00442-018-4315-z

Batista, P. V. G., Davies, J., Silva, M. L. N., & Quinton, J. N. (2019). On the evaluation of soil erosion models: Are we doing enough? *Earth-Science Reviews*, *197*, 102898. https://doi.org/10.1016/j.earscirev.2019.102898

Benítez-López, A., Alkemade, R., & Verweij, P. A. (2010). The impacts of roads and other infrastructure on mammal and bird populations: A meta-analysis. *Biological Conservation*, *143*(6), 1307–1316. https://doi.org/10.1016/j.biocon.2010.02.009

Bennett, A. F., Henein, K., & Merriam, G. (1994). Corridor use and the elements of corridor quality: Chipmunks and fencerows in a farmland mosaic. *Biological Conservation*, *68*(2), 155–165. https://doi.org/10.1016/0006-3207(94)90347-6

Benson, J. F., Mahoney, P. J., Sikich, J. A., Serieys, L. E. K., Pollinger, J. P., Ernest, H. B., & Riley, S. P. D. (2016). Interactions between demography, genetics, and landscape connectivity increase extinction probability for a small population of large carnivores in a major metropolitan area. *Proceedings of the Royal Society B: Biological Sciences*, *283*(1837), 20160957. https://doi.org/10.1098/rspb.2016.0957

Benson, J. F., Mahoney, P. J., Vickers, T. W., Sikich, J. A., Beier, P., Riley, S. P. D., Ernest, H. B., & Boyce, W. M. (2019). Extinction vortex dynamics of top predators isolated by urbanization. *Ecological Applications*, *29*(3). https://doi.org/10.1002/eap.1868

Best, M. L., & Welsh, Jr., H. H. (2014). The trophic role of a forest salamander: Impacts on invertebrates, leaf litter retention, and the humification process. *Ecosphere*, *5*(2), art16. https://doi.org/10.1890/ES13-00302.1

Bogan, M. T., Leidy, R. A., Neuhaus, L., Hernandez, C. J., & Carlson, S. M. (2019). Biodiversity value of remnant pools in an intermittent stream during the great California drought. *Aquatic Conservation: Marine and Freshwater Ecosystems*, *29*(6), 976–989. https://doi.org/10.1002/aqc.3109

Bonham, C. H. (2016). *Report to the Fish and Game Commission: A Status Review of the Northern Spotted Owl (Strix occidentalis caurina) in California*. California Department of Fish and Wildlife.

Borenstein, S. (2022, February 28). UN climate report: 'Atlas of human suffering' worse, bigger. AP News. Available at: https://apnews.com/article/climate-science-europe-united-nations-weather 8d5e277660f7125ffdab7a833d9856a

Bourque, R. M. (2008). *Spatial ecology of an inland population of the foothill yellow-legged frog (Rana boylii) in Tehama County, California*. Humboldt State University.

Brehme, C. S., Hathaway, S. A., & Fisher, R. N. (2018). An objective road risk assessment method for multiple species: Ranking 166 reptiles and amphibians in California. *Landscape Ecology*, *33*(6), 911–935. https://doi.org/10.1007/s10980-018-0640-1

Brooker, L., Brooker, M., & Cale, P. (1999). Animal Dispersal in Fragmented Habitat Measuring Habitat Connectivity, Corridor Use, and Dispersal Mortality. *Conservation Ecology*, *3*(1).

Brown, A. (2020). In California's wine country, undocumented grape pickers forced to work in fire evacuation zones. *The Intercept*.

Bucciarelli, G. M., Clark, M. A., Delaney, K. S., Riley, S. P. D., Shaffer, H. B., Fisher, R. N., Honeycutt, R. L., & Kats, L. B. (2020). Amphibian responses in the aftermath of extreme climate events. *Scientific Reports*, *10*(1), 3409. https://doi.org/10.1038/s41598-020-60122-2

Bunkley, J. P., & Barber, J. R. (2015). Noise Reduces Foraging Efficiency in Pallid Bats (*Antrozous pallidus*). *Ethology*, *121*(11), 1116–1121. https://doi.org/10.1111/eth.12428

California Air Resources Board. (2021). *Camp Fire Air Quality Data Analysis*.

California Department of Pesticide Regulation. (2021a). *2021 Annual Statewide Pesticide Use Report Commodity Totals*.

