



INITIAL STUDY /
MITIGATED NEGATIVE DECLARATION

**APPLICATIONS 31059 AND
31060 OF LINHOLME PROPERTIES, LTD.**

NOVEMBER 2013

LEAD AGENCY:

State Water Resources Control Board
Division of Water Rights
P.O. Box 2815
Sacramento, CA 95812-2815



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TABLE OF CONTENTS

INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

WATER RIGHT APPLICATIONS 31059 AND 31060 OF LINHOLME PROPERTIES, LTD.

I. BACKGROUND	1
Introduction.....	1
Project Background	6
Environmental Setting and Baseline	7
Regulatory Environment	10
II. ENVIRONMENTAL IMPACTS	11
1. Geology and Soils	11
2. Air Quality.....	14
3. Greenhouse Gas Emissions	17
4. Hydrology and Water Quality	18
5. Biological Resources	24
6. Agriculture and Forestry Resources.....	47
7. Noise	49
8. Land Use and Planning	51
9. Mineral Resources.....	53
10. Hazards and Hazardous Materials.....	54
11. Population and Housing.....	56
12. Transportation and Circulation.....	57
13. Public Services	58
14. Utilities and Service Systems.....	59
15. Aesthetics.....	60
16. Cultural Resources	61
17. Recreation	65
18. Mandatory Findings of Significance	66
III. DETERMINATION	67
IV. LIST OF PREPARERS	68
V. LIST OF ATTACHMENTS	68
VI. INFORMATION SOURCES	69

LIST OF FIGURES

Figure 1 – Regional Location	2
Figure 2 – Project Site.....	3
Figure 3 – Project Features.....	4
Figure 4 – 1996 Aerial Photograph.....	8
Figure 5 – 2000 Aerial Photograph.....	9
Figure 6 – Habitat Map.....	28
Figure 7 – Stream Setbacks.....	41

List of Tables

Table 1 – Summary of Applications 31059 and 31060	5
Table 2 – Point of Diversion	5
Table 3 – Place of Use.....	5
Table 4 – CEQA Baseline and Project Components	10
Table 5 – Project Site Soil Characteristics	12
Table 6 – State and National Ambient Air Quality Standards.....	15
Table 7 – CFII Results	22
Table 8 – Refined Database Results of Potential Regionally Occurring Special Status Species	33
Table 9 – CDF Stream Classifications and Setback Requirements	43

List of Appendices

Appendix A Gravel and Large Wood Discussion

STATE WATER RESOURCES CONTROL BOARD
DIVISION OF WATER RIGHTS
P.O. BOX 2000
SACRAMENTO, CA 95812-2000

**INITIAL STUDY /
MITIGATED NEGATIVE DECLARATION**

I. BACKGROUND

PROJECT TITLE: Linholme Properties, Ltd. Application to Appropriate Water

APPLICATION: A031059 and A031060

APPLICANT: Linholme Properties, Ltd.
Attn: Janis Huggins
PO Box 810
3400 Reeves Canyon Road
Redwood Valley, CA 95470

APPLICANT'S CONTACT PERSON: Nicholas F. Bonsignore, P.E.
Wagner & Bonsignore Consulting Civil Engineers
2151 River Plaza Drive, Suite 100
Sacramento, CA 95833

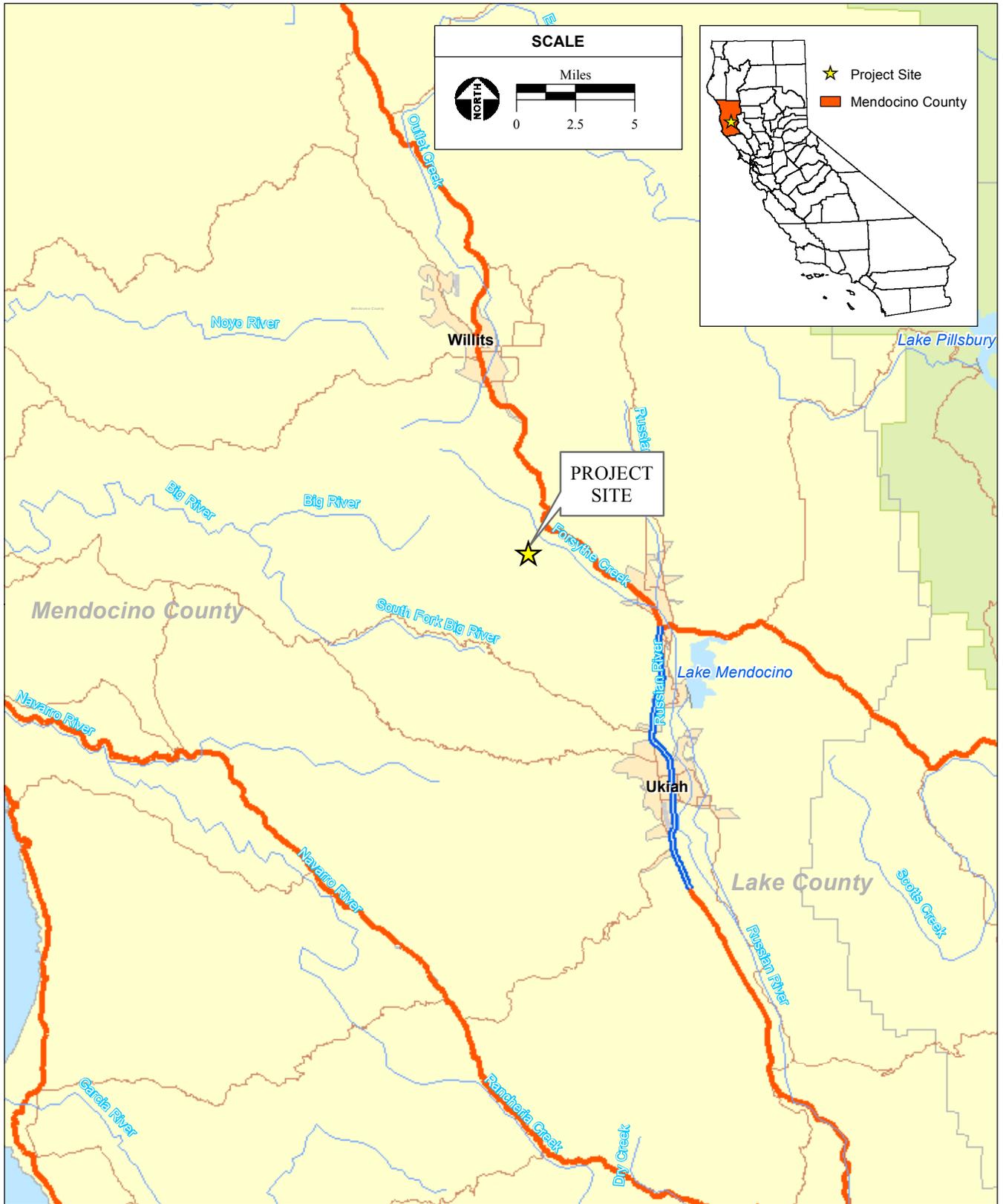
GENERAL PLAN DESIGNATION: Range Land

ZONING: Rangeland District

Introduction

The project site is located approximately ten miles northwest of the City of Ukiah in Mendocino County, California (**Figure 1**). The property can be found within Sections 28, 29, 32 and 33, Township 17N, Range 13W, of the "Laughlin Range, CA" U.S. Geological Survey 7.5-minute topographic quadrangle (**Figure 2**). The project site is located in the southeast portion of the property, approximately 4 miles east of Highway 101 on Reeves Canyon Road. Water Right Applications 31059 and 31060 (proposed project) were filed with the State Water Resources Control Board (State Water Board), Division of Water Rights (Division) on September 1, 1999. As currently proposed (with amendments), Applications 31059 and 31060 would allow for the diversion of up to 20.5 acre-feet per annum (afa).

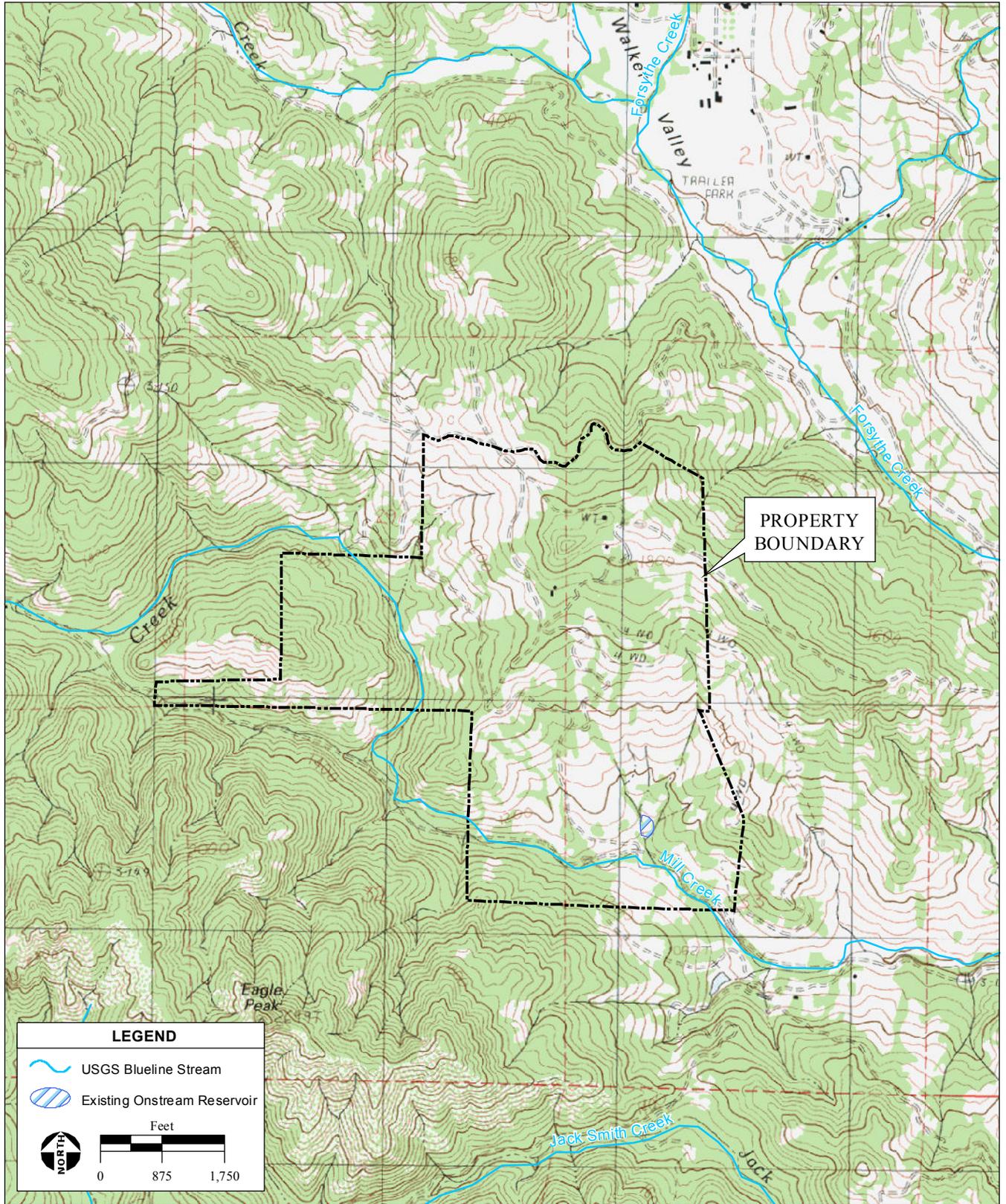
As amended, Application 31059 proposes the direct diversion of up to 5.6 acre-feet (af) of water, at a rate up to 2.04 cubic feet per second (cfs), from March 15 through March 31. Water would be diverted at an existing reservoir (Point of Diversion (POD) 1) located on 3 intermittent Unnamed Streams tributary to Mill Creek thence Forsythe Creek thence the Russian River (**Figure 3**). Water would be diverted from the reservoir for beneficial use via a 14-inch diameter low-level outlet pipe. Water would be used for frost protection of 22 acres of existing vineyard (**Table 1**).



SOURCE: StreetMap USA, 2007; AES 2012

Linholme Properties Water Right Applications 31059 and 31060 Initial Study / 205534 ■

Figure 1
Regional Location Map



SOURCE: "Laughlin Range, CA" USGS 7.5 Minute Topographic
 Quadrangle, Sections 28, 29, 32 & 33, T17N, R13W, Mt. Diablo Baseline
 & Meridian; AES, 2013

Linholme Properties Water Right Applications 31059 and 31060 Initial Study / 205534 ■

Figure 2
 Site and Vicinity

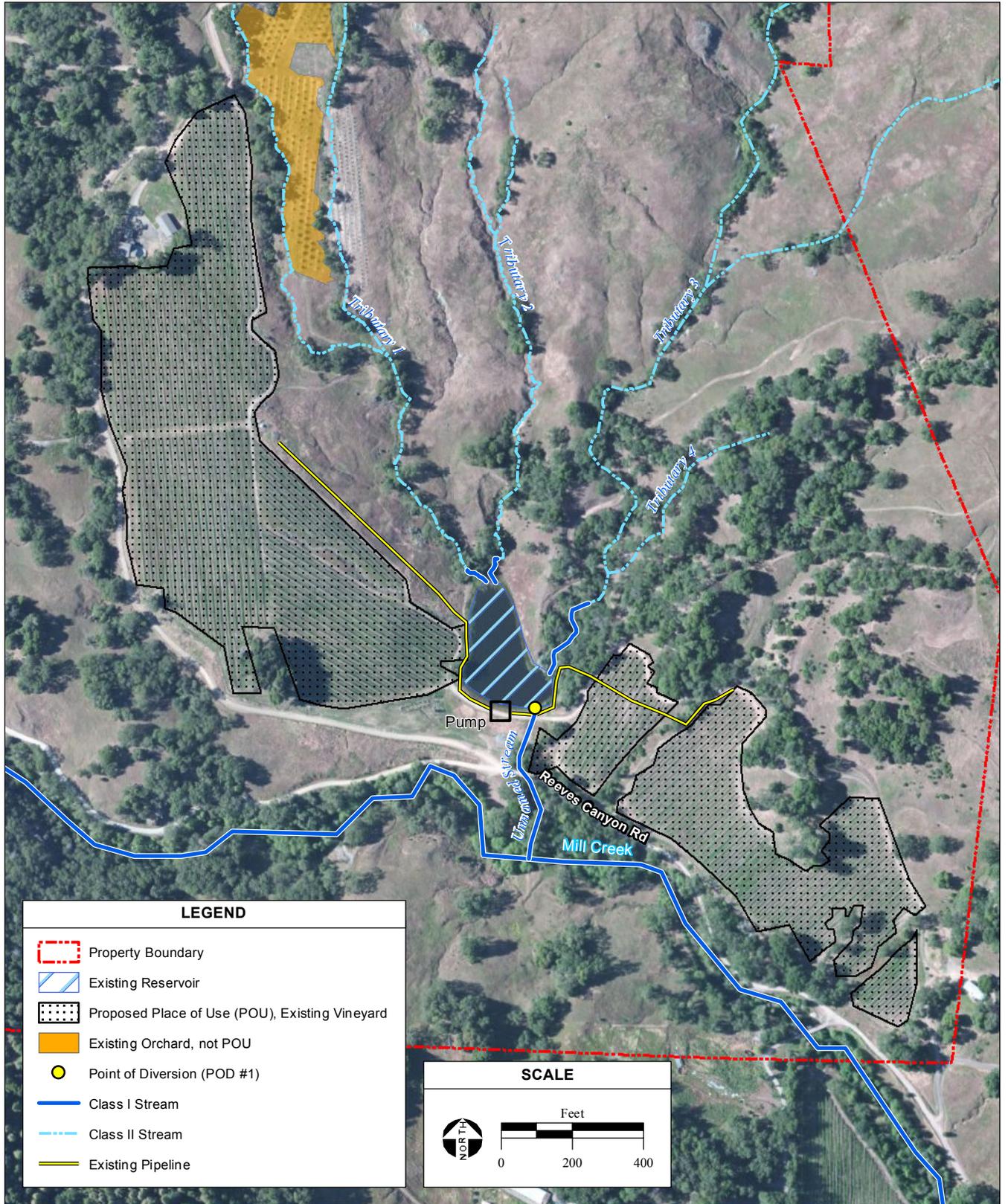


Figure 3
Project Features

As amended, Application 31060 proposes to divert up to 20.5 af of water to storage in the same existing onstream reservoir named in Application 31059 (POD 1), from December 15 through March 31. Water would be used for the purposes of irrigation, frost protection, and heat control of the same 22 acres named in Application 31059.

The capacity of the reservoir is 14.9 af. Initially 14.9 af of water would be diverted to fill the reservoir, and refill of the reservoir would occur up to 5.6 af. The maximum combined amount of water diverted per year under both applications would not exceed 20.5 afa.