California Department of Pesticide Regulation. (2021b). *2021 Annual Statewide Pesticide Use Report Indexed by Commodity*. https://www.cdpr.ca.gov/docs/pur/pur21rep/pur_data/pur2021_indexed_by_commodity.pdf

Ceia-Hasse, A., Navarro, L. M., Borda-de-Água, L., & Pereira, H. M. (2018). Population persistence in landscapes fragmented by roads: Disentangling isolation, mortality, and the effect of dispersal. *Ecological Modelling*, *375*, 45–53. https://doi.org/10.1016/j.ecolmodel.2018.01.021

Chiu, M.-C., Leigh, C., Mazor, R., Cid, N., & Resh, V. (2017). Anthropogenic Threats to Intermittent Rivers and Ephemeral Streams. In *Intermittent Rivers and Ephemeral Streams* (pp. 433–454). Elsevier. https://doi.org/10.1016/B978-0-12-803835-2.00017-6

Cho, L.-H., Yoon, J., & An, G. (2017). The control of flowering time by environmental factors. *The Plant Journal*, *90*(4), 708–719. https://doi.org/10.1111/tpj.13461

Cook, B. I., Ault, T. R., & Smerdon, J. E. (2015). Unprecedented 21st century drought risk in the American Southwest and Central Plains. *Science Advances*, *1*(1), e1400082. https://doi.org/10.1126/sciadv.1400082

Cossart, É., Fressard, M., & Chaize, B. (2020). Spatial patterns of vineyard landscape evolution and their impacts on erosion susceptibility: RUSLE simulation applied in Mercurey (Burgundy, France) since the mid-20th century. *ERDKUNDE*, *74*(4), 281–300. https://doi.org/10.3112/erdkunde.2020.04.04

Cotsirilos, T. (2021). The farmworkers in California's fire zones. *Food & Environment Reporting Network*.

Cowan, J. (2023, May 22). She's Out to Save Rare Wildflowers, but First She Has to Find Them. *The New York Times*.

Cowling, R. M., Rundel, P. W., Lamont, B. B., Kalin Arroyo, M., & Arianoutsou, M. (1996). Plant diversity in mediterranean-climate regions. *Trends in Ecology & Evolution*, *11*(9), 362–366. https://doi.org/10.1016/0169-5347(96)10044-6

Crooks, K. R. (2002). Relative Sensitivities of Mammalian Carnivores to Habitat Fragmentation. *Conservation Biology*, *16*(2), 488–502. https://doi.org/10.1046/j.1523-1739.2002.00386.x

Cushman, S. A. (2006). Effects of habitat loss and fragmentation on amphibians: A review and prospectus. *Biological Conservation*, *128*(2), 231–240. https://doi.org/10.1016/j.biocon.2005.09.031

Cushman, S. A., McRae, B., Adriaensen, F., Beier, P., Shirley, M., & Zeller, K. (2013). Biological corridors and connectivity. In D. W. Macdonald & K. J. Willis (Eds.), *Key Topics in Conservation Biology 2* (1st ed., pp. 384–404). Wiley. https://doi.org/10.1002/9781118520178.ch21

Davies, I. P., Haugo, R. D., Robertson, J. C., & Levin, P. S. (2018). The unequal vulnerability of communities of color to wildfire. *PLOS ONE*, *13*(11), e0205825. https://doi.org/10.1371/journal.pone.0205825

Davis, M. (2018, December 5). A tale of two wildfires: Devastation highlights California's stark divide. *The Guardian*. https://www.theguardian.com/us-news/2018/dec/04/california-wildfires-paradise-malibu-wealth-class

Delaney, K. S., Riley, S. P. D., & Fisher, R. N. (2010). A Rapid, Strong, and Convergent Genetic Response to Urban Habitat Fragmentation in Four Divergent and Widespread Vertebrates. *PLoS ONE*, *5*(9), e12767. https://doi.org/10.1371/journal.pone.0012767

Delfino, R. J., Brummel, S., Wu, J., Stern, H., Ostro, B., Lipsett, M., Winer, A., Street, D. H., Zhang, L., Tjoa, T., & Gillen, D. L. (2009). The relationship of respiratory and cardiovascular hospital admissions to the southern California wildfires of 2003. *Occupational and Environmental Medicine*, *66*(3), 189–197. https://doi.org/10.1136/oem.2008.041376

Dickson, B. G., Jenness, J. S., & Beier, P. (2005). Influence of vegetation, topography, and roads on cougar movement in southern California. *Journal of Wildlife Management*, *69*(1), 264–276. https://doi.org/10.2193/0022-541X(2005)069<0264:IOVTAR>2.0.CO;2

Downey Brand LLP. (2021). A Legal Analysis: 2020 Winegrape Rejections. Allied Grape Growers and California Association of Winegrape Growers.

Efthimiou, N. (2018). The importance of soil data availability on erosion modeling. *CATENA*, *165*, 551–566. https://doi.org/10.1016/j.catena.2018.03.002

Environmental Law Institute. (2003). *Conservation thresholds for land use planners* (Environmental Law).

Ernest, H. B., Boyce, W. M., Bleich, V. C., May, B., Stiver, S. J., & Torres, S. G. (2003). Genetic structure of mountain lion (Puma concolor) populations in California. *Conservation Genetics*, *4*, 353–366.

Ernest, H. B., Vickers, T. W., Morrison, S. A., Buchalski, M. R., & Boyce, W. M. (2014). Fractured Genetic Connectivity Threatens a Southern California Puma (Puma concolor) Population. *PLoS ONE*, *9*(10), e107985. https://doi.org/10.1371/journal.pone.0107985

Fellers, G. M., & Kleeman, P. M. (2007). California Red-legged Frog (Rana Draytonii) Movement and Habitat Use: Implications for Conservation. *Journal of Herpetology*, *41*(2), 276–286. https://doi.org/10.1670/0022-1511(2007)41[276:CRFRDM]2.0.CO;2

Fischer, J., & Lindenmayer, D. B. (2000). An assessment of the published results of animal relocations. *Biological Conservation*, *96*(1), 1–11. https://doi.org/10.1016/S0006-3207(00)00048-3

Fitter, A. H., & Fitter, R. S. R. (2002). Rapid Changes in Flowering Time in British Plants. *Science*, *296*(5573), 1689–1691. https://doi.org/10.1126/science.1071617

Fothergill, A., & Peek, L. A. (2004). Poverty and Disasters in the United States: A Review of Recent Sociological Findings. *Natural Hazards*, *32*(1), 89–110. https://doi.org/10.1023/B:NHAZ.0000026792.76181.d9

Garfin, G. M., Gonzalez, P., Breshears, D., Brooks, K., Brown, H. E., Elias, E., Gunasekara, A., Huntly, N., Maldonado, J. K., Mantua, N. J., Margolis, H. G., McAfee, S., Middleton, B. R., & Udall, B. (2018). *Chapter 25: Southwest. Impacts, Risks, and Adaptation in the United States: The Fourth National Climate Assessment, Volume II*. U.S. Global Change Research Program. https://doi.org/10.7930/NCA4.2018.CH25

Gerety, R. M. (Director). (2015, September 1). *Farm Workers In Wildfire Areas Aren't Always Aware Of Evacuation Plans*. NWPB. https://www.npr.org/2015/09/01/436525793/farm-workers-in-wildfire-areas-arent-always-aware-of-evacuation-plans

Grant, E. H. C., Miller, D. A. W., Schmidt, B. R., Adams, M. J., Amburgey, S. M., Chambert, T., Cruickshank, S. S., Fisher, R. N., Green, D. M., Hossack, B. R., Johnson, P. T. J., Joseph, M. B., Rittenhouse, T. A. G., Ryan, M. E., Waddle, J. H., Walls, S. C., Bailey, L. L., Fellers, G. M., Gorman, T. A., … Muths, E. (2016). Quantitative evidence for the effects of multiple drivers on continental-scale amphibian declines. *Scientific Reports*, *6*(1), 25625. https://doi.org/10.1038/srep25625

Grantham, T. E., Newburn, D. A., McCarthy, M. A., & Merenlender, A. M. (2012). The Role of Streamflow and Land Use in Limiting Oversummer Survival of Juvenile Steelhead in California Streams. *Transactions of the American Fisheries Society*, *141*(3), 585–598. https://doi.org/10.1080/00028487.2012.683472

Gray, M. (2017). *The influence of land use and habitat fragmentation on landscape connectivity*. University of California Berkeley.

Grismer, M., & Asato, C. (2012). Converting oak woodland or savanna to vineyards may stress groundwater supply in summer. *California Agriculture*, *66*(4), 144–152. https://doi.org/10.3733/ca.v066n04p144

Gustafson, K. D., Gagne, R. B., Buchalski, M. R., Vickers, T. W., Riley, S. P. D., Sikich, J. A., Rudd, J. L., Dellinger, J. A., LaCava, M. E. F., & Ernest, H. B. (2021). Multi-population puma connectivity could restore genomic diversity to at-risk coastal populations in California. *Evolutionary Applications*, *15*(2), 286–299. https://doi.org/10.1111/eva.13341

Gustafson, K. D., Gagne, R. B., Vickers, T. W., Riley, S. P. D., Wilmers, C. C., Bleich, V. C., Pierce, B. M., Kenyon, M., Drazenovich, T. L., Sikich, J. A., Boyce, W. M., & Ernest, H. B. (2018). Genetic source–sink dynamics among naturally structured and anthropogenically fragmented puma populations. *Conservation Genetics*, *20*(2), 215–227. https://doi.org/10.1007/s10592-018-1125-0

Haddad, N. M., Brudvig, L. A., Clobert, J., Davies, K. F., Gonzalez, A., Holt, R. D., Lovejoy, T. E., Sexton, J. O., Austin, M. P., Collins, C. D., Cook, W. M., Damschen, E. I., Ewers, R. M., Foster, B. L., Jenkins, C. N., King, A. J., Laurance, W. F., Levey, D. J., Margules, C.