A summary of Applications 31059 and 31060 is outlined in **Table 1** and features are illustrated in **Figure 3**. **Tables 2** and **3** describe the POD and place of use (POU).

TABLE 1: SUMMARY OF APPLICATIONS 31059 AND 31060¹

Application	Diversion	Diversion Amount (acre-feet)*	Diversion Season	Place of Use (acres)	Purposes of Use
31059	Direct	5.6	March 15 through March 31	22	Frost protection
31060	To Storage	20.5	December 15 through March 31	22	Irrigation, frost protection, and heat control

*The maximum combined amount of water diverted per year under both applications would not exceed 20.5 afa.

TABLE 2: POINT OF DIVERSION²

POD	Location (NAD 83, Zone 2)	Within	Section	Township	Range	B & M
1; Existing Onstream Reservoir	Three Unnamed Streams tributary to Mill Creek thence Forsythe Creek thence Russian River N 2,232,973 ft and E 6,190,077 ft	SW ¼ of NW ¼	33	17N	13W	MD

TABLE 3: PLACE OF USE³

Use Within	Section	Township	Range	B & M	Acres
NW ¼ of NW ¼	33	17N	13W	MD	11
SW ¼ of NW ¼	33	17N	13W	MD	4
SE ¼ of NW ¼	33	17N	13W	MD	7
Total					22

The following reports have been prepared for the proposed project and are on file with the Division:

- Environmental Setting and Baseline Description, prepared by Analytical Environmental Services (AES) on November 25, 2008 and revised February 2, 2010;
- CFII calculation and Water Availability Analysis (WAA), prepared by Wagner & Bonsignore Consulting Civil Engineers on March 17, 2010;
- Biological Resources Memorandum, prepared by AES dated May 2010, revised December 2011;
- Cultural Resources Survey, prepared by Tom Origer & Associates on April 7, 2010;

- Stream Assessment Report, prepared by AES on August 27, 2010 and revised September 30, 2011; and
- Onstream Dam Mitigation Plan, prepared by AES in November 2013.

Project Background

Water Right Applications 31059 and 31060 were both filed with the Division on September 1, 1999 and were accepted on June 5, 2000. As originally filed, Application 31059 requested the direct diversion of up to 61 afa, at a rate up to 2.04 cfs, from February 28 to May 31 each year. Water would be diverted for frost protection of 50 acres of vineyard. On March 9, 2000, the application was amended to increase the season to December 15 to March 31. The season was reduced to February 1 to March 31 on March 14, 2000, and to March 15 to May 15 on June 18, 2002. The application was further amended on November 14, 2008 to: 1) reduce the quantity of water directly diverted from 61 afa to 5.6 afa and add a condition that the total amount of water diverted under this application and Application 31060 would not exceed 20.5 af in any one year; 2) shorten the diversion season to March 15 through March 31; and 3) reduce the POU for frost protection by 28 acres to 22 acres of existing vineyard.

Application 31060, as originally filed, requested the direct diversion of 100 afa from May 1 to September 30 and storage of 100 afa to be diverted from November 1 to June 15. Diverted water would be used for the purpose of irrigation of 50 acres of vineyard. On October 18, 1999 the application was amended to reduce the amount of water directly diverted to 50 afa and to add heat control as a purpose of use. In addition, the storage season was reduced to December 1 to April 30. Application 31060 was further amended on March 9, 2000 to eliminate the direct diversion element, add frost protection, and reduce the season to December 15 to March 31. On June 18, 2002, the applicant requested that the season of diversion be amended to the original request of November 1 to June 15. Application 31060 was amended on November 19, 2002 to reduce the quantity of water diverted to storage from 50 af to 30 af. The application was further amended on November 14, 2008 to: 1) further reduce the quantity of water diverted to storage from 30 afa to 20.5 afa and to add a condition that the total amount of water diverted under this application and Application 31059 would not exceed 20.5 af in any one year; 2) reduce the season of diversion from November 1 through June 15 to December 15 through March 31; 3) reduce the place of use for irrigation, heat control and frost protection by 28 acres to 22 acres of existing vineyard; and 4) reduce the reservoir capacity to 14.9 af.

Applications 31059 and 31060 were publicly noticed on June 6, 2003. Protests were submitted by National Marine Fisheries Service (NMFS), Trout Unlimited, Beringer Blass Wine Estates, and the California Department of Fish and Wildlife (CDFW; formerly California Department of Fish and Game); protests are summarized below.

On June 17, 2003, NMFS filed a protest against Applications 31059 and 31060 due to concerns for 3 threatened species: the Central California Coast Evolutionarily Significant Unit (ESU) of Coho salmon, the California Coastal ESU of Chinook salmon, and the Central California Coast ESU of steelhead. The protest stated that the proposed applications may cause “take” of the aforementioned federally listed species.⁴ The Applicant responded seeking to hold the protest in abeyance until the environmental documents are completed pursuant to the California Environmental Quality Act (CEQA) and provided to the protestant.⁵

On July 3, 2003, Trout Unlimited filed a protest citing concerns about over-appropriation of water from the Russian River and its tributaries causing a decline in population of Coho salmon and steelhead.⁶ The Applicant responded seeking to hold the protest in abeyance until the environmental documents are completed pursuant to CEQA and provided to the protestant.⁷

On July 14, 2003, Beringer Blass Wine Estates protested the applications for potential impacts to senior water rights.⁸ In a response dated September 19, 2003, the Applicant agreed that the permits issued pursuant to Applications 31059 and 31060 would be subject to prior rights.⁹ The Protestor accepted the Applicant's terms and dismissed their protest in a letter to the Division dated October 8, 2003.¹⁰

On July 31, 2003, CDFW protested the applications stating that the project would result in reduced streamflow during critical periods.¹¹ In a letter dated September 19, 2003, the Applicant responded seeking to hold the protest in abeyance until the environmental documents are completed and provided to the Protestor.¹²

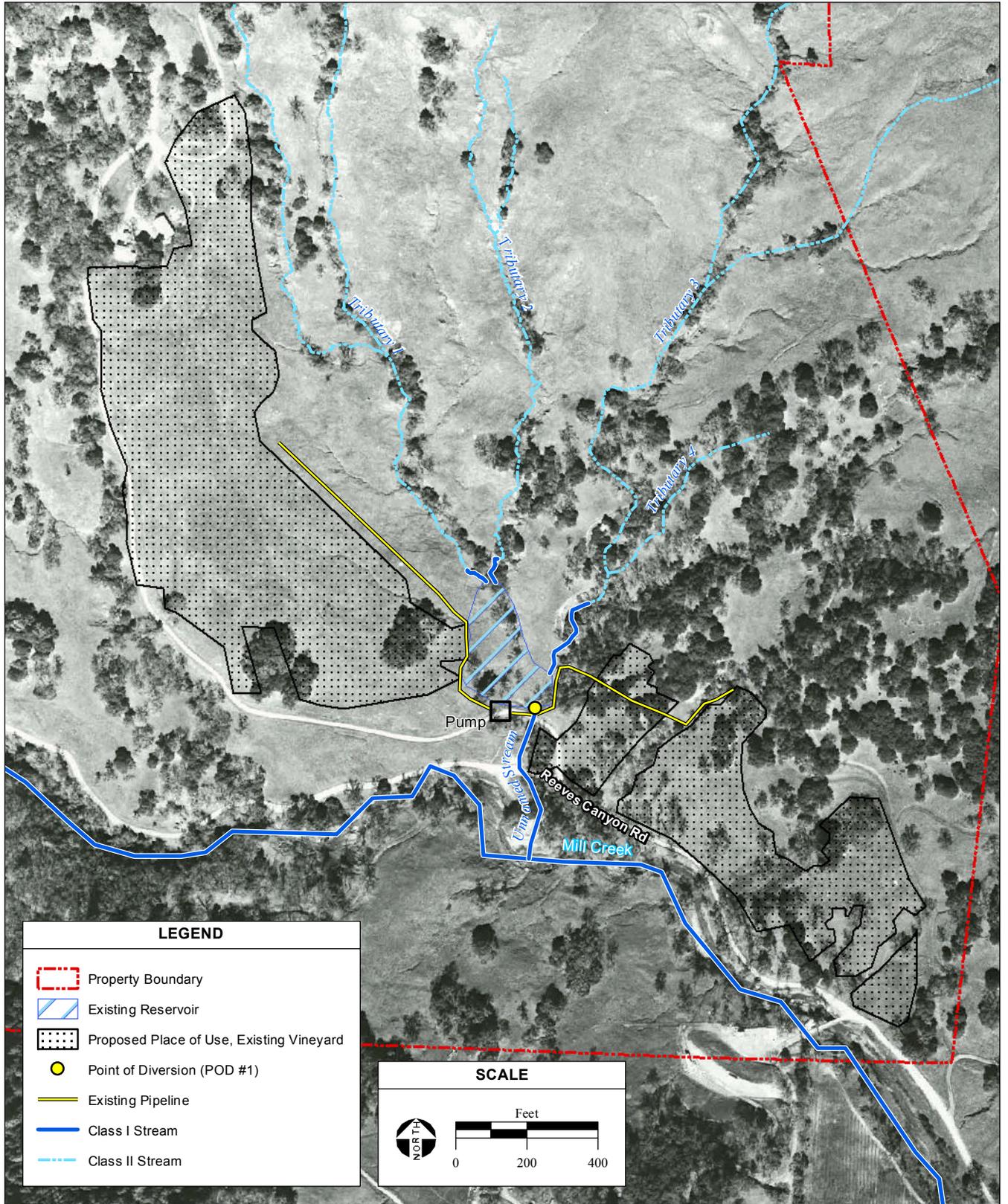
Environmental Setting and Baseline

Elevations at the project site range from approximately 1,100 to 1,400 feet above mean sea level. Characteristic vegetation communities occurring in the region include vineyard, annual grassland, California bay forest, oak woodland, mixed evergreen forest, and riparian woodland. Other than vineyard areas and ruderal/developed areas, the project site contains annual grassland, mixed oak woodland and mixed riparian habitats. Aquatic habitats in the region include the Russian River and tributary perennial and ephemeral drainages, seasonal drainages, seasonal wetlands, wetland swales, and man-made reservoirs. Mill Creek transects the eastern and southern portions of the project site. Other ephemeral and intermittent drainages also occur on the project site.

Mendocino County encompasses a range of topography from the coast to the hilly and steep mountains of the California Coast Range. The project site is strongly influenced by the coast climate, with warm summers and cool, wet winters. The temperature near the project site ranges from an average maximum of approximately 93 degrees Fahrenheit in the summer to an average minimum of approximately 35 degrees Fahrenheit in the winter.¹³ Average annual precipitation at the project site is approximately 37 inches per year.¹⁴

The CEQA baseline date for this project is September 1, 1999, which is the date the environmental analysis commenced for Applications 31059 and 31060.

Historic aerials from 1996 and 2000 were the closest available dates to the CEQA baseline date. **Figure 4** shows the project site in March 1996, 3.5 years prior to the CEQA baseline date. As seen in **Figure 4**, no project features were developed in 1996. Information submitted by the Applicant's representative identifies that the existing onstream reservoir was constructed in 1998.¹⁵ According to the vineyard manager, land for the 22 acres of existing vineyard named in the POU was cleared in 1999 (three-quarters of this area had also been cleared 15 years earlier). Receipts from the 1999 work were provided to the Division.¹⁶ **Figure 5** shows the project site in April 2000, 7 months after the CEQA baseline date. As seen in **Figure 5**, the reservoir was developed and the POU was cleared. In comparing the features in **Figure 5** from 2000 with the footprint of the currently developed POU visible in the March 2005 aerial shown in **Figure 3**, it is estimated that approximately 9 scattered trees were removed during vineyard development, after the initial clearing in 1999. These trees may have been oaks, as wooded areas that remain in the vicinity of the existing vineyard include mixed oak woodland and mixed



SOURCE: WACORP Aerial Photograph, 3/17/1996; AES, 2013

Linholme Properties Water Right Applications 31059 and 31060 Initial Study / 205534 ■

Figure 4
Project Features - 1996 Aerial Photograph

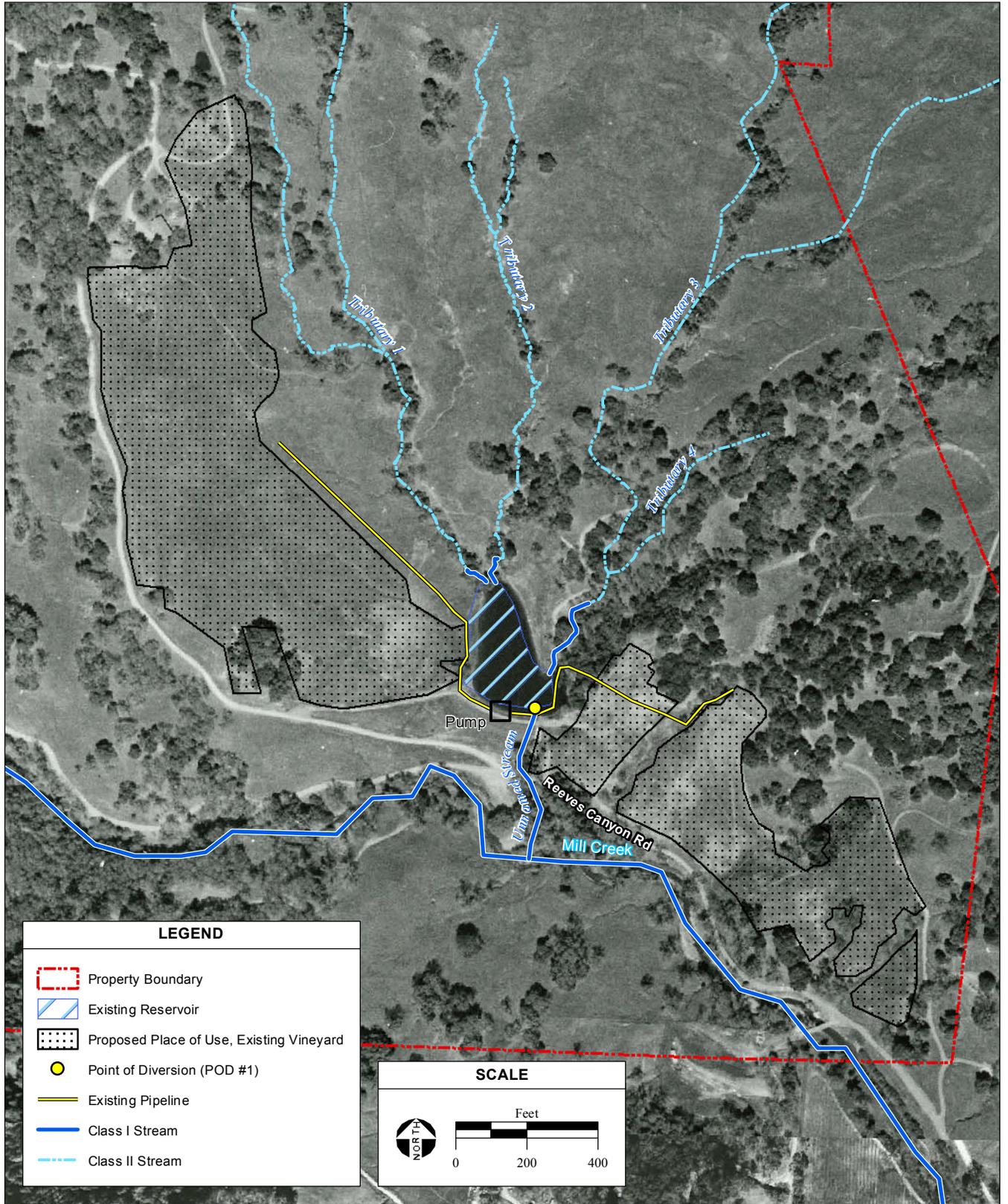


Figure 5
Project Features - 2000 Aerial Photograph

riparian habitats. Vineyard preparation of the land occurred from May to early June 2000 and the vines were planted in 2001. In addition, **Figure 3** reveals there is a portion of the property planted in orchard between the two forks of Tributary 1. This orchard is dry farmed and irrigated when necessary with groundwater; therefore, it is not part of the proposed project.

Based on the above discussion of project features, the CEQA baseline includes 22 acres of cleared land as named in the applications and the existing onstream reservoir. This CEQA document will assess impacts involved with: the previous removal of an estimated 9 trees during vineyard development, past preparation and planting of vines on the 22 acres of cleared land, the combined maximum diversion of 20.5 afa from three Unnamed Streams, and the use of this water on the 22 acre POU. **Table 4** below provides an overview of the project components in relation to the CEQA baseline date.

TABLE 4: CEQA BASELINE AND PROJECT COMPONENTS

Existing Project Components at CEQA Baseline	CEQA Baseline Date	Project Components to be Evaluated under CEQA
<ul style="list-style-type: none"> • 22 acres of cleared land • POD 1 - Existing onstream reservoir (capacity of 14.9 af) 	September 1, 1999	<ul style="list-style-type: none"> • Removal of an estimated 9 trees during vineyard development • Preparation and planting of vines on 22 acres of cleared land • Diversion of 20.5 afa from three Unnamed Streams • Use of water on the 22 acre POU

Existing project components at the CEQA baseline are not evaluated pursuant to CEQA. The project components existing prior to the CEQA baseline that have the potential to affect public trust resources will be addressed separately in the Public Trust Considerations section of the Onstream Dam Mitigation Plan (on file with the Division).

Regulatory Environment

The State Water Board is the lead agency under CEQA with the primary authority for project approval. In addition, the following responsible, trustee, and federal agencies may have jurisdiction over some, or all, of the proposed project:

- U.S. Fish and Wildlife Service (USFWS) – Federal Endangered Species Act (FESA) Compliance
- NMFS – Consultation pursuant to Sections 7, 9, and 10 of the Endangered Species Act (ESA) regarding protection of plants and wildlife that are listed as endangered or threatened
- CDFW –Lake and Streambed Alteration Agreement, California Endangered Species Act (CESA) Compliance.
- Regional Water Quality Control Board – Clean Water Act Section 401 Water Quality Certification.
- U.S. Army Corps of Engineers (USACE) – Clean Water Act Section 404 Permit

The following permits were previously obtained for the project:

- Agricultural pond exemption was obtained from the County of Mendocino in 1998

II. ENVIRONMENTAL IMPACTS CONSIDERED UNDER CEQA

The environmental factors checked below could be potentially affected by this project. See the checklists on the following pages for more details.

<input checked="" type="checkbox"/> Geological Problems/Soils	<input type="checkbox"/> Noise	<input type="checkbox"/> Public Services
<input type="checkbox"/> Air Quality	<input type="checkbox"/> Land Use and Planning	<input type="checkbox"/> Utilities and Service Systems
<input checked="" type="checkbox"/> Greenhouse Gases/Global Warming	<input type="checkbox"/> Energy and Mineral Resources	<input type="checkbox"/> Aesthetics
<input checked="" type="checkbox"/> Hydrology/Water Quality	<input type="checkbox"/> Hazards	<input checked="" type="checkbox"/> Cultural Resources
<input checked="" type="checkbox"/> Biological Resources	<input type="checkbox"/> Population and Housing	<input type="checkbox"/> Recreation
<input checked="" type="checkbox"/> Agriculture and Forest Resources	<input type="checkbox"/> Transportation/Circulation	<input checked="" type="checkbox"/> Mandatory Findings of Significance

1. Geology and Soils. Would the project:

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
i) Rupture of a known earthquake fault, as delineated in the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines & Geology Special Publication 42.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Be located on expansive soils, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternate wastewater disposal systems where sewers are not available for the disposal of wastewater?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Environmental Setting

Mendocino County is located within the California Coast Range geomorphic province. This province is a geologically complex and seismically active region characterized by sub-parallel northwest-trending faults, mountain ranges, and valleys. Extensive prehistoric folding and thrust faulting have created the complex geologic conditions that underlie the highly varied topography.

According to the Natural Resources Conservation Service,¹⁷ the project site contains the soils and respective characteristic as detailed in **Table 5**.

Expansive soils are largely comprised of clays, which greatly increase in volume when water is absorbed and shrink when dried. Expansive soils are of concern because building foundations may rise during the rainy season and fall during the dry season in response to the clay's action; this can cause structural distortion. The soils on the project site have high shrink-swell potential.¹⁸

TABLE 5: PROJECT SITE SOIL CHARACTERISTICS¹⁹

Soil Type	Characteristics
Yorkville-Yorktree-Squawrock complex, 15 to 30 percent slopes	Yorkville-Yorktree-Squawrock complexes typically consist of moderately well-drained loams or gravelly clay loams on hillsides with moderately slow permeability and moderate erosion potential.
Yorkville-Yorktree-Squawrock complex, 30 to 50 percent slopes	Yorkville-Yorktree-Squawrock complexes typically consist of moderately well-drained loams or gravelly clay loams on hillsides with moderately slow permeability and moderate erosion potential.

The San Andreas Fault system, a broad north-northwest trending active fault system that extends along the California coast line, is located approximately 16 miles southwest of the City of Ukiah. Suspected faults in Mendocino County roughly parallel the northwest-southwest course of the San Andreas Fault. According to the California Geological Survey (CGS), 2 main active faults have been identified within Mendocino County, including the San Andreas Fault Zone and the Maacama Fault (approximately 1.25 miles east of the project site).²⁰ The Maacama Fault is considered to be the northernmost segment of the Hayward Fault subsystem of the San Andreas Fault zone. According to the CGS Index to Earthquake Fault Zone Maps, the project site is not located in a designated Fault-Rupture Hazard Zone, as identified under the Alquist-Priolo Earthquake Fault Zoning Act.²¹ The project site is approximately 38 miles northwest of the Alquist-Priolo Fault Zone.

Ground shaking occurs as energy, which is released as the earth's crust moves at the earthquake focus, is transmitted as elastic waves up through the bedrock to become a series of complex waves or oscillations in the ground surface. Such ground shaking is one of the main causes of earthquake damage. It is estimated that faults in Mendocino County are capable of producing earthquakes with a Richter Magnitude of up to 7.3. Such an earthquake, which is considered a severe event, is capable of producing a substantial amount of damage, even to wood framed structures.²²

Liquefaction and landslides can increase damage from ground shaking. Liquefaction changes water-saturated soil to a semi-liquid state, removing support from foundations and causing buildings to sink. There are several alluvial basins within Mendocino County where the

subsurface conditions are locally conducive to liquefaction. Most notably, these areas include alluvial basins in the Willits, Ukiah, and Covelo areas, which are outside the vicinity of the project site.²³ Surficial geology units of the project site are mapped as Franciscan Complex volcanic, and this formation is known to have poor slope stability characteristics in the County.

In 2006 the Applicant participated in the Mendocino County Resource Conservation District's (MCRCD) Forsythe Creek Watershed Assessment, which identified erosion-prone areas on the property. The MCRCD analysis included 3 streams within the vicinity of the POU that do not feed the reservoir. MCRCD did not identify any chronic sediment delivery to downstream waters as a result of existing vineyard operations near onsite streams, but did identify drainage improvements at road crossings for the streams and other road upgrades. The Applicant is working with MCRCD as part of the Forsythe Creek Upslope Road Sediment Reduction Project to implement road sediment reduction strategies in order to improve salmonid habitat and other beneficial uses. A MCRCD-contracted Professional Geologist conducted an evaluation of ranch roads on the property and made recommendations for drainage improvements at select road crossings. MCRCD has funding for the improvements and they are expected to be made in summer 2013 in association with the Forsythe Creek Upslope Road Sediment Reduction Project.²⁴

Findings

Questions A and D

The project site is not located in a fault-rupture hazard zone. Soils on the project site have a high shrink-swell potential, making them susceptible to expansion and poor slope stability.²⁵ However, the proposed project does not include the development of new housing or structures; therefore, impacts to people or structures from ground shaking, ground failure, liquefaction, landslides, or expansive soils are considered less than significant.

Question B

Soils in the project site have high runoff potential and moderate erosion potential. Due to the soil types present within the project site, the previous ground disturbing activities associated with construction (e.g., tree removal and planting of vines on 22 acres of cleared land) could have resulted in significant soil erosion or slope failure, and based on a site visit that took place on March 23, 2011 with Division personnel and CDFW representatives, existing conditions could be contributing sedimentation to onsite streams.²⁶ With implementation of the mitigation discussed in *Question B* of the Hydrology and Water Quality Section would minimize impacts of soil erosion and loss of top soil to less-than-significant.

Question C

The Franciscan Complex volcanic geologic unit underlying the project site can have poor slope stability characteristics. However, as discussed above, the project site has a low risk of liquefaction, lateral spreading, subsidence, and landslides due to low seismic risk. Therefore, the risk of geologic hazards on- or off-site is less-than-significant.

Question E

No septic tanks or wastewater disposal systems are proposed as part of the project. No impacts would occur.

Summary

With the term outlined above and the stream setback requirement in the Biological Resources section below, impacts to geology and soils as a result of the proposed project are considered less than significant.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
2. Air Quality. Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Result in a cumulative considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Environmental Setting

The project site falls under the jurisdiction of the Mendocino County Air Quality Management District (MCAQMD). The project site is strongly influenced by the coast climate, with warm summers from May through October and cool, wet winters from November through April.

Air quality is a function of the criteria air pollutants emitted locally, the existing regional ambient air quality, and the meteorological and topographic factors that influence the intrusion of pollutants into the area from sources outside the immediate vicinity.

Regulatory Setting

The 1977 Federal Clean Air Act (CAA) required the United States Environmental Protection Agency (EPA) to identify National Ambient Air Quality Standards (NAAQS) to protect public health and welfare. NAAQS have been established for the six “criteria” air pollutants: ozone (O₃), carbon monoxide (CO), nitrogen dioxide (NO_x), sulfur dioxide (SO_x), respirable particulate matter (PM₁₀ and PM_{2.5}), and lead. Pursuant to the 1990 CAA Amendments (CAAA), the EPA has classified air basins (or portions thereof) as either “attainment” or “non-attainment” for each criteria air pollutant, based on whether or not the NAAQS have been achieved. Under the NAAQS, the southern portion of Mendocino County is currently designated as non-attainment area for 2008 Ground-Level O₃ standards.²⁷ **Table 6** shows national standards for O₃.

The California Air Resources Board (CARB) regulates mobile emissions sources and oversees the activities of County Air Pollution Control Districts (APCDs) and regional Air Quality Management Districts (AQMDs). CARB regulates local air quality indirectly by State Ambient

Air Quality Standards (SAAQS) and vehicle emission standards by conducting research activities, and through its planning and coordinating activities.

California has adopted ambient standards that are more stringent than the Federal standards for the criteria air pollutants. Under the California Clean Air Act (CCAA), patterned after the Federal CAA, areas have been designated as attainment or non-attainment with respect to SAAQS. Under the SAAQS, Mendocino County is currently designated as non-attainment for PM₁₀ and is designated as unclassified/attainment for O₃, PM_{2.5}, lead, NO_x, SO_x and CO. Mendocino County is also classified as attainment for sulfates, and unclassified for hydrogen sulfide (H₂S) and visibility reducing particles.²⁸ **Table 6** shows state standards for PM₁₀, PM_{2.5}, and O₃.

TABLE 6: STATE AND NATIONAL AMBIENT AIR QUALITY STANDARDS²⁹

Pollutant	Averaging Time	SAAQS ^a	NAAQS ^b
Ozone (O ₃)	1 hour	180 µg/m ³	-
	8 hour	137 µg/m ³	147 µg/m ³
Respirable Particulate Matter (PM ₁₀)	24 hour	50 µg/m ³	150 µg/m ³
	Annual	20 µg/m ³	50 µg/m ³

^a SAAQS (i.e., California standards) for ozone and respirable particulate matter are values that are not to be exceeded.

^b NAAQS (i.e., national standards) - The ozone standard is attained when the fourth highest eight-hour concentration in a year, averaged over three years, is equal to or less than the standard.

µg/m³ = micrograms per cubic meter of air

Ozone (O₃)

O₃ is not emitted directly into the atmosphere, but is a secondary air pollutant produced in the atmosphere. Through a complex series of photochemical reactions, in the presence of strong sunlight and ozone precursors (nitrogen oxides [NO_x] and reactive organic gases [ROG]), O₃ is created. Motor vehicles are a major source of O₃ precursors. O₃ causes eye and respiratory irritation, reduces resistance to lung infection, and may aggravate pulmonary conditions in persons with lung disease.

Carbon Monoxide (CO)

CO is an odorless, invisible gas usually formed as the result of incomplete combustion of organic substances and is primarily a winter pollution problem. CO concentrations are influenced by the spatial and temporal distributions of vehicular traffic, wind speed, and atmospheric mixing. High levels of CO can impair the transport of oxygen in the bloodstream, thereby aggravating cardiovascular disease and causing fatigue, headaches, and dizziness.

Respirable Particulate Matter (PM₁₀)

Respirable particulate matter consists of particulate matter 10 microns (1 micron is one one-millionth of a meter) or less in diameter, which can be inhaled. Relatively small particles of certain substances (e.g., sulfates and nitrates) can cause lung damage directly, or can contain adsorbed gases (e.g., chlorine or ammonia) that may be injurious to health. Primary sources of PM₁₀ emissions in Mendocino County are wood combustion emissions, fugitive dust from construction projects, automobile emissions, and industry. The amount of particulate matter and PM₁₀ generated is dependent on the soil type and the soil moisture content. The areas around Ukiah and Willits have had PM₁₀ exceedances in the past, and winter cold-air inversions

are common between November and February.³⁰

Regulation of air quality is achieved through both federal and state ambient air quality standards and emission limits for individual sources of air pollutants.

Findings

Questions A-C

The project would not conflict with or obstruct implementation of any air quality plans. Given the small scale of project activities, the project also would not violate any air quality standard or contribute substantially to an existing or projected air quality violation. Long-term operation of the proposed project would not emit cumulatively substantial criteria pollutants and no additional ground disturbing activities would occur. Therefore, there is no significant impact.

Questions D and E

The application of agricultural chemicals during project operation, such as sulfur products, has the potential to result in objectionable odors. The nearest offsite residence is located approximately 0.25 mile to the northeast from the center of the project site and would not be impacted by odors at the project site given the distance. Compliance with regulations from the Mendocino County Department of Agricultural for the use of soil stabilizers, pesticides, herbicides, and other regulated chemicals would reduce potential onsite impacts to a less than significant level. Impacts are considered less than significant.

Summary

Impacts to air quality as a result of the proposed project are considered less than significant.

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

Environmental Setting

California has been a leader among the states in outlining and aggressively implementing a comprehensive climate change strategy that is designed to result in a substantial reduction in total statewide greenhouse gas (GHG) emissions in the future. California’s climate change strategy is multifaceted and involves a number of state agencies that are in the process of implementing a variety of state laws and policies. The Mendocino County AQMD uses the federal permitting process to regulate GHG emissions; it does not have its own GHG thresholds.

Findings

Question A

Operational sources of GHG emissions would likely include carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O). Operation of the proposed project would emit minimal GHG throughout the year. Implementation of the Onstream Dam Mitigation Plan, which includes riparian habitat replacement (replanting trees at a 3:1 ratio) and oak tree replacement mitigation (replanting trees at a 2:1 ratio), as discussed in *Question A*, *Question B*, and *Question E* in the Biological Resources section would minimize sequestration impacts due to vegetation removal. Therefore, impacts would be less than significant with mitigation.

Question B

No significant GHG emissions would occur and the proposed project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions. Impacts are considered less than significant.

Summary

Impacts to GHG emissions as a result of the proposed project are considered less than significant.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
4. Hydrology and Water Quality. Would the project:				
a) Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially alter the existing drainage pattern of the site, including through alteration of the course of a stream or river, or substantially increase the rate or volume of surface runoff in a manner that would:				
i) result in flooding on- or off-site	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii) create or contribute runoff water that would exceed the capacity of existing or planned stormwater discharge	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii) provide substantial additional sources of polluted runoff	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv) result in substantial erosion or siltation on-or off-site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Place housing or other structures, which would impede or re-direct flood flows within a 100-yr. flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Expose people or structures to a significant risk of loss, injury, or death involving flooding:				
i) as a result of the failure of a dam or levee?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) from inundation by seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Would the change in the water volume and/or the pattern of seasonal flows in the affected watercourse result in:				
i) a significant cumulative reduction in the water supply downstream of the diversion?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii) a significant reduction in water supply, either on an annual or seasonal basis, to senior water right holders downstream of the diversion?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii) a significant reduction in the available aquatic habitat or riparian habitat for native species of plants and animals?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
iv) a significant change in seasonal water temperatures due to changes in the patterns of water flow in the stream?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Environmental Setting

The project site is located within the Russian Watershed hydrologic unit (hu) #18010110.³¹ The surface waters onsite are part of the Upper Russian River hydrologic area (ha) and Forsythe Creek hydrologic subarea. On the project site, water spills from the reservoir directly into an Unnamed Stream, which flows for approximately 350 feet before its confluence with Mill Creek. Mill Creek flows approximately 3.5 miles before its confluence with Forsythe Creek, which then flows approximately 5 additional miles before its confluence with the Russian River.³² Forsythe Creek is listed on the State Water Board's 303(d) list for impaired water bodies for sediment.³³

Findings

Question A

The proposed project is not subject to any waste discharge requirements, and would therefore not result in a violation of any waste discharge requirements. This is a less-than-significant impact.