R., … Townshend, J. R. (2015). Habitat fragmentation and its lasting impact on Earth's ecosystems. *Science Advances*, *1*(2), e1500052. https://doi.org/10.1126/sciadv.1500052

Harnett, S. (2018, September 19). Low-Income Communities Struggle To Recover After A Wildfire. *KQED*.

Hayes, T. B., Case, P., Chui, S., Chung, D., Haeffele, C., Haston, K., Lee, M., Mai, V. P., Marjuoa, Y., Parker, J., & Tsui, M. (2006). Pesticide Mixtures, Endocrine Disruption, and Amphibian Declines: Are We Underestimating the Impact? *Environmental Health Perspectives*, *114*(Suppl 1), 40–50. https://doi.org/10.1289/ehp.8051

Heller, N. E., & Zavaleta, E. S. (2009). Biodiversity management in the face of climate change: A review of 22 years of recommendations. *Biological Conservation*, *142*(1), 14–32. https://doi.org/10.1016/j.biocon.2008.10.006

Herrera, J. (2018). As Wildfire Smoke Fills the Air, Farmworkers Continued to Work, Even as Public-School Students and Others Were Told to Stay Home and Indoors. *Pacific Standard*.

Higgins, P. (2006). *Re: Napa River Sediment TMDL and San Francisco Bay Regional Water Quality Control Board Basin Plan Amendment*.

Higgins, P. (2010). *Re: Request for Recognition of the Napa River as Flow and Temperature Impaired and Addition to the 2012 California 303d List*.

Hilty, J. A., & Merenlender, A. M. (2004). Use of Riparian Corridors and Vineyards by Mammalian Predators in Northern California. *Conservation Biology*, *18*(1), 126–135. https://doi.org/10.1111/j.1523-1739.2004.00225.x

Hilty, J., Worboys, G. L., Keeley, A., Woodley, S., Lausche, B. J., Locke, H., Carr, M., Pulsford, I., Pittock, J., White, J. W., Theobald, D. M., Levine, J., Reuling, M., Watson, J. E. M., Ament, R., & Tabor, G. M. (2020). *Guidelines for conserving connectivity through ecological networks and corridors* (C. Groves, Ed.). IUCN, International Union for Conservation of Nature. https://doi.org/10.2305/IUCN.CH.2020.PAG.30.en

Hudiburg, T. W., Law, B. E., Wirth, C. & Luyssaert, S. Regional carbon dioxide implications of forest bioenergy production. Nat. Clim. Chang. 1, 419–423 (2011).

Hutchinson, J. A., Vargo, J., Milet, M., French, N. H. F., Billmire, M., Johnson, J., & Hoshiko, S. (2018). The San Diego 2007 wildfires and Medi-Cal emergency department presentations, inpatient hospitalizations, and outpatient visits: An observational study of smoke exposure periods and a bidirectional case-crossover analysis. *PLOS Medicine*, *15*(7), e1002601. https://doi.org/10.1371/journal.pmed.1002601

IPCC, Hicke, J.A., S. Lucatello, L.D., Mortsch, J. Dawson, M. Domínguez Aguilar, C.A.F. Enquist, E.A. Gilmore, D.S. Gutzler, S. Harper, K. Holsman, E.B. Jewett, T.A. Kohler, and KA. Miller. (2022). North America. In: Climate Change 2022: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [H.-O. Pörtner, D.C. Roberts, M. Tignor, E.S. Poloczanska, K. Mintenbeck, A. Alegría, M. Craig, S. Langsdorf, S. Löschke, V. Möller, A. Okem, B. Rama (eds.)]. Cambridge University Press, Cambridge, UK and New York, NY, USA, pp. 1929–2042, doi:10.1017/9781009325844.016.

Jennings, M., & Lewison, R. (2013). *Planning for Connectivity under Climate Change: Using bobcat movement to assess landscape connectivity across San Diego County's open spaces*. San Diego Foundation.

Jones, C. G., Rappold, A. G., Vargo, J., Cascio, W. E., Kharrazi, M., McNally, B., Hoshiko, S., & with the CARES Surveillance Group. (2020). Out-of-Hospital Cardiac Arrests and Wildfire-Related Particulate Matter During 2015–2017 California Wildfires. *Journal of the American Heart Association*, *9*(8), e014125. https://doi.org/10.1161/JAHA.119.014125

Kardas-Nelson, M., Alvarenga, J., & Tuirán, R. A. (2020, October 6). Farmworkers forced to put harvest over health during wildfires. *InvestigateWest*.

Keeley, J. E., & Syphard, A. D. (2019). Twenty-first century California, USA, wildfires: Fuel-dominated vs. wind-dominated fires. *Fire Ecology*, *15*(1), 24, s42408-019-0041–0. https://doi.org/10.1186/s42408-019-0041-0

Kelsey, K. A., & West, S. D. (1998). Chapter 10: Riparian Wildlife. In R. Naiman & R. E. Bilby (Eds.), *River Ecology and Management: Lessons from the Pacific Coastal Ecoregion* (pp. 235–258).