Question B

The proposed project does not involve the use of groundwater supplies. No significant impacts to groundwater would occur.

Question C

Subsections i, ii and iii

The proposed project included planting of vine rows in previously cleared areas. The project would not result in flooding on or offsite, or create or contribute runoff that would exceed the capacity of existing or planned stormwater discharge. As such, the impact is less than significant.

Subsection iv

As discussed in the Geology and Soils section, the proposed project could have resulted in significant soil erosion or slope failure, and existing conditions could be contributing sedimentation to onsite streams. In addition, Forsythe Creek is listed on the State Water Board's 303(d) list for impaired water bodies for sediment. To ensure that the proposed project will not result in additional erosion or sedimentation to downstream waters riparian buffers should be established.

Riparian buffers can act to remove land-derived sediment by the following three primary mechanisms: (1) deposition of bedload material; (2) trapping suspended sediment in the litter layer; and (3) trapping suspended material that moves into the soil as a result of infiltration.³⁴ A series of historical studies documenting the sediment removal effectiveness of riparian buffers was compiled in the report entitled "*Protection of Riparian Ecosystems: A Review of Best Available Science*" that was prepared by Jefferson County in Washington State.³⁵ Sediment removal rates range from 50 to 98 percent for the 18 studies for which efficiency was reported as a percent removal rate. Buffer width for these studies ranged from 5 to 262 meters (16 to 829 feet). Nonetheless, the maintenance of setbacks ranging from a minimum of 50 to 75 feet is expected to significantly decrease sediment delivery to the streams located on the project site. Onsite riparian vegetation would be maintained with minimum 50 to 75-foot wide buffers to

the fullest extent feasible. Approximately 0.26 acre vineyard is permitted to be planted within the buffer under the permit terms in the Biological Resources section (this includes 0.13 acres within the 50-foot buffers and 0.13 acres within the 75-foot buffers). Because riparian buffers have been demonstrated to reduce sediment by at least 50 percent (and up to 98 percent in some instances), the requirements for stream setbacks as described in the permit terms in *Questions A and B* of the Biological Resources section would reduce potential impacts to a less-than-significant level.

Question D

With implementation of the riparian setbacks outlined in the permit terms in *Questions A and B* of the Biological Resources section, the proposed project will not substantially degrade water quality.

Question E

The proposed project would not result in the development of housing within a 100-year flood zone. The project site is located on Federal Emergency Management Agency (FEMA) flood maps 06045C1291F and 06045C1300F.³⁶ The project site is located in areas zoned as Zone X (area of minimal flood hazard). No impact would occur.

Question F

The proposed project includes the storage of water in an existing onstream reservoir. The onstream reservoir is not of jurisdictional size under the Division of Safety of Dams. The project site is not located in an area susceptible to inundation from seiche, tsunami, or mudflow. No impact would occur.

Question G

In 2002, CDFW and NMFS developed Draft Guidelines for Maintaining Instream Flows to Protect Fisheries Resources Downstream of Water Diversions in Mid-California Coastal Streams³⁷ (Draft Guidelines). The Draft Guidelines were recommended for use by permitting agencies, planning agencies, and water resources development interests when evaluating proposals to divert water from California's mid-coastal streams. The area the Draft Guidelines apply to include the geographic area of Sonoma, Napa, Mendocino, and Marin counties, and portions of Humboldt County. The proposed project is within the geographic limits of the Draft Guidelines.

The Draft Guidelines recommend terms and conditions to be included in new water right permits for small diversions to protect fishery resources in the absence of site-specific biologic and hydrologic assessments. The Draft Guidelines recommend limiting new water right permits to diversions during the winter period when stream flows are generally higher (December 15 through March 31). Applications 31059 and 31060 both propose diversion seasons within the season recommended by the Draft Guidelines.

The Draft Guidelines provide an outline for preserving a level of flow that ensures that anadromous salmonids would not be adversely impacted by diversions. According to the Draft Guidelines, for new diversions in mid-California watersheds that are, or contribute flows to, anadromous streams, a bypass flow that adequately protects salmonids and aquatic resources downstream of the POD is recommended. Specifically, a bypass of no less than the February median flow (FMF) at the POD is recommended absent a site-specific study to determine a

protective bypass flow. The Draft Guidelines process, including calculating the Cumulative Flow Impairment Index (CFII), is used to determine whether more detailed studies are required to assess the cumulative effects of existing and pending projects in a watershed of interest.

Before the Division can issue a water right permit, it must first find that there is unappropriated water available to supply the proposed project. In determining the amount of water available for diversion, the Division must take into account, the public interest, and the amount of water required to maintain instream beneficial uses such as fish and wildlife resources.

Subsections i and ii

A CFII calculation and Water Availability Analysis (WAA) was prepared for the project by Wagner & Bonsignore Consulting Civil Engineers on March 17, 2010, in conformance with the Draft Guidelines.³⁸ The purpose of the WAA is to evaluate the availability of water to satisfy the water right application and to investigate potential changes in streamflows attributable to diversions. A calculation of CFII for points of interest (POIs) relevant to the project was completed, and the unimpaired and impaired streamflows were estimated at each POI to evaluate water availability. Unimpaired streamflow considers the amount of water that would be available without any diversions. The impaired streamflow at a particular POI considers the amount of water available after all existing and proposed diversions in the watershed. The estimated average seasonal unimpaired flow for the period of December 15 through March 31 was calculated for each POI by adjusting the average seasonal gaged flow for the USGS Gage #11461000, Russian River Near Ukiah.

The CFII percentages for POIs 1 through 16 from the WAA are show in **Table 7**. Results of the CFII calculations show all the POIs would have impairment of less than 5 percent. According to the Draft Guidelines, if the CFII at a POI is less than 5 percent, it is considered that no appreciable diminishment of unimpaired flows would occur and “there is little chance of significant cumulative impacts due to the diversion and the project does not require additional studies to assess these impacts”, provided that other provisions of the Draft Guidelines are adhered to (i.e., limited season of diversion of December 15 through March 31 and implementation of a FMF bypass). Therefore, operation of the reservoir will not cause a significant cumulative reduction in water supply downstream or significant reduction in water supply to senior water right holders.

TABLE 7: CFII RESULTS³⁹

POI	Description	CFII (%)
1	The point on the Unnamed Stream immediately downstream of POD 1.	4.9
2	The point on Mill Creek immediately downstream of the confluence with the Unnamed Stream.	0.2
3	The point on Mill Creek immediately downstream of the confluence with a second Unnamed Stream.	0.6
4	The point on Mill Creek immediately downstream of the confluence with a third Unnamed Stream.	0.6
5	The point on Mill Creek immediately downstream of the confluence with a fourth Unnamed Stream.	0.6
6	The point on Mill Creek immediately downstream of the confluence with a fifth Unnamed Stream.	0.6
7	The point on Mill Creek immediately downstream of the confluence with a sixth Unnamed Stream.	0.5
8	The point on Forsythe Creek immediately downstream of the confluence with Mill Creek.	1.2
9	The point on Forsythe Creek immediately upstream of the confluence with Seward Creek.	1.3
10	The point on Seward Creek immediately before the confluence with Forsythe Creek (point not evaluated since the project will not affect flows at this point).	--
11	The point on Forsythe Creek immediately downstream of the confluence with Seward Creek.	1.3
12	The point on Forsythe Creek immediately upstream of the confluence with a seventh Unnamed Stream.	1.3
13	The point on the Forsythe Creek immediately upstream from its confluence with the West Fork of the Russian River.	1.4
14	The point on the West Fork of the Russian River immediately downstream the confluence of Forsythe Creek.	3.2
15	The point on the West Fork of the Russian River immediately upstream of the confluence with York Creek.	3.6
16	The point on the West Fork of the Russian River immediately upstream of the confluence with the East Fork of the Russian River.	3.8

Subsection iii

Mitigation to offset riparian impacts associated with the project and to reduce the potential for the project to result in a significant reduction in aquatic or riparian habitat is discussed in *Questions A and B* in the Biological Resources section below. In addition, compliance with the following term will ensure the proposed project does not result in any significant impacts to available aquatic or riparian habitat for native species:

- *No water shall be diverted under this right unless the flow in the Unnamed Stream is at or above 0.71 cubic feet per second, as determined at Point of Diversion 1.*

A Bypass Compliance Plan has been prepared for the proposed project to ensure that the FMF bypass, calculated in the WAA as 0.71 cfs, will be maintained during the diversion season. The right holder will install a passive system for bypassing the FMF that includes small concrete weirs on Tributaries 1 through 3 upstream of the reservoir that will only transmit water to the reservoir when flows exceed 0.71 cfs. Key components of the plan are discussed below.

Concrete v-notch weirs, approximately 2.5 feet high, will be placed in the 3 unnamed tributaries upstream of the reservoir. Approximately 5 feet of channel will be disturbed in order to build each bypass structure. These v-notch weirs will be set to the proper elevations to bypass all flows up to the FMF for each specific tributary. Water will flow over the weir and into a chamber from which bypass conveyance pipelines will emanate. The bypass conveyance pipelines will divert flow by gravity around the reservoir and release it into the existing spillway. Flows in excess of the FMF will spill over the diversion structure and into the reservoir. The FMF for each tributary has been computed by prorating the total FMF based on drainage areas.

Some digging may be done with a backhoe, where accessible, but most footing digging work is expected to be done by hand. A concrete pumper truck will bring concrete to the sites. Approximately 4 to 5 cubic yards of concrete will be needed. All work will be completed during summer months (June through October) when there is minimal chance of precipitation producing runoff during construction. All work would be completed under a Streambed Alteration Agreement (SAA) issued by CDFW and would comply with any mitigation terms therein.

With the implementation of the FMF bypass and the Bypass Compliance Plan, the project would not result in a significant reduction in available aquatic habitat or riparian habitat for native species of plants and animals.

Subsection iv

With conditions, the proposed project would result in a less-than-significant impact to seasonal water temperatures for the following reasons. The proposed project would not result in a change in water volume and/or seasonal flows in the affected watercourse. In addition, as described in *Questions A and B* in the Biological Resources section, onsite riparian vegetation would be maintained with minimum 50 to 75-foot wide buffers. The riparian vegetation would provide shade and cover for the onsite tributaries. Therefore, this impact is less than significant.

Summary

The proposed project could result in potentially significant impacts to hydrology and water quality. However, with implementation of the identified terms above, potential impacts would be less than significant.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
5. Biological Resources. Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i) Result in a substantial increase or threat from invasive, non-native plants and wildlife	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the CDFW or USFWS?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Have a substantial adverse effect on federally-protected wetlands as defined by Section 404 of the federal Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Setting

An AES botanist/biologist conducted biological surveys within the project site on May 7, July 7, and July 8, 2008.

The survey area included the 22 acres of existing vineyard, the existing onstream reservoir periphery, the stretch of Mill Creek that occurs onsite, as well as areas immediately adjacent to these features, including approximately 28 acres of previously proposed undeveloped place of use. The site was surveyed on foot, using aerial photographs and topographic maps, as well as a Trimble GeoXT GPS unit. The field surveys were timed such that they corresponded with the bloom periods of all those special status plant species with potential to occur on the project site. All visible fauna and flora were noted and identified to the lowest possible taxon. Habitat types occurring on the project site were characterized and evaluated for their potential to support regionally occurring special status species.

A comprehensive stream characterization and assessment of the tributaries upstream of the Unnamed Stream, as well as the Unnamed Stream and Mill Creek was conducted by AES fisheries biologists on May 11 and September 9, 2010, and March 23 and June 16, 2011;

The stream surveys conducted by AES consisted of walking the stream channels (where access was feasible) to collect detailed data on physical and biological habitat components such as channel morphology, instream habitat complexity and cover, substrate suitability for salmonids, riparian composition, and canopy cover and to determine the Upper Limit of Anadromy (ULA) for steelhead in Mill Creek; the CDFW Passage Assessment Database (PAD)⁴⁰ was used as a preliminary screening tool for the ULA determination. Field determinations for defining the ULA were performed by evaluating the contiguous gradient of the stream channel in addition to documenting physical instream barriers based on the recognized leap capabilities of steelhead trout.⁴¹

Regulatory Setting

Federal Endangered Species Act

The USFWS and NMFS implement the Federal Endangered Species Act (FESA) of 1973 (16 USC Section 1531 et seq.). Threatened and endangered species on the federal list (50 CFR Subsection 17.11, 17.12) are protected from “take” (direct or indirect harm), unless a Section 10 Permit is granted to an individual or a Section 7 consultation and a Biological Opinion with incidental take provisions are rendered to a lead federal agency. Pursuant to the requirements of FESA, an agency reviewing a proposed project within its jurisdiction must determine whether any federally listed species may be present in the project area and determine whether the proposed project would have a potentially significant impact upon such species.

Critical habitat is defined under FESA as specific geographic areas within a listed species range that contain features considered essential for the conservation of the listed species. Designated critical habitat for a given species may not necessarily be currently occupied by that species if it is within the historic range of the species and supports habitat deemed by the USFWS to be important for the recovery of the species. Critical habitat designation applies only to federal actions or actions funded or permitted by federal agencies. If a federal action or an action allowed by federal funding or a federal permit has the potential to adversely affect critical habitat for a listed species, the responsible federal agency is required to consult with the USFWS or NMFS. Under FESA, habitat loss is considered to be an impact to the species. In addition, the agency is required to determine whether the project is likely to jeopardize the continued existence of any species proposed to be listed under FESA or result in the destruction or adverse modification of critical habitat proposed to be designated for such species (16 USC Section 1536 (3), (4)). Therefore, project-related impacts to these species, or their habitats, would be considered significant and require mitigation. The USFWS also designates species of concern. Species of concern receive attention from federal agencies during environmental review, although they are not otherwise protected under FESA. Project-related impacts to such species would also be considered significant and require mitigation.

California Endangered Species Act

CDFW implements state regulations pertaining to fish and wildlife and their habitat. The California Endangered Species Act (CESA) of 1970 (California Fish and Game Code Section 2050 et seq., and CCR Title 14, Subsection 670.2, 670.51) prohibits the take (interpreted to mean the direct killing of a species) of species listed under CESA (14 CCR Subsection 670.2, 670.5). A CESA permit must be obtained if a proposed project would result in the take of listed species, either during construction or over the life of the project. Under CESA, CDFW is responsible for maintaining a list of threatened and endangered species designated under state law (Fish and Game Code Section 2070). CDFW also maintains lists of species of special

concern, which serve as “watch lists.” Pursuant to requirements of CESA, an agency reviewing a proposed project within its jurisdiction must determine whether any state listed species may be present in the project area and determine whether the proposed project would have a potentially significant impact upon such species. Project-related impacts to species on the CESA list would be considered significant and require mitigation.

California Environmental Quality Act (CEQA) Guidelines Section 15380

Although threatened and endangered species are protected by specific federal and state statutes, CEQA Guidelines Section 15380(b) and (d) provides that a species not listed on the federal or state list of protected species may be considered rare or endangered if the species can be shown to meet certain specified criteria. These criteria have been modeled after the definition of FESA and the section of the Fish and Game Code dealing with rare or endangered plants or animals. This section was included in the guidelines primarily to deal with situations in which a public agency is reviewing a project that may have a significant effect on, for example, a candidate species that has not yet been listed by either the USFWS or CDFW. Thus, CEQA provides the ability to protect a species from potential impacts until the respective government agencies have an opportunity to designate the species as protected, if warranted.

Birds

Most bird species, especially those that are breeding, migrating, or of limited distribution, are protected under federal and state regulations. Under the Migratory Bird Treaty Act of 1918 (16 USC Subsection 703-712) and California Fish and Game Code Subsection 3513, migratory bird species and their nests and eggs are protected from injury or death. Project-related disturbances must be reduced or eliminated during the nesting cycle. California Fish and Game Code Subsections 3503, 3503.5, and 3800 prohibit the possession, incidental take, or needless destruction of birds, their nests, and eggs. California Fish and Game Code Section 3511 list birds that are “fully protected”, which identifies those species that may not be taken or possessed except under specific permit. Bald and golden eagles are protected by the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act. These Acts require some measures to continue to prevent bald eagle “take” resulting from human activities.

Plants

The California Native Plant Protection (CNPP) Act of 1977 (California Fish and Game Code Section 1900 et seq.) requires CDFW to establish criteria for determining if a species or variety of native plant is endangered or rare. The California Native Plant Society (CNPS) inventories the native flora of California and ranks species according to rarity (CNPS, 2010); plants on Lists 1A, 1B, and 2 are considered special status species. List 1 plants are presumed extinct in California, List 1B plants rare or endangered in California and elsewhere, and List 2 plants rare or endangered in California, but more common elsewhere.