Kilgo, J. C., Sargent, R. A., Chapman, B. R., & Miller, K. V. (1998). Effect of Stand Width and Adjacent Habitat on Breeding Bird Communities in Bottomland Hardwoods. *The Journal of Wildlife Management*, *62*(1), 72. https://doi.org/10.2307/3802265

Kociolek, A. V., Clevenger, A. P., St. Clair, C. C., & Proppe, D. S. (2011). Effects of Road Networks on Bird Populations: Effects of Roads on Birds. *Conservation Biology*, no-no. https://doi.org/10.1111/j.1523-1739.2010.01635.x

Koehler, J., & Blank, P. (2011). *Napa River Fish Barrier Plan*. Napa County Resource Conservation District.

Künzli, N., Avol, E., Wu, J., Gauderman, W. J., Rappaport, E., Millstein, J., Bennion, J., McConnell, R., Gilliland, F. D., Berhane, K., Lurmann, F., Winer, A., & Peters, J. M. (2006). Health Effects of the 2003 Southern California Wildfires on Children. *American Journal of Respiratory and Critical Care Medicine*, *174*(11), 1221–1228. https://doi.org/10.1164/rccm.200604-519OC

LaBarge, L. R., Evans, M. J., Miller, J. R. B., Cannataro, G., Hunt, C., & Elbroch, L. M. (2022). Pumas *Puma concolor* as ecological brokers: A review of their biotic relationships. *Mammal Review*, *52*(3), 360–376. https://doi.org/10.1111/mam.12281

Lawrence, J. E., Deitch, M. J., & Resh, V. H. (2011). Effects of vineyard coverage and extent on benthic macroinvertebrates in streams of Northern California. *Annales de Limnologie - International Journal of Limnology*, *47*(4), 347–354. https://doi.org/10.1051/limn/2011043

Lee, J. S., Ruell, E. W., Boydston, E. E., Lyren, L. M., Alonso, R. S., Troyer, J. L., Crooks, K. R., & VandeWOUDE, S. (2012). Gene flow and pathogen transmission among bobcats (*Lynx rufus*) in a fragmented urban landscape. *Molecular Ecology*, *21*(7), 1617–1631. https://doi.org/10.1111/j.1365-294X.2012.05493.x

Liu, J. C., Wilson, A., Mickley, L. J., Ebisu, K., Sulprizio, M. P., Wang, Y., Peng, R. D., Yue, X., Dominici, F., & Bell, M. L. (2017). Who Among the Elderly Is Most Vulnerable to Exposure to and Health Risks of Fine Particulate Matter From Wildfire Smoke? *American Journal of Epidemiology*, *186*(6), 730–735. https://doi.org/10.1093/aje/kwx141

Lohse, K. A., Newburn, D. A., Opperman, J. J., & Merenlender, A. M. (2008). Forecasting relative impacts of land use on anadromous fish habitat to guide conservation planning. *Ecological Applications*, *18*(2), 467–482. https://doi.org/10.1890/07-0354.1

McClure, C. J. W., Ware, H. E., Carlisle, J., Kaltenecker, G., & Barber, J. R. (2013). An experimental investigation into the effects of traffic noise on distributions of birds:

Avoiding the phantom road. *Proceedings of the Royal Society B: Biological Sciences*, *280*(1773), 20132290. https://doi.org/10.1098/rspb.2013.2290
Mobley, E. (2020a). The list of Napa Valley wineries that have been damaged or destroyed in the 2020 Glass Fire. *SF Chronicle*.
Mobley, E. (2020b). Wildfires have ravaged Napa Valley—Will California's wine industry survive? *National Geographic*.
Morris, B. (2019, April 23). How the Ultra-Wealthy are Making Themselves Immune to Natural Disasters. *Los Angeles Magazine*. https://www.lamag.com/citythinkblog/how-the-ultra-wealthy-are-making-themselves-immune-to-natural-disasters/
Moss, W. E., McDevitt-Galles, T., Muths, E., Bobzien, S., Purificato, J., & Johnson, P. T. J. (2021). Resilience of native amphibian communities following catastrophic drought: Evidence from a decade of regional-scale monitoring. *Biological Conservation*, *263*, 109352. https://doi.org/10.1016/j.biocon.2021.109352
Moyle, P. B., Katz, J. V. E., & Quiñones, R. M. (2011). Rapid decline of California's native inland fishes: A status assessment. *Biological Conservation*, *144*(10), 2414–2423. https://doi.org/10.1016/j.biocon.2011.06.002
Munson, S. M., & Long, A. L. (2017). Climate drives shifts in grass reproductive phenology across the western USA. *New Phytologist*, *213*(4), 1945–1955. https://doi.org/10.1111/nph.14327
Napa County Groundwater Sustainability Agency. *Groundwater Sustainability Annual Report — Water Year 2022.* (2023.)
Napa County. (2005). *Napa County Baseline Data Report: Chapter 4 Biological Resources*.
Opperman, J. J., Lohse, K. A., Brooks, C., Kelly, N. M., & Merenlender, A. M. (2005). Influence of land use on fine sediment in salmonid spawning gravels within the Russian River Basin, California. *Canadian Journal of Fisheries and Aquatic Sciences*, *62*(12), 2740–2751. https://doi.org/10.1139/f05-187
Orlin, M., & Steade, S. (2017). List of wineries damaged or destroyed in the Wine Country fires. *Bay Area News Group*.
Padilla, F. M., Vidal, B., Sánchez, J., & Pugnaire, F. I. (2010). Land-use changes and carbon sequestration through the twentieth century in a Mediterranean mountain ecosystem: Implications for land management. *Journal of Environmental Management*, *91*(12), 2688–2695. https://doi.org/10.1016/j.jenvman.2010.07.031
Parshley, L. (2018, December 7). The Lingering Effects of Wildfires Will Disproportionately Hurt People of Color. *VICE*.
Pess, G. R., Montgomery, D. R., Steel, E. A., Bilby, R. E., Feist, B. E., & Greenberg, H. M. (2002). Landscape characteristics, land use, and coho salmon (*Oncorhynchus kisutch*) abundance, Snohomish River, Wash., U.S.A. *Canadian Journal of Fisheries and Aquatic Sciences*, *59*(4), 613–623. https://doi.org/10.1139/f02-035
Raanan, R., Gunier, R. B., Balmes, J. R., Beltran, A. J., Harley, K. G., Bradman, A., & Eskenazi, B. (2017). Elemental Sulfur Use and Associations with Pediatric Lung Function and Respiratory Symptoms in an Agricultural Community (California, USA). *Environmental Health Perspectives*, *125*(8), 087007. https://doi.org/10.1289/EHP528
Radeloff, V. C., Helmers, D. P., Kramer, H. A., Mockrin, M. H., Alexandre, P. M., Bar-Massada, A., Butsic, V., Hawbaker, T. J., Martinuzzi, S., Syphard, A. D., & Stewart, S. I. (2018). Rapid growth of the US wildland-urban interface raises wildfire risk. *Proceedings of the*

National Academy of Sciences, *115*(13), 3314–3319. https://doi.org/10.1073/pnas.1718850115

Reid, C. E., Jerrett, M., Tager, I. B., Petersen, M. L., Mann, J. K., & Balmes, J. R. (2016). Differential respiratory health effects from the 2008 northern California wildfires: A spatiotemporal approach. *Environmental Research*, *150*, 227–235. https://doi.org/10.1016/j.envres.2016.06.012

Richards, R. (2019). *After the Fire: Vulnerable Communities Respond and Rebuild*. Center for American Progress. https://www.americanprogress.org/article/fire-vulnerable-communities-respond-rebuild/

Riley, S. P. D., Busteed, G. T., Kats, L. B., Vandergon, T. L., Lee, L. F. S., Dagit, R. G., Kerby, J. L., Fisher, R. N., & Sauvajot, R. M. (2005). Effects of Urbanization on the Distribution and Abundance of Amphibians and Invasive Species in Southern California Streams. *Conservation Biology*, *19*(6), 1894–1907. https://doi.org/10.1111/j.1523-1739.2005.00295.x

Riley, S. P. D., Pollinger, J. P., Sauvajot, R. M., York, E. C., Bromley, C., Fuller, T. K., & Wayne, R. K. (2006). A southern California freeway is a physical and social barrier to gene flow in carnivores: PHYSICAL and SOCIAL BARRIER TO GENE FLOW. *Molecular Ecology*, *15*(7), 1733–1741. https://doi.org/10.1111/j.1365-294X.2006.02907.x

Riley, S. P. D., Serieys, L. E. K., Pollinger, J. P., Sikich, J. A., Dalbeck, L., Wayne, R. K., & Ernest, H. B. (2014). Individual Behaviors Dominate the Dynamics of an Urban Mountain Lion Population Isolated by Roads. *Current Biology*, *24*(17), 1989–1994. https://doi.org/10.1016/j.cub.2014.07.029

Ripple, W. J., & Beschta, R. L. (2006). Linking a cougar decline, trophic cascade, and catastrophic regime shift in Zion National Park. *Biological Conservation*, *133*(4), 397–408. https://doi.org/10.1016/j.biocon.2006.07.002

Ripple, W. J., & Beschta, R. L. (2008). Trophic cascades involving cougar, mule deer, and black oaks in Yosemite National Park. *Biological Conservation*, *141*(5), 1249–1256. https://doi.org/10.1016/j.biocon.2008.02.028

Ripple, W. J., Estes, J. A., Beschta, R. L., Wilmers, C. C., Ritchie, E. G., Hebblewhite, M., Berger, J., Elmhagen, B., Letnic, M., Nelson, M. P., Schmitz, O. J., Smith, D. W., Wallach, A. D., & Wirsing, A. J. (2014). Status and Ecological Effects of the World's Largest Carnivores. *Science*, *343*(6167), 1241484. https://doi.org/10.1126/science.1241484

Robins, J. D. (2002). *Stream setback technical memo*. Jones & Stokes.

Rowland, F. E., Rawlings, M. B., & Semlitsch, R. D. (2016). Joint effects of resources and amphibians on pond ecosystems. *Oecologia*, *183*(1), 237–247. https://doi.org/10.1007/s00442-016-3748-5

Rundel, P. W., Arroyo, M. T. K., Cowling, R. M., Keeley, J. E., Lamont, B. B., & Vargas, P. (2016). Mediterranean Biomes: Evolution of Their Vegetation, Floras, and Climate. *Annual Review of Ecology, Evolution, and Systematics*, *47*(1), 383–407. https://doi.org/10.1146/annurev-ecolsys-121415-032330

Ruth, T. K., & Elbroch, M. (2014). The carcass chronicles: Carnivory, nutrient flow, and biodiversity. *Wild Field Monitor*, *Winter*, 13–17.

Semlitsch, R. D., & Bodie, J. R. (2003). Biological Criteria for Buffer Zones around Wetlands and Riparian Habitats for Amphibians and Reptiles. *Conservation Biology*, *17*(5), 1219–1228. https://doi.org/10.1046/j.1523-1739.2003.02177.x

Semlitsch, R. D., O'Donnell, K. M., & Thompson, F. R. (2014). Abundance, biomass production, nutrient content, and the possible role of terrestrial salamanders in Missouri Ozark forest ecosystems. *Canadian Journal of Zoology*, *92*(12), 997–1004. https://doi.org/10.1139/cjz-2014-0141

Slabbekoorn, H., & Ripmeester, E. A. P. (2008). Birdsong and anthropogenic noise: Implications and applications for conservation. *Molecular Ecology*, *17*(1), 72–83. https://doi.org/10.1111/j.1365-294X.2007.03487.x

Sloan, L. M. (2012). *Population structure, life history, and terrestrial movements of western pond turtles (Actinemys marmorata) in lentic habitats along the Trinity River, California*. Humboldt State University.

Smith, J. A., Suraci, J. P., Clinchy, M., Crawford, A., Roberts, D., Zanette, L. Y., & Wilmers, C. C. (2017). Fear of the human 'super predator' reduces feeding time in large carnivores. *Proceedings of the Royal Society B: Biological Sciences*, *284*(1857), 20170433. https://doi.org/10.1098/rspb.2017.0433

Smith, J. A., Wang, Y., & Wilmers, C. C. (2015). Top carnivores increase their kill rates on prey as a response to human-induced fear. *Proceedings of the Royal Society B: Biological Sciences*, *282*(1802), 20142711. https://doi.org/10.1098/rspb.2014.2711

Stuart, S. N., Chanson, J. S., Cox, N. A., Young, B. E., Rodrigues, A. S. L., Fischman, D. L., & Waller, R. W. (2004). Status and Trends of Amphibian Declines and Extinctions Worldwide. *Science*, *306*(5702), 1783–1786. https://doi.org/10.1126/science.1103538

Stuble, K. L., Bennion, L. D., & Kuebbing, S. E. (2021). Plant phenological responses to experimental warming—A synthesis. *Global Change Biology*, *27*(17), 4110–4124. https://doi.org/10.1111/gcb.15685

Suraci, J. P., Clinchy, M., Zanette, L. Y., & Wilmers, C. C. (2019). Fear of humans as apex predators has landscape-scale impacts from mountain lions to mice. *Ecology Letters*, *22*(10), 1578–1586. https://doi.org/10.1111/ele.13344

Syphard, A. D., & Keeley, J. E. (2020). Why are so many structures burning in California? *Fremontia*, *47*(2), 28–35.

Syphard, A. D., Radeloff, V. C., Keeley, J. E., Hawbaker, T. J., Clayton, M. K., Stewart, S. I., & Hammer, R. B. (2007). Human Influence on California Fire Regimes. *Ecological Applications*, *17*(5), 1388–1402. https://doi.org/10.1890/06-1128.1

Tanner, C. M., Kamel, F., Ross, G. W., Hoppin, J. A., Goldman, S. M., Korell, M., Marras, C., Bhudhikanok, G. S., Kasten, M., Chade, A. R., Comyns, K., Richards, M. B., Meng, C., Priestley, B., Fernandez, H. H., Cambi, F., Umbach, D. M., Blair, A., Sandler, D. P., & Langston, J. W. (2011). Rotenone, Paraquat, and Parkinson's Disease. *Environmental Health Perspectives*, *119*(6), 866–872. https://doi.org/10.1289/ehp.1002839

Thorne, J. H., Kennedy, J. A., Quinn, J. F., & Mccoy, M. (2004). *A vegetation map of Napa County using the manual of California vegetation classification and its comparison to other digital vegetation maps*. *51*(4), 343–363.