Oak Woodlands Conservation Act

The Oak Woodlands Conservation Act (California State Senate Bill 1334) became law on January 1, 2005 and was added to the CEQA statutes as 21083.4. This act requires that a county must determine whether or not a project would result in a significant impact on oak woodlands. If it is determined that a project may result in a significant impact on oak woodlands, then one or more of the following mitigation measures are required:

1. Conserve oak woodlands through the use of conservation easements;

2. Plant an appropriate number of trees, including maintenance of plantings and replacement of failed plantings;
3. Contribute funds to the Oak Woodlands Conservation Fund for the purpose of purchasing oak woodlands conservation easements; and
4. Other mitigation measures developed by the county.

The conversion of oak woodlands on agricultural land used to produce or process plant and animal products for commercial purposes is exempt from mitigation.

Wetlands and Other Waters of the U.S.

Any project that involves working in navigable waters of the U.S., including the discharge of dredged or fill material, must first obtain authorization from the U.S. Army Corps of Engineers (USACE), under Section 404 of the Clean Water Act. CDFW requires notification prior to commencement, and possibly a Lake or Streambed Alteration Agreement pursuant to California Fish and Game Code Subsection 1601-1616, 5650, if a proposed project would result in the alteration or degradation of a stream, river, or lake in California. The Regional Water Quality Control Board (RWQCB) may require State Water Quality Certification (Clean Water Act Section 401 permit) before other permits are issued, which may involve implementation of a storm water pollution prevention plan.

Vegetation Community and Habitat Types

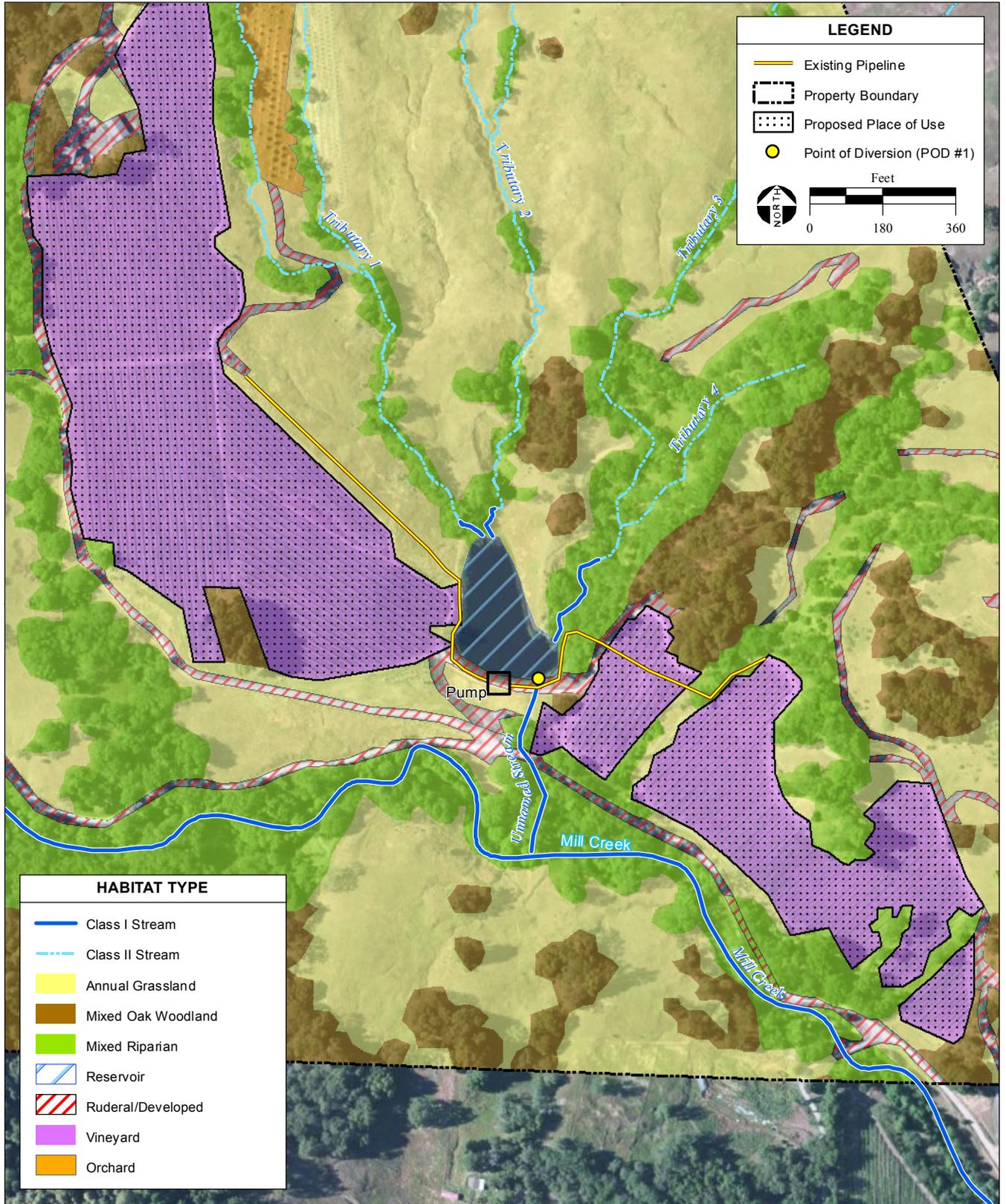
Five terrestrial habitat types were identified within the project site (**Figure 6**), including annual grassland, mixed oak woodland, mixed riparian, vineyard, and ruderal/developed. Aquatic habitat types include the existing reservoir and Class I and II streams. These habitat types are described.

Annual Grassland

The annual grassland community observed onsite is dominated by non-native annual grasses and forbs. Trees and shrubs are absent within this community. Dominant plant species observed within this habitat type include silver hairgrass (*Aira caryophyllea*), wild oat (*Avena fatua*), ripgut brome (*Bromus diandrus*), soft brome (*Bromus hordeaceus*), medusahead grass (*Taeniatherum caput-medusae*), little quaking grass (*Briza minor*), big quaking grass (*Briza maxima*), nit grass (*Gastridium ventricosum*), and brome fescue (*Vulpia bromoides*). Other plant species observed within the annual grassland community onsite include California poppy (*Eschscholzia californica*), sour clover (*Trifolium fucatum*), red-stem filaree (*Erodium botrys*), bur clover (*Medicago polymorpha*), buttercup (*Ranunculus californicus*), soap plant (*Chlorogalum pomeridianum*), lupine (*Lupinus* sp.), Klamath weed (*Hypericum perforatum*), blow wives (*Achyraea mollis*), smooth cat's ear (*Hypochaeris glabra*), and clarkia (*Clarkia purpurea*). Most of the plant species observed within the annual grassland community are non-natives.

Mixed Oak Woodland

The mixed oak woodland community is scattered throughout the project area. The canopy within this habitat type is not extremely dense and the individual tree species observed are relatively large and generally widely spaced. The dominant tree species observed within this community include valley oak (*Quercus lobata*), coast live oak (*Quercus agrifolia*), black oak (*Quercus kelloggii*), and madrone (*Arbutus menziesii*). A few Douglas fir (*Pseudotsuga*



menziesii) and redwood (*Sequoia sempervirens*) trees were also observed within this habitat type. The majority of plant species observed within the overstory of this community are natives. Plant species observed within the shrub/vine layer of this community include snowberry (*Symphoricarpos* sp.), manzanita (*Arctostaphylos* sp.), honeysuckle (*Lonicera hispidula*), coyote brush (*Baccharis pilularis*), poison oak (*Toxicodendron diversilobum*), and toyon (*Heteromeles arbutifolia*). The shrub/vine layer of this habitat type is comprised of equal parts native and non-native species. The herbaceous layer of the mixed oak woodland community is dominated by ripgut brome, soft brome, hedgehog dog-tail grass (*Cynosurus echinatus*), torilis (*Torilis nodosa*), bedstraw (*Galium* sp.), yarrow (*Achillea millefolium*), and miner's lettuce (*Claytonia perfoliata*). The majority of plant species observed within the understory of this community are non-natives.

Mixed Riparian

Mixed riparian habitat surrounds most of the aquatic features observed within the project site. The thickness and structure of the mixed riparian habitat observed appears to be proportional to the hydrologic regimes within the aquatic features it is associated with. Aquatic features that are inundated for long periods of time have very dense and well-established riparian corridors, while features that are inundated for only a short period of time have sparse, less dense, riparian corridors. The over-story of this community is dominated by California bay (*Umbellularia californica*), valley oak, Oregon ash (*Fraxinus latifolia*), willow (*Salix* sp.), big-leaf maple (*Acer macrophyllum*) and white alder (*Alnus rhombifolia*). The over-story within this community is composed of mostly native plant species. Species such as poison oak, California buckeye (*Aesculus californica*), blue elderberry (*Sambucus mexicana*), California rose (*Rosa californica*), Himalayan blackberry (*Rubus armeniacus*), and wild grape (*Vitis californica*) were observed within the shrub/vine stratum of the mixed riparian community onsite. Most of the plant species observed within the shrub/vine layer of this community are natives.

Species observed within the herbaceous stratum of this community include hedge nettle (*Stachys ajugoides*), blue wild-rye (*Elymus glaucus*), pennyroyal (*Mentha pulegium*), hairy willow-herb (*Epilobium ciliatum*), monkey flower (*Mimulus guttatus*), western coltsfoot (*Petasites frigidus*), poisonhemlock (*Conium maculatum*), Santa Barbara sedge (*Carex barbaeae*), and scouring rush (*Equisetum hyemale*). Equal proportions of native and non-native plant species were observed within the understory of this community.

Vineyard

Twenty two acres of vineyard occurs within the project site. This habitat type consists of cultivated grape (*Vitis vinifera*), planted in rows and supported on wood and wire trellises. Limited amounts of weedy vegetation occur between the planted rows and are permitted to persist as a means of protecting, improving, and preserving the soil conditions onsite. Plant species observed within the vineyard habitat include: English plantain (*Plantago lanceolata*), wild oat, yellow wild radish (*Raphanus raphanistrum*), rose clover (*Trifolium hirtum*), field mustard (*Brassica rapa*), scarlet pimpernel (*Anagallis arvensis*), shamrock clover (*Trifolium dubium*), soft brome, ripgut brome, and ryegrass (*Lolium multiflorum*). Most plant species observed within the understory of this community are non-native.

Ruderal/Developed

Ruderal/developed habitat includes areas that have been disturbed by human activities and that contain structures such as pump facilities, roads, or any developed and/or cleared areas that

are associated with the vineyards onsite. Many of the ruderal/developed areas within the project site are maintained (i.e., the vegetation is trimmed), though a few weedy species also occur. Plant species observed within the ruderal/developed regions of the project site include Italian thistle (*Carduus pycnocephalus*), English plantain, birdsfoot trefoil (*Lotus corniculatus*), red-stem filaree, turkey mullein (*Eremocarpus setigerus*), scarlet pimpernel, prickly lettuce (*Lactuca serriola*), yellow star thistle (*Centaurea solstitialis*), panicked willow-herb (*Epilobium brachycarpum*), and fluvellin (*Kickxia elatine*). Most plant species observed within this community are non-native.

Waters of the U.S.

The term “waters of the U.S.” is defined as:

- All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
- All interstate waters including interstate wetlands; or
- All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use or degradation of which could affect interstate or foreign commerce including any such waters.

“Wetlands” are defined as:

Lands that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands that meet these criteria during only a portion of the growing season are classified as seasonal wetlands.

The reservoir, Mill Creek, the Unnamed Stream, and tributaries to the Unnamed Stream have the potential to be considered jurisdictional waters of the U.S., and may be subject to USACE regulation under Section 404 of the Clean Water Act. The features may also be subject to CDFW regulation under Sections 1600 – 1616 of the Fish and Game Code.

Reservoir

A single reservoir is located within the project site. This reservoir is an onstream feature that receives water directly from 3 intermittent drainages. At the southern end of the reservoir is a large earthen dam with a structural concrete intake and 48-inch diameter concrete spillway pipe. The pipe discharges to a rock lined spillway channel, which flows into a large culvert that passes underneath Reeves Canyon Road and discharges into Mill Creek. The reservoir was observed as having hydrophytic vegetation around the edges. Plant species observed around the reservoir onsite, include broad-leaf cattail (*Typha latifolia*), tall flatsedge (*Cyperus eragrostis*), soft rush (*Juncus effuses*), common large monkey flower (*Mimulus guttatus*), hardstem bulrush (*Schoenoplectus acutus*), creeping spikerush (*Eleocharis macrostachya*), pennyroyal, willow, and water cress (*Rorippa* sp.). Bullfrogs, bullfrog tadpoles, and several other species of unidentified fish were observed within the reservoir during the field surveys.

Class I and II Streams

Class I streams are defined as streams in which fish are always or seasonally present, either currently or historically, and habitat to sustain fish exists. Class II streams contain seasonal or year-round habitat for aquatic non-fish vertebrates and/or aquatic benthic macroinvertebrates.⁴²

Results from the stream assessment indicate that the Unnamed Stream and the 3 tributaries upstream of the reservoir are Class I streams up to their respective ULAs, and are considered Class II streams upstream of their respective ULAs (**Figure 6**). The Class I determination was based on potential access by salmonids and habitat suitability. The Class II determination was based on observations indicating that these streams contain suitable habitat for, and currently support, non-fish aquatic species. Bullfrog tadpoles, Pacific chorus frog tadpoles (*Hyla regilla*) and a variety of aquatic invertebrates such as dobsonfly larva (*Corydalus* sp.) were observed within the deeper pools along the onsite tributaries during the field surveys. While the ULAs are located above the onstream reservoir (see below), the amount of restorable habitat is limited. Therefore, CDFW has not recommended fish passage over the dam for this project.

Tributary 1

Tributary 1 is a Class I stream for 65 feet between the confluence of the tributary and POD 1 and the ULA. The ULA was determined by the slope of the stream above the ULA per Section A.1.4(2) of the Division's vacated 2010 *Policy for Maintaining Instream Flows in Northern California Coastal Streams* (Policy).⁴³ This section states that a ULA can be defined by a stream gradient of a "continuous longitudinal slope of 12 percent, or greater" that is a distance of "large enough magnitude that anadromous fish cannot move upstream beyond the lowest point of the gradient."⁴⁴ The ULA on Tributary 1 is defined at the lowest point where the slope gradient of 12 to 25 percent began.⁴⁵

Tributary 2

Tributary 2 is the smallest of the tributaries entering the reservoir and is considered a Class I stream before the ULA. The ULA was determined to be approximately 410 feet upstream of the confluence of the tributary with the reservoir (POD 1), and was defined as the point where slopes greater than 25 percent would prohibit upstream migration of salmonids, per Policy Section A.1.4(2).⁴⁶ Upstream of the ULA, Tributary 2 is a Class II streamcourse.

Tributary 3

Tributary 3 is similar in characteristics to Tributaries 1 and 2, but is longer and drains a larger catchment area. The approximately 280-foot length of stream between POD 1 and the ULA contains suitable low-gradient spawning habitat. The ULA occurs approximately 280 feet upstream of POD 1, where a natural cascade presents a complete barrier to upstream migration based on height, depth, and jump angles at the cascade, per Policy Section A.1.4(3)(a).⁴⁷ Upstream of the ULA, Tributary 3 is a Class II watercourse.

Tributary 4

Tributary 4 has its confluence with Tributary 3 upstream from the natural cascade that forms the ULA on Tributary 3. Tributary 4 is a Class II stream in its entirety because it provides seasonal habitat for non-fish aquatic species, per Policy Section A.1.6.⁴⁸

Unnamed Stream 1

Unnamed Stream 1 begins at the outflow from the reservoir (POD 1) and flows approximately 385 feet before it meets Mill Creek. Unnamed Stream 1 contains a culvert (county maintained facility) that is a partial barrier to anadromy; however, there is access and habitat suitability to seasonally support anadromous fish. Accordingly, Unnamed Stream 1 is a Class I stream.⁴⁹

Mill Creek

Mill Creek, a Class I stream course known to support steelhead trout, occurs in the southern portion of the project site and flows from west to east. The depth, width, and substrate of Mill Creek vary within the project site. In areas, this feature is comprised of a sandy bottom and deeply incised banks, while other areas are comprised of large boulders, or medium sized rock and cobble. The portion of Mill Creek within the project site has a well-developed and thick mixed riparian habitat corridor. Several aquatic species were observed within Mill Creek during the field surveys, including California newt (*Taricha torosa*), bullfrogs, foothill yellow-legged frog, and unidentified minnows (*Cyprinid* sp.).

Special Status Species

For the purposes of this Initial Study, “special status” is defined to include those species that are:

- Listed as endangered or threatened under FESA (or formally proposed, or candidates, for listing);
- Listed as endangered or threatened under CESA (or proposed for listing);
- Designated as endangered or rare, pursuant to Fish and Game Code (§1901);
- Designated as fully protected, pursuant to Fish and Game Code (§3511, §4700, or §5050);
- Designated as species of concern or species of local concern by the USFWS, or as species of special concern by CDFW;
- Plants or animals that meet the definitions of rare or endangered under CEQA;
- Plants listed as rare under the California Native Plant Protection Act; or
- Plants considered by the CNPS to be “rare, threatened, or endangered in California” (List 1B and 2).

An inventory of regionally occurring special status plant and animal species was gathered from the results of scientific database queries including a California Natural Diversity Database (CNDDDB) query and search of known occurrences of special status species within 5 miles of the project site and a list of special status species within the “Laughlin Range, CA” and eight surrounding USGS 7.5-minute topographic quadrangles (Bailey Ridge, Burbeck, Foster Mountain, Greenough Ridge, Orr Springs, Redwood Valley, Ukiah, and Willits); a USFWS list of special status species within the “Laughlin Range, CA” quadrangle and Mendocino County; and a CNPS list for the “Laughlin Range, CA” and eight surrounding quadrangles. Habitat requirements for each special status species were assessed and compared to the habitats occurring within the project site and adjacent areas; each species was assessed for the possibility of occurrence on the project site and adjacent areas. The project site and/or adjacent areas represent potential habitat for 3 special status plants and 6 special status animals. The

name, regulatory status, habitat requirements, and period of identification for regionally occurring special status species are identified in **Table 8** and briefly discussed below.

TABLE 8: REFINED DATABASE RESULTS OF POTENTIAL REGIONALLY OCCURRING SPECIAL STATUS SPECIES⁵⁰

Scientific Name Common name	Status Federal/ State/CNPS or Other	Habitat Requirements	Period of Identification	Area of Potential Occurrence in Project Site
Plants				
<i>Fritillaria roderickii</i> Roderick's fritillary	--/CE/1B	Coastal bluff scrub, coastal prairie, and valley and foothill grasslands; elevations 15-400 meters.	March-May	Annual grassland within project site.
<i>Hesperolinon adenophyllum</i> Glandular western flax	--/--/1B	Chaparral, cismontane woodland, and valley and foothill grassland, usually in serpentine soil; elevations 150-1,315 meters.	May-August	Mixed oak woodland and annual grassland.
<i>Navaretia leucocephala</i> ssp. <i>bakeri</i> Baker's navarretia	--/--/1B	Cismontane woodland, lower montane coniferous forest, meadows and seeps, valley and foothill grasslands, and vernal pools; elevations 5-1,740 meters.	April-July	Mixed oak woodland and annual grassland.
Amphibians				
<i>Rana boylei</i> foothill yellow-legged frog	--/CSC/--	Inhabits shallow-flowing, rocky streams in a variety of habitats including woodlands, riparian, coastal scrub, chaparral, and wet meadows. Rarely encountered far from permanent water sources; elevations 0-1,830 meters.	March-June	Mill Creek and the Unnamed tributary
Reptiles				
<i>Actinemys marmorata</i> Western pond turtle	--/CSC/--	Ponds, marshes, rivers, streams, and irrigation ditches with aquatic vegetation. Requires basking sites and suitable upland habitat for egg laying; elevations 0-1,525 meters.	March-October	Mill Creek and onsite reservoir
Fish				
<i>Oncorhynchus kisutch</i> Central California Coast Coho salmon	FE/CE/--	Occurs in streams with pool and riffle complexes. Breeding requires cold water and gravelly streambeds.	Consult Agency	Mill Creek
<i>Oncorhynchus mykiss irdeus</i> Central California Coastal steelhead	FT/--/--	Found in cool, clear, fast-flowing permanent streams and rivers with riffles and ample cover from riparian vegetation or overhanging banks. Spawning: streams with pool and riffle complexes. For successful breeding, require cold water and gravelly stream bed.	Consult Agency	Mill Creek
<i>Orcorhynchus tshawytscha</i> California Coastal Chinook salmon	FT/--/--	Spawning: streams with pool and riffle complexes. For successful breeding, require cold water and gravelly streambed.	Consult Agency	Russian River mainstem
Birds				
<i>Falco peregrines anatum</i> American peregrine falcon	FD/CE/CFP	Breeds mostly in woodland, forest, and coastal habitats. Breeds near water on high cliffs or banks and will nest on human-made structures.	All Year	Trees could provide nesting habitat, other habitats for feeding.

STATUS CODES:

FEDERAL

- FD Delisted by the Federal Government
- FE Listed as Endangered by the Federal Government
- FT Listed as Threatened by the Federal Government

STATE

- CE California Listed Endangered

CFP	California Fully Protected Species
CSA	California Special Animal
CSC	California Species of Special Concern
<u>CNPS</u>	
List 1B	Plants Rare, Threatened, or Endangered in California and Elsewhere

Special Status Plants

Roderick's fritillary (*Fritillaria roderickii*)

Federal Status – None
 State Status – Endangered
 Other – CNPS List 1B

Roderick's fritillary is a bulbous perennial in the flax (Liliaceae) family that occurs in coastal bluff scrub, coastal prairie, and valley and foothill grassland habitats at elevations that range from 15 to 400 meters above mean sea level (msl). This species is referred to as *Fritillaria biflora* var. *biflora* in the Jepson Manual. Roderick's fritillary blooms from March through May. The range of this species includes Mendocino and Sonoma counties. Roderick's fritillary is known for having a dark brown to greenish purple and/or yellowish perianth, odorless flowers, and widely lanceolate to oblanceolate leaves. The annual grassland within the project site is suitable habitat for this species. Roderick's fritillary was not observed within the project site during the field surveys, which were conducted within the appropriate bloom period.⁵¹

Glandular western flax (*Hesperolinon adenophyllum*)

Federal Status – None
 State Status – None
 Other – CNPS List 1B

Glandular western flax is a delicate annual that occurs in chaparral, cismontane woodland, and valley and foothill grassland (usually serpentine substrates) habitats at elevations that range from 150 to 1,315 meters above msl. Glandular western flax blooms from May through August. The range of this species includes Humboldt, Lake, and Mendocino counties. However, the status of this species within Humboldt County is unknown and it may be extirpated from the region. This species is known for having lanceolate, keeled, and early deciduous leaves that are opposite or whorled at the base and alternate above the base. It has yellow petals and keeled leaf margins with 1 or 2 rows of gland-tipped teeth and pedicels that are approximately 5 to 15 millimeters (mm) long. The mixed oak woodland and annual grassland within the project site are considered suitable habitat for this species. Glandular western flax was not observed within the project site during the field surveys, which were conducted within the appropriate bloom period.⁵²

Baker's navarretia (*Navarretia leucocephala* ssp. *bakeri*)

Federal Status – None
 State Status – None
 Other – CNPS 1B

Baker's navarretia is an herbaceous annual in the phlox family (Polemoniaceae) that occurs in cismontane woodland, lower montane coniferous forest, meadows and seeps, valley and foothill grassland, and vernal pool (mesic) habitats at elevations that range from 5 to 1,740 meters above msl. This species blooms from April through July. The range of this species includes Colusa, Glenn, Lake, Marin, Mendocino, Napa, Solano, Sonoma, Sutter, Tehama, and Yolo counties. Baker's navarretia is known for having an axis of inner bracts that is widely membranous, or winged at the base, a dense cyme-like inflorescence, a corolla that is greater

than or equal to the calyx, calyx lobes that are generally entire, generally erect stems and ascending branches, and white corollas. The mixed oak woodland and annual grassland within the project site are suitable habitat for this species. Baker's navarretia was not observed within the project site during the field surveys, which were conducted within the appropriate bloom period.⁵³

Special Status Amphibians

Foothill yellow-legged frog (*Rana boylei*)

Federal Status – None

State Status – Species of Special Concern

Other – None

Foothill yellow-legged frog is named for its abdomen and hind legs, which are distinctively yellowish in color. This species occurs in partially shaded, rocky streams at low to moderate elevations in areas of chaparral, cismontane woodland, and broadleaf upland forest habitats. This species' ideal habitat consists of open slow-moving perennial streams with rocky or bedrock substrates and small deeper pools. However, it can also occur in smaller perennial streams that have cobble size rocks and riffles. Foothill yellow-legged frog breeds from March through June in pools within perennial streams and attaches its eggs to gravel or rocks at the edges or along the banks. This species' range includes most of northern California, west of the Cascades and south along the coast to the San Gabriel Mountains, and south along the western side of the Sierra Nevada Mountains and into Kern County. This species was observed within Mill Creek during the biological surveys.

Suitable habitat for this species is limited to Mill Creek and the portion of the Unnamed Stream between the reservoir and Mill Creek. While the Unnamed Stream would provide habitat to foothill yellow-legged frog when flowing, the species was only observed to occur in Mill Creek during multiple biological surveys. The other drainages onsite do not have the hydrologic capacity to support this species as they are dependent on perennial water courses and their breeding period would coincide with the natural dry down of these intermittent drainages. In addition, the reservoir does not provide the habitat conditions indicative of foothill yellow-legged frog life history strategies for foraging or successful reproduction.

Special Status Reptiles

Western Pond Turtle (*Actinemys marmorata*)

Federal Status – None

State Status – California Species of Concern

Other – None

The Western pond turtle occurs throughout California. Suitable habitat consists of any permanent or nearly permanent water body or stream with suitable refuges, basking sites, and nesting sites. Refuge sites can be submerged logs or rocks or mats of floating vegetation. Basking sites can be partially submerged rocks or logs, as well as shallow-sloping banks with little or no cover. This species eats a variety of organisms, including aquatic plants, beetles, fish, and frogs.⁵⁴

This species generally leaves the aquatic site only to reproduce and to hibernate. Hibernation typically takes place from October or November to March or April. Egg-laying typically occurs May through July.⁵⁵ Western pond turtles nest in open, sunny areas with little vegetation to

ensure the quick development of their young. Nesting for the Western pond turtle has been reported to occur up to 1,391 feet (402 meters) from water,⁵⁶ but is usually closer, averaging 92 feet (28 meters) from aquatic habitat.⁵⁷ To avoid the drying of late summer and flooding of winter, Western pond turtles hibernate by burrowing into leaf litter in wooded upland habitats up to 1,640 feet (500 meters) away from water.⁵⁸ Two long-term studies on the movements of the Western pond turtle calculated two separate overwintering averages. Rathbun et al. (2002) calculated an average distance from water of 164 feet (50 meters).⁵⁹ In contrast, Reese and Welsh (1997) calculated an overwintering average of 643 feet (196 meters) from water.⁶⁰ By using the relative sample size of each study, a weighted average from the two studies was calculated; this cumulative average overwintering distance from water is about 275 feet.⁶¹

The Western pond turtle has declined in conjunction with habitat alteration from urbanization and agricultural development. Nesting (i.e., oviposition) and basking habitat (important for egg maturation) are crucial to self-sustaining populations. Loss of emergent wetland vegetation to grazing and trampling makes habitat less suitable for hatchlings and juveniles. Fire suppression on native grasslands may cause overgrowth which can excessively shade nesting grounds. Introduced predators such as bullfrogs and warm-water fish can decimate hatchling turtle numbers.

This species utilizes upland habitats in proximity to suitable aquatic habitats to lay eggs and take refuge from flooding or dry conditions. The Western pond turtle is a habitat generalist and will traverse terrain until suitable habitat for nesting and overwintering is reached. Both Mill Creek and the reservoir onsite provide suitable habitat for this species. No Western pond turtles were observed onsite during the field surveys.

Special Status Fish

Coho salmon (*Oncorhynchus kisutch*)

Central California Coast ESU

Federal Status – Endangered

State Status – Endangered

Other – None

The Central California Coast ESU Coho salmon displays the typical anadromous life history strategy of other Pacific salmonids, yet they are predominantly a true winter-run species in northern California. Coho of this ESU migrate out of the marine environment into their natal streams typically at 3 years of age. Migration peaks from November through January for southern ESUs while migration can start as soon as October for the northern ESUs. Actual spawning tends to occur during the months of January and February. Young Coho will remain in their natal streams to rear for 1 to 2 years. These juveniles frequently occur in cooler tributary waters than Chinook salmon and require pristine, perennial tributary streams to support their long termed freshwater rearing requirements. Juveniles tend to emigrate out to the marine environment within approximately 1 year after hatching, yet two-year-old migrants are not uncommon. These emigrations are more dependent on threshold environmental conditions than strict life history trends. Out migration for juvenile Coho within this ESU typically peaks in April and May during high spring flows.

Conrad and White conducted studies during the summers of 1992 through 2007 to determine presence/absence of Coho salmon in tributaries to the Russian River and found that the abundance and distribution of Coho salmon in the Russian River basin have declined precipitously in recent years. Since 2001 wild juvenile Coho presence has been confirmed in

only 5 of the 32 historic Coho streams of the Russian River basin, including: Green Valley, Dutch Bill, Mark West Creek, Redwood Creek and Felta Creek. More recently, only 3 (Green Valley, Dutch Bill, and Felta creeks) of the 32 historic Coho streams documented in the Russian River had confirmed juvenile Coho salmon and only in intermittent years. The Russian River Coho Salmon Captive Broodstock Program (RRCSCBP) planted Young of the Year (YOY) Coho from 2004 to 2008 into Mill Creek (tributary to Dry Creek) and Palmer Creek, in addition to lower Russian River watershed tributaries such as Sheephouse Creek, Ward Creek, Gilliam Creek, Gray Creek, Green Valley Creek, and Dutch Bill Creek. The few Coho salmon that remain in the Russian River watershed currently utilize the Russian River mainstem and estuary primarily as a migration corridor. The estuary, mainstem Russian River and Dry Creek are used by adult migrating Coho salmon in the late fall and winter, and by smolting juveniles in the spring. Some Coho juveniles born in Dry Creek tributaries likely attempt to rear in Dry Creek but are unable due to the high flows and lack of instream cover. In general, Coho currently utilize very discrete sections of the Russian River mainstem and its tributaries from the lower reaches of the Alexander Valley to the estuary, as supported in recent studies that illustrate the diminished status of the Central California Coastal Coho salmon in the Russian River watershed.

The Coho salmon Central California Coast ESU includes all naturally spawned populations of Coho salmon from Punta Gordon in northern California south to and including the San Lorenzo River in central California, as well as populations in tributaries to the Bay, excluding the Sacramento/San Joaquin River system and 4 other artificial propagation programs. The range of the Central California Coast Coho ESU includes portions of Alameda, Contra Costa, Marin, Mendocino, Napa, San Francisco, San Mateo, Santa Clara, Santa Cruz, Solano, and Sonoma counties. NMFS critical habitat has been designated for the Central California Coast Coho ESU⁶² though a recovery plan has not yet been finalized. Mill Creek, Forsythe Creek, and the Russian River are within the NMFS designated critical habitat, therefore, the Class I streams on the project site may be considered suitable habitat for this ESU.⁶³

Steelhead (*Oncorhynchus mykiss*)

Central California Coast ESU

Federal Status – Threatened

State Status – None

Other – None

Steelhead are the anadromous form of rainbow trout. As such, steelhead spawn and hatch in freshwater streams in which they were born. Juveniles remain in the freshwater environment for 1 to 2 years prior to their out-migration into the ocean. Once they mature enough, they migrate to the marine environment to utilize the high productivity of the ocean where they can grow to very large sizes. Once these fish have reached sexual maturity, they migrate back to their natal streams to spawn. The Russian River historically supported 9 separate and distinct populations of steelhead trout in Austin Creek, Dutch Bill Creek, Green Valley Creek, Mark West Creek, Dry Creek, Macaama Creek, and Sausal Creek. Central California Coastal steelhead trout migrate into the Russian River during the initial storm events and high pulse flows during the winter months from as early as November through February, thus displaying a true winter run life history strategy. Steelhead typically migrate to spawn in the uppermost stream reaches tributary to mainstem Russian River, in search of rich sources of spawning gravels. Typically, most spawning does not occur until the spring to avoid redds damage from high winter flows. Similar to salmon, steelhead fry emergence occurs after about 6 weeks at 15 degrees Celsius, yet warmer water temperatures in the spring can rapidly increase development. Juvenile residency is highly variable and can last from a few months to up to 2 years depending on

environmental conditions. Most out-migrants will ride out high spring pulse flows into the estuary where they will smolt prior to entering the ocean environment. Adults will return after anywhere from 3 to 5 years and, unlike other salmonids, can spawn multiple times. Although steelhead in this ESU are classified as a winter-run species, hydro-modification has fundamentally changed the life history strategies of these fish over time. As cold waters persist at predictable flow patterns from dams on an annual basis, the occurrence of this species can be outside the November to April migratory window. This species has an average lifespan of 6 to 7 years.