Trenham, P. C. (1998). *Demography, migration, and metapopulation structure of pond breeding salamanders*. University of California Davis.

Trenham, P. C., & Shaffer, H. B. (2005). Amphibian upland habitat use and its consequences for population viability. *Ecological Applications*, *15*(4), 1158–1168. https://doi.org/10.1890/04-1150

Trombulak, S. C., & Frissell, C. A. (2000). Review of Ecological Effects of Roads on Terrestrial and Aquatic Communities. *Conservation Biology*, *14*(1), 18–30. https://doi.org/10.1046/j.1523-1739.2000.99084.x

U.S. Environmental Protection Agency. (1998). *Reregistration Eligibility Decision (RED) 1,3-Dichloropropene*. https://archive.epa.gov/pesticides/reregistration/web/pdf/0328red.pdf

U.S. Environmental Protection Agency. (2022). *Imidacloprid Executive Summary for Biological Evaluation*. https://www.epa.gov/endangered-species/final-national-level-listed-species-biological-evaluation-imidacloprid#executive-summary

USGCRP [U.S. Global Change Research Program], Climate Science Special Report: Fourth National Climate Assessment, Volume I [Wuebbles, D.J. et al. (eds.)], U.S. Global Change Research Program, Washington, DC (2017), https://science2017.globalchange.gov/ at 10.

Van Der Ree, R., Jaeger, J. A. G., Van Der Grift, E. A., & Clevenger, A. P. (2011). Effects of Roads and Traffic on Wildlife Populations and Landscape Function: Road Ecology is Moving toward Larger Scales. *Ecology and Society*, *16*(1), art48. https://doi.org/10.5751/ES-03982-160148

Vickers, T. W., Sanchez, J. N., Johnson, C. K., Morrison, S. A., Botta, R., Smith, T., Cohen, B. S., Huber, P. R., Ernest, H. B., & Boyce, W. M. (2015). Survival and Mortality of Pumas (Puma concolor) in a Fragmented, Urbanizing Landscape. *PLOS ONE*, *10*(7), e0131490. https://doi.org/10.1371/journal.pone.0131490

Wang, D., Guan, D., Zhu, S., Kinnon, M. M., Geng, G., Zhang, Q., Zheng, H., Lei, T., Shao, S., Gong, P., & Davis, S. J. (2021). Economic footprint of California wildfires in 2018. *Nature Sustainability*, *4*(3), 252–260. https://doi.org/10.1038/s41893-020-00646-7

Wang, Y., Smith, J. A., & Wilmers, C. C. (2017). Residential development alters behavior, movement, and energetics in an apex predator, the puma. *PLOS ONE*, *12*(10), e0184687. https://doi.org/10.1371/journal.pone.0184687

Ware, H. E., McClure, C. J. W., Carlisle, J. D., & Barber, J. R. (2015). A phantom road experiment reveals traffic noise is an invisible source of habitat degradation. *Proceedings of the National Academy of Sciences*, *112*(39), 12105–12109. https://doi.org/10.1073/pnas.1504710112

Warren, R., Price, J., Fischlin, A., De La Nava Santos, S., & Midgley, G. (2011). Increasing impacts of climate change upon ecosystems with increasing global mean temperature rise. *Climatic Change*, *106*(2), 141–177. https://doi.org/10.1007/s10584-010-9923-5

Wilkinson, F. (2021, July 4). The Burning Question for California Wine Country. Bloomberg.

Wilmers, C. C., Wang, Y., Nickel, B., Houghtaling, P., Shakeri, Y., Allen, M. L., Kermish-Wells, J., Yovovich, V., & Williams, T. (2013). Scale Dependent Behavioral Responses to Human Development by a Large Predator, the Puma. *PLoS ONE*, *8*(4), e60590. https://doi.org/10.1371/journal.pone.0060590

Yap, T. A., Koo, M. S., Ambrose, R. F., Wake, D. B., & Vredenburg, V. T. (2015). Averting a North American biodiversity crisis. *Science*, *349*(6247), 481–482.

Yap, T., & Rose, J. P. (2019). *A Petition to List the Southern California/Central Coast Evolutionarily Significant Unit (ESU) of Mountain Lions as Threatened under the California Endangered Species Act (CESA)*. Center for Biological Diversity.
Yap, T., Prabhala, A., & Anderson, I. (2023). *Hidden in Plain Sight*. Center for Biological Diversity.
Yap, T., Rose, J. P., Broderick, P., & Prabhala, A. (2021). *Built to Burn: California's Wildlands Developments Are Playing With Fire*. Center for Biological Diversity.