The range of the steelhead in the Central California Coast ESU includes all naturally spawned populations of steelhead in coastal streams from the Russian River to Aptos Creek, and the drainages of San Francisco, San Pablo, and Suisun Bays eastward to Chipps Island at the confluence of the Sacramento and San Joaquin Rivers; and tributary streams to Suisun Marsh including Suisun Creek, Green Valley Creek, and an unnamed tributary to Cordelia Slough (often referred to as Red Top Creek), exclusive of the Sacramento-San Joaquin River Basin of the California Central Valley, and 2 additional artificial propagation programs. The range includes portions of Alameda, Contra Costa, Marin, Mendocino, Napa, San Francisco, San Mateo, Santa Clara, Santa Cruz, Solano, and Sonoma counties. NMFS critical habitat has been designated for the Central California Coast steelhead ESU.⁶⁴ Mill Creek, Forsythe Creek, and the Russian River are within the NMFS designated critical habitat. A recovery plan has not yet been completed for this species. The Class I streams on the project site are considered suitable habitat for this ESU, and this species has been documented to occur in Mill Creek.

Chinook salmon (*Oncorhynchus tshawytscha*)

California Coastal ESU

Federal Status – Threatened

State Status – None

Other – None

Chinook salmon are the largest and most abundant salmonid species that occurs in California. Chinook salmon are anadromous, but unlike steelhead, Chinook die after a single spawning event. Chinook salmon are generally thought to exhibit 2 basic life history patterns; the stream-type and the ocean-type. The stream-type Chinook typically migrate upstream before reaching sexual maturity during the spring and summer months. They achieve sexual maturity in the freshwater environment. Hatched juveniles reside in spawning streams for at least 1 year before returning to marine habitats. The ocean-type Chinook are sexually mature before migration to the freshwater environment and they spawn shortly after arrival during the summer and fall months. Hatched juveniles remain in the freshwater environment for a relatively short time period that ranges from 3 to 12 months, before entering the marine environment. All of the currently recognized Chinook ESUs within California demonstrate slight variations of these 2 life history themes. Chinook in the California Coastal ESU are a fall-run species. The fall-run Chinook salmon exhibits a true fall-run type migration into the Russian River which begins in early September and gradually declines through the end of December. Chinook are known to spawn predominantly in the mainstem channels of the Russian River and Dry Creek and utilize the estuary during their migration to and from the Pacific Ocean. Peak spawning activity occurs from mid-October through late November and into early December. Fry emergence occurs after approximately 50 days of incubation depending on the average stream temperature, dissolved oxygen concentration and aeration. Juvenile residency typically lasts around 3 months but can be extended if cooler water temperatures are sustained through the late spring months. During these specified peak migration and spawning periods the flows of many of the tributaries to the mainstem Russian River are at base levels, allowing minimal access to even the larger

perennial tributary streams. Due to these hydrologic constraints, all spawning, rearing, and hence migration, occurs in either the mainstem Russian River or Dry Creek.

The range of Chinook salmon in the California Coastal ESU includes all naturally spawned populations from rivers and streams south of the Klamath River to the Russian River, in California, as well as 7 artificial propagation programs. The range includes portions of Humboldt, Mendocino, and Sonoma counties. NMFS critical habitat has been designated for the California Coastal Chinook Salmon ESU.⁶⁵ Mill Creek, Forsythe Creek, and the Russian River are within the NMFS designated critical habitat. A recovery plan has not yet been completed for this species. The Class I streams on the project site are considered suitable habitat for this ESU.

Special Status Birds

American Peregrine Falcon (*Falco peregrinus anatum*)

Federal Status – Delisted

State Status – Endangered

Other – Fully Protected

American peregrine falcon is relatively uncommon throughout its range. This species nests in a variety of habitats including woodlands, forest, and coastal communities and requires protected cliffs and ledges for cover. It breeds near wetlands, lakes, rivers, or other water sources on high cliffs, banks, dunes, and mounds. Peregrine falcon nests are scrapes on depressions or ledges within open sites. It will also nest on human-made structures and will occasionally nest in trees or snags and unoccupied nests of other raptors. Active nesting sites are known along the coast north of Santa Barbara, throughout the Sierra Nevada, and in other mountain regions throughout northern California. American peregrine falcon will migrate into the Central Valley during the winter months. This species breeds from early March to late August. The larger trees within the project site are considered marginally suitable nesting habitat for this species and it may forage throughout the other habitat types onsite. American peregrine falcon was not observed within the project site during the field surveys and no nests were observed within or adjacent to the project areas during the field surveys.

Findings

Question A and A(i)

The project site and/or surrounding vicinity represent potential habitat for 3 special status plant species and 6 special status animal species, as well as potential habitat for nesting or migratory bird species.

No special status plant species were observed onsite during the field surveys. The clearing of the land occurred before the CEQA baseline; vine planting and irrigation system installation occurred within the footprint of the cleared area and would not have impacted special status plant species. No additional ground disturbing activities would occur as a result of the proposed project. Accordingly, no impacts to special status plants would occur.

A single special status animal species, foothill yellow-legged frog (*Rana boylei*), a California Species of Special Concern, was observed onsite in Mill Creek during the field surveys. Mill Creek and the Unnamed Stream below the reservoir (when flowing) are considered suitable habitat for this species. Permit terms as described in the Hydrology and Water Quality Section will be included in any water right permits or licenses issued pursuant to Applications 31095 and

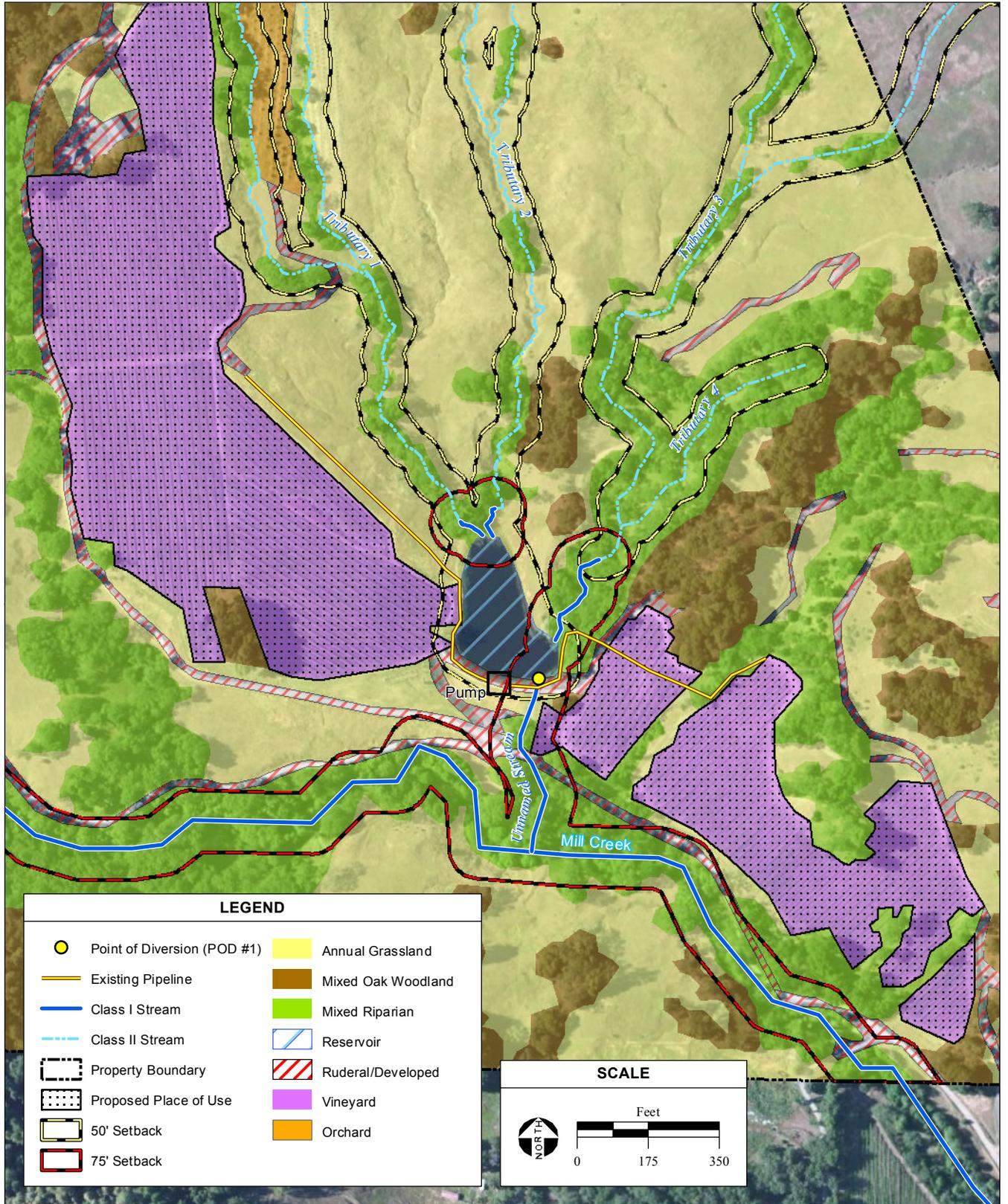
31060, which serve to protect aquatic habitat for foothill yellow legged frog. As discussed above, foothill yellow-legged frogs require slow-moving perennial streams with rocky or bedrock substrates and small deeper pools for survival and reproduction. The bypass flows required in *Question G* of the Hydrology and Water Quality Section will ensure that water remains in the stream during diversion under any water right permits or licenses issued pursuant to Application 31095 and 31060, which will protect foothill yellow-legged frog habitat.

Although foothill yellow-legged frog was observed in Mill Creek, bullfrogs (*Rana catesbeiana*) were also observed in the drainages and reservoir onsite. Bullfrogs are an invasive species introduced to California in the early 1900s, and have been identified as a species of concern in CDFW's California Aquatic Invasive Species Management Plan (January 2008) because they are "voracious predators" that impact native species including California red-legged frog and foothill yellow-legged frog.⁶⁶ As part of the Onstream Dam Mitigation Plan (on file with the Division), the bullfrog population will be controlled with a number of techniques recommended by CDFW, including egg mass removal and active hunting of adults and subadults. Implementation of the Onstream Dam Mitigation Plan will reduce the increase or threat from invasive species, specifically bullfrogs, to less than significant. As such the following term will be included in any water right permits or licenses issued pursuant to Applications 31059 and 31060:

- *No water shall be diverted under this right unless right holder is operating in accordance with a mitigation plan satisfactory to the Deputy Director for Water Rights. The mitigation plan shall address management of non-native species and riparian habitat replacement. Right holder shall submit a report on mitigation plan activities in accordance with the time schedule contained in the mitigation plan, and whenever requested by the Division of Water Rights. The Deputy Director for Water Rights may require modification of the mitigation plan upon a determination that the plan is ineffective or unsuccessful, or provide relief from this term upon a determination that the mitigation plan is no longer required.*

Although no Western pond turtles were observed on the project site, Mill Creek and the reservoir onsite provide suitable habitat for Western pond turtle; suitable nesting and refuge habitat is also present in the grassland, riparian, and woodland habitats in proximity to aquatic habitats. CDFW has recommended that a buffer be established around the reservoir to protect habitat of the Western pond turtle. Using the California Department of Forestry's (CDF) recommendations for appropriate stream setbacks (see *Question B* below), it was determined that the suitable buffer is 50 feet. It was determined that while the tributaries upstream of the reservoir are historically Class I watercourses, no fish passage is recommended by CDFW; therefore the tributaries currently function as Class II streams. To allow for continued growth of wetland vegetation and for the protection of potential habitat for the western pond turtle, the following terms will be included in any permits or licenses issued pursuant to Applications 31059 and 31060 to protect Western pond turtles:

- *No water shall be diverted under this right unless right holder is in compliance with the requirements of this term satisfactory to the Deputy Director for Water Rights. In order to provide habitat for the Western pond turtle (*Emys marmorata*), the right holder shall:*
 - a. *Establish and maintain a 50-foot wide setback around the reservoir, as shown in **Figure 7** of the Linholme Properties Initial Study. Except for the exclusions stated herein, no activities shall occur within the setback area. Excluded from the setback area required by this term are any features, and access to such features, that existed*



prior to the date of this right and are delineated on the map. Features are defined as including but not limited to: cropland and planted landscape areas, roads and roadways, bridges, equipment and material storage areas, buildings, structures, fences, wells, pipes, drainage facilities, utility lines and poles, pumps, sumps, and water diversion and storage facilities. Planting and irrigation of riparian vegetation within the setback area is allowed;

- b. Obtain approval from the Deputy Director for Water Rights prior to dredging the reservoir. As part of obtaining approval, right holder shall (1) provide evidence of approval of dredging operations from the United States Fish and Wildlife Service, Sacramento Endangered Species Office, and the California Department of Fish and Wildlife; and (2) provide a plan to avoid disturbing the fringe of emergent (wetland) vegetation around the reservoir during dredging operations; and*
- c. Make no introduction of non-native fish species into the reservoir.*

The reservoir is located on a Class I stream and the project could impact special status fish. Limiting the diversion season between December 15 and March 31 as proposed assures that diversions would occur during peak winter flows. The diversion season functions to maintain the natural hydrograph within the watershed such that diversion would not disrupt the spawning season and/or habitat requirements of anadromous fishes. Maintenance of the FMF bypass discussed in *Question G* in the Hydrology and Water Quality section above assures that cyclic naturally higher flows will be sustained for a substantial period of time such that fisheries resources are not adversely affected. This assures that natural flow regimes will be maintained at levels which are conducive to effective spawning and incubation habitat. Stream setbacks discussed in *Question B* below would protect fish habitat from indirect potentially significant impacts.

Lastly, no stick nests or raptors were observed onsite at the time of the field surveys, so the probability that the previous removal of the trees impacted migratory or special status bird species is low. Bird species are not expected to be impacted by project operations given the historical agricultural use within the vineyard area. The proposed project would not significantly impact special status bird species.

Question B

Approximately 10 riparian trees were removed during reservoir construction. However, the reservoir was an existing project component at CEQA baseline and is not evaluated pursuant to CEQA. The potential impacts of the removal of the riparian trees due to reservoir construction will be addressed separately in the Public Trust Considerations section of the Onstream Dam Mitigation Plan (on file with the Division)..

To address a CDFW request for a gravel and large woody debris replenishment plan, an AES fisheries biologist assessed substrates and flow characteristics of the streams above the reservoir and an MCRCD fisheries biologist assessed the potential for large wood recruitment to the channels above the reservoir. Based on field observations and data reviewed, it was determined that the potential for coarse sediment and large woody debris deposition within the reservoir is unlikely due to the hydrology of the tributaries that feed the reservoir and lack of large woody debris in the subwatershed that would contribute to Mill Creek; this is discussed further in **Appendix A**.

Riparian vegetation along streams provides important habitat between terrestrial and aquatic environments for native plant and wildlife species, and creates corridors for animal movement and plant dispersal across the landscape. In addition, riparian habitats provide important ecological services and benefits to water quality including: water temperature regulation via canopy cover and shade, bed and bank stabilization and erosion control, filtration of sediments and pollutants, nutrient cycling, maintenance of channel form and character, and moderation of hydrologic peaks during the wet season. Due to the essential habitat and services that riparian habitats provide, restrictions on the proximity of ground disturbing activities are often employed (i.e., stream setbacks/buffers) as a means of protecting existing riparian vegetation and promoting regeneration of riparian vegetation after disturbance. The body of scientific literature associated with riparian buffers and stream setbacks is quite large, with recommendations varying depending on the specific objectives of the research (e.g., focal species, ecosystem function parameters and endpoints, etc.). Additionally, a wide range of physical factors influences local site sensitivity, including soil type, topography, precipitation and channel morphology. Consequently, recommended stream setbacks associated with mitigation are derived from the existing scientific literature, relevant guidance, and professional judgment.

Protection of fisheries habitat relies on a set of ecological functions (e.g., sediment and nutrient filtration, water temperature moderation, maintenance of geomorphic processes, channel and habitat complexity, and forage) in combination with protection of appropriate stream flows. The analysis in this document utilizes the California Department of Forestry’s (CDF) stream classification system in combination with slope classes (less than 30 percent slope, 30 to 50 percent slope, and greater than 50 percent slope) and recommends appropriate stream setbacks based on the slope class and stream classification. As shown in **Table 9**, recommended stream setback widths vary from 25 to 150 feet depending on stream classification (setbacks from Class III streams are not as wide as setbacks from Class I streams) and slope class (setbacks in relatively flat areas are not as wide as setbacks in areas with steep slopes).

Slopes within and in the vicinity of the onsite drainages are less than 30 percent (based on slope calculations from the USGS 1/3 arc second Digital Elevation Model using ESRI Spatial Analyst); based on the CDF stream classification system (**Table 9**), the Class I streams require minimum 75 foot setbacks and the Class II streams require minimum 50 foot setbacks, measured from the bank.

TABLE 9: CDF STREAM CLASSIFICATIONS AND SETBACK REQUIREMENTS⁶⁷

Stream	Classification Description	Slope Range	Recommended Setback
Class I	Watercourses that are inhabited by fish seasonally or annually, or if domestic supplies are onsite or within 100 feet downstream.	Less than 30%	75 feet
		30% to 50%	100 feet
		Greater than 50%	150 feet
Class II	Watercourses where fish may not be present onsite, but may be found within 1,000 feet downstream and/or provide habitat for non-fish aquatic species.	Less than 30%	50 feet
		30% to 50%	75 feet
		Greater than 50%	100 feet
Class III	Watercourses that have the capability of transporting sediment downstream to Class I or II waters and where no aquatic life is present.	Less than 30%	25 feet
		Greater than 30%	50 feet

The following terms will be included in any water right permits or licenses issued pursuant to Applications 31059 and 31060 to protect riparian habitat along the POU:

- *Right holder shall establish setbacks for the protection of riparian corridors along the streams in the vicinity of the place of use, as shown in **Figure 7** of the Linholme Properties Initial Study/Mitigated Negative Declaration; the setback shall be measured from the Watercourse Transition Line as defined the 2012 California Forest Practice Rules (Cal. Code Regs., tit. 14, § 895.1.) and shall extend a minimum of 75 feet or to the outer edge of the drip line of the existing riparian trees, whichever is greater from Class I streams. Right holder shall also establish setbacks for the protection of riparian corridors along the Class II streams in the vicinity of the place of use; the setback shall be measured from the Watercourse Transition Line as defined the 2012 California Forest Practice Rules (Cal. Code Regs., tit. 14, § 895.1.) and shall extend a minimum of 50 feet or to the outer edge of the drip line of the existing riparian trees, whichever is greater. Prior to ground disturbing activities adjacent to setback areas, the right holder shall stake the setback and notify the California Department of Fish and Wildlife. Except for the exclusions stated herein, no ground disturbing activities shall occur within the setback area, including, but not limited to, grading, herbicide spraying, roads, fencing, and use or construction of storage areas. There is excluded from the setback areas established herein all existing vineyards (0.26 acres) and planted landscape areas, roads and roadways, bridges, equipment and material storage areas, buildings, structures, fences, wells, pipes, drainage facilities, utility lines and poles, pumps, sumps, water diversion and storage facilities, and access to all of the foregoing existing features for purposes of operation, maintenance, and replacement, as such facilities and access exists now or may from time to time be modified. Equipment access through the setback area shall incorporate best management practices to minimize disturbance to water, soils, and vegetation. Planting and irrigation of native riparian vegetation within the setback area are allowed. Right holder shall restrict cattle or other domestic stock access to the setback area. These requirements shall remain in effect as long as water is being diverted under this right.*

The existing diversion facility will require a Lake and Streambed Alteration Agreement with CDFW.

Question C

The proposed project will not result in a substantial effect on federally-protected wetlands. As discussed in the December 2011 Biological Resources Memorandum, no wetlands were observed onsite during the May 7, July 7, and July 8, 2008 biological surveys.⁶⁸ Accordingly, there is no impact.

Question D

The diversion from the Forsythe Creek watershed, in concert with other diversions, may lead to indirect and direct impacts to anadromous salmonids downstream. The Draft Guidelines recommend that terms and conditions be included in new water right permits for small diversions to protect fishery resources in the absence of site-specific biological and hydrological assessments. The Draft Guidelines, in large part, recommend: (1) diversions should be limited to December 15 to March 31; (2) except for limited circumstances, storage ponds should be constructed offstream; (3) projects should have a bypass that adequately protects salmonids and aquatic resources downstream from the diversion; (4) cumulative impacts of multiple

diversion projects on downstream fisheries habitat should be addressed by calculating the CFII to estimate the cumulative effects of existing and pending project in a watershed of interest; and (5) water diversions be screened and fish passage facilities be provided where needed.

The results of the WAA prepared for the project are summarized in the Hydrology and Water Quality section of this document. The proposed project includes an existing onstream reservoir that will not result in cumulative flow reduction that exceeds the recommendations contained in the Draft Guidelines (all CFII values are below 5 percent). In addition, the season of diversion conforms with the Draft Guidelines; a minimum bypass flow equal to the FMF will be imposed as a term in any permit or license issued pursuant to Applications 31059 and 31060; and CDFW has not recommended fish passage over the dam for this project.

According to the Draft Guidelines, except for limited circumstances, storage ponds should be constructed offstream rather than onstream and permitting of new or existing onstream storage ponds should be avoided. The Draft Guidelines also state that if onstream diversion projects meet the following three conditions, then no streamflow or fish passage protection measures are required:

- 1) The diversion is at a point in a stream where fishes or non-fish aquatic species were not historically present upstream (i.e., a Class III watercourse);
- 2) The project could not contribute to a cumulative reduction of more than 10 percent of the natural instantaneous flow in any reach where fish are at least seasonally present (i.e., a Class I watercourse); and
- 3) The project would not cause the dewatering of any fishless stream reach supporting non-fish aquatic species (i.e., a Class II watercourse).

The onstream reservoir associated with POD 1 is located on a Class I watercourse. The project therefore does not meet condition 1 and thus, POD 1 will not be evaluated for conditions 2 and 3. Although the flow related impacts are less than significant (discussed in *Question G* in the Hydrology and Water Quality section), CDFW recommended several measures to mitigate for the loss of fish habitat from construction of the dam.⁶⁹ CDFW requested the evaluation of the reservoir per the recommendations in the Division's Policy.⁷⁰ As a result of this analysis, the Onstream Dam Mitigation Plan (on file with the Division) has been created that calls for management of the bullfrog population and restoration of riparian habitat through a 3:1 ratio of riparian tree replacement in an area adjacent to Unnamed Stream 1 (please see the Public Trust Considerations section of the Onstream Dam Mitigation Plan).

The protection of riparian habitat through stream setbacks along the POU and the implementation of the FMF bypass per permit terms in *Questions A and B* above and *Question G* of the Hydrology and Water Quality section will ensure a less-than-significant impact to wildlife corridors.

Question E

Although no trees are proposed for future removal with the project, approximately 9 scattered trees were previously removed during vineyard development (after the initial clearing in 1999) from the mixed oak woodland and mixed riparian habitat types. Based on the observed species composition of these habitat types, the tree species removed may have included valley oak, live oak, and black oak; according to Sawyer et al.,⁷¹ emergent evergreens comprise less than 10 percent of Mixed Oak Woodland. The number and species of trees removed was estimated

based upon review of historic and current aerial photography and review of habitat types present onsite. Per Mendocino County General Plan Policy RM-28, all impacted oak trees should be replaced at a minimum 2:1 ratio.⁷² The Oak Tree Mitigation Plan has been included with the Onstream Dam Mitigation Plan and is on file with the Division.

The following term will be included in any permits or licenses issued pursuant to Applications 31059 and 31060 to mitigate oak tree impacts due to the development of POU:

- *No water shall be diverted under this right unless right holder is operating in accordance with an oak tree mitigation plan. Right holder shall submit a report on oak tree mitigation plan activities in accordance with the time schedule contained in the mitigation plan, and whenever requested by the Division of Water Rights. The Deputy Director for Water Rights may require modification of the oak tree mitigation plan upon a determination that the plan is ineffective, or provide relief from this term upon a determination that the oak tree mitigation plan is no longer required. Question F*

No Habitat Conservation Plan or Natural Community Conservation Plan has been adopted for the project site. The proposed project would not result in conflicts with any approved local, regional, state, or federal Habitat Conservation Plan. No project related impacts would occur.

Summary

The proposed project could result in potentially significant impacts to biological resources. However, with implementation of the identified mitigation listed above, potential impacts would be less than significant.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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6. Agriculture and Forestry Resources. In determining whether impacts to agricultural resources are significant environmental impacts, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:

- | | | | | |
|--|--------------------------|-------------------------------------|--------------------------|-------------------------------------|
| a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural uses? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Conflict with existing zoning for agricultural use, or a Williamson Act contract? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Result in the loss of forest land or conversion of forest land to non-forest use? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Environmental Setting

Agriculture and timber production are prevalent land uses in Mendocino County. Fertile valley and foothill areas to the east of the mountains have been identified by Mendocino County as areas where agriculture is and should continue to be the predominant land use. The County's objectives include land use patterns that maintain the rural character of the county and preserve its natural resources.⁷³ The project site lies within an area zoned and designated as Rangeland (see the Land Use and Planning section below).

Findings

Questions A-C

The property includes land designated as Range Land by the Farmland Mapping and Monitoring Program,⁷⁴ however, the proposed project involves the development and operation of agricultural facilities and would not convert agricultural land to non-agricultural use. The project site is not designated as Williamson Act Contract land⁷⁵ and project activities would not conflict

with the existing zoning for agricultural use. The project would not conflict with existing zoning or cause rezoning of forest land. There is no impact.

Question D

The project resulted in the past removal of approximately 9 trees, which meets the Public Resources Code section 12220(g) definition of conversion of forest land. Implementation of the Onstream Dam Mitigation Plan (on file with the Division), which includes riparian habitat replacement (replanting trees at a 3:1 ratio) and oak tree replacement mitigation (replanting oak trees at a 2:1 ratio) as discussed in *Question A*, *Question B*, and *Question E* in the Biological Resources section, would minimize potential impacts to a less-than-significant level.

Question E

After implementation of the Onstream Dam Mitigation Plan (on file with the Division), as required by the permit terms discussed in *Question A*, *Question B*, and *Question E* in the Biological Resources section, the impacts to agriculture and forestry resources would be less than significant.

Summary

With the implementation of the identified Onstream Dam Mitigation Plan, the proposed project would not result in significant impacts to agriculture or forestry resources.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
7. Noise. Would the project result in:				
a) Exposure of persons to, or generation of, noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Exposure of persons to, or generation of, excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing in or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project expose people residing in or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Setting

The dominant sources of noise in Mendocino County consist of highway and local traffic, railroads, airports, industry/commerce, and agriculture. Major noise sources in the rural/agricultural areas of Mendocino County consist primarily of timber harvesting, agricultural noise, and occasional construction noise. Agricultural noise includes general machinery use, pest control devices which often use noise to drive away birds from agricultural areas, and frost protection devices, which employ engine-driven propellers to move air in a frost threatened field. The nearest airport is the Ukiah Municipal Airport approximately 12 miles southeast of the project site.

Noise sensitive areas identified within Mendocino County are those areas that are subject to noises that adversely affect people.⁷⁶ The nearest schools to the project site include La Vida Charter School approximately 3.5 miles to the northeast and Eagle Peak Middle School approximately 5 miles to the southeast.

Regulatory Setting

Section 3-5 of the Development Element of the Mendocino County General Plan addresses noise issues and sets forth goals and policies related to noise and land use compatibility. The noise policies are, "...intended to protect county communities from excessive noise generation from stationary and non-stationary sources. Land uses would be controlled to reduce potential for incompatible uses relative to noise."⁷⁷

The Mendocino County Code Title 20 Division 3 requires that activities be conducted in such a manner that the maximum noise levels at surrounding residential properties will not exceed 50 dBA between 7:00 AM and 10:00 PM.⁷⁸

Findings

Questions A-D

The proposed project would result in seasonal noise generation related to agricultural operations. During operation, work would typically be conducted during daylight hours but occasional nighttime activities could include nighttime harvest, sulfur/pesticide/ herbicide application, and frost protection. Given the existing rural and agricultural nature of the area, the proposed project would not expose sensitive receptors to substantial noise or vibrations, and impacts are considered less than significant.

Questions E and F

The project site is not located within 2 miles of a public airport or private airstrip. The proposed project would not expose people residing in or working in the project area to excessive noise levels. No impact would occur.

Summary

Impacts to noise as a result of the proposed project are considered less than significant.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
8. Land Use and Planning. Would the project:				
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Regulatory Setting

Mendocino County General Plan

The project site lies within an area designated as Range Land. The Mendocino County General Plan describes the intent of the Range Land classification as:

Intended to be applied to lands which are suited for and are appropriately retained- for the grazing of livestock. The classification should include land eligible for incorporation into Type II agricultural preserves, other lands generally in range use, intermixed smaller parcels and other contiguous lands, the inclusion of which is necessary for the protection and efficient management of range lands. The policy of the County and the intent of this classification shall be to protect these lands from the pressures of development and preserve them for future use as designated.⁷⁹

Permitted land uses within this category include: residential, agriculture, cottage industries, residential clustering, uses determined to be related to and compatible with ranching, conservation, processing, and development of natural resources, recreation, utility installations.

The Resource Element of the Mendocino County General Plan provides the following planning goal and applicable policies for agricultural lands:

Goal RM-10 (Agriculture): Protection of agriculture as a basic industry important to the economy and quality of life and food security of the county by maintaining extensive agricultural land areas and limiting incompatible uses.

Applicable Conservation Policies:

- a. The County supports policies and programs to maintain and enhance the viability of agricultural operations and retention of agricultural land.
- b. Support the diversification and expansion of the agricultural economic base.
- c. Support sustainable agricultural operations through research, vegetation management programs, best management practices, and technical assistance for agricultural operators.

- d. New development should incorporate open space and resource conservation measures, coordinated with the surrounding area.⁸⁰

Mendocino County Zoning Ordinance

The project site lies within the Rangeland (R-L) zoning district. The Mendocino County Zoning Ordinance describes the intent of the Rangeland District as follows:

This district is intended to create and preserve areas for (A) the grazing of livestock, (B) the production and harvest of natural resources, and (C) the protection of such natural resources as watershed lands from fire, pollution, erosion, and other detrimental effects. Processing of products produced on the premises would be permitted as would certain commercial activities associated with crop and animal raising. Typically the R-L District would be applied to lands for incorporation into Type H Agricultural Preserves, other lands generally in range use, and intermixed smaller parcels and other contiguous lands, the inclusion of which is necessary for the protection and efficient management of rangelands.

Single family residences, civic uses, commercial uses, agriculture use and accessory uses are allowed within an R-L District, and do not require a Use Permit.

Findings

Question A

The project site is currently used for agricultural purposes and the land use would not change with project approval. The proposed project would not result in the development of physical barriers that would divide an established community. No impact would occur.

Question B

The proposed project is consistent with the County's General Plan and zoning designations and project approval would not conflict with any land use plan, policy, or regulation. No impact would occur.

Question C

Habitat conservation plans and natural community conservation plans do not currently exist in the vicinity of the project site. The proposed project would not have the potential to conflict with any existing habitat conservation plans or natural community conservation plans; therefore, no impact would occur.

Summary

Impacts to land uses would not occur as a result of the proposed project.

9. Mineral Resources. Would the project:

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

Environmental Setting

The Mendocino County General Plan provides conservation policies to identify and protect mineral deposit lands within the County. These measures include administering the California Surface Mining and Reclamation Act, promoting offstream terrace mining or hard rock quarrying over instream mining, and restoring surface mining sites to harmonize with the natural environment.⁸¹

According to the USGS, no mineral resources of significance to the County, region, or State exist within the project site.⁸²

Findings

Questions A and B

No known mineral resources are located near the project site as mapped by the USGS. No impact would occur.

Summary

No impacts would occur to mineral resources as a result of the proposed project.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
10. Hazards and Hazardous Materials. Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within ¼ mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code §65962.5 and, as a result, would it create a significant hazard to the public or to the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or a public use airport, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Environmental Setting

Database searches were conducted for records of known sites of hazardous materials generation, storage, or contamination, as well as known storage tank sites on or near the project site.⁸³ The State Water Board's GeoTracker database was searched for sites and listings up to a one-mile radius from a point roughly equivalent to the center of the subject property.⁸⁴ The database search resulted in zero sites within a one-mile radius of the project site. The project site was not listed on any database as having previous and/or current generation, storage, and/or use of hazardous materials. Additionally, within the one-mile search radius no sites were identified that had current and/or historic hazardous materials. The project site is not listed pursuant to Government Code §65962.5.

Findings

Questions A and B

Hazardous materials that would be used during the construction and operation of the proposed project would be limited to common petroleum and agricultural products. When properly used, these products do not present a significant hazard. This is considered a less-than-significant impact.

Question C

The proposed project is not located within 0.25 mile of any existing or proposed schools. The nearest schools to the project site include La Vida Charter School approximately 3.5 miles to the northeast and Eagle Peak Middle School approximately 5 miles to the southeast. No impact would occur.

Question D

A search of government environmental records did not reveal any known hazardous materials sites within the project site. No impact would occur.

Questions E and F

The nearest airport is the Ukiah Municipal Airport, approximately 12 miles southeast of the project site. No impact would occur.

Question G

Construction activities would not interfere with emergency access in the project vicinity. Implementation of the proposed project would not impact emergency response or evacuation routes in the project site.

Question H

Fire hazard severity has been mapped by CDF. The proposed project is located in a moderate to high fire hazard zone within a State Responsibility Area.⁸⁵ This zone contains fuels (e.g., grasses, shrubs, trees, vines) that are susceptible to wildland fire. The combination of highly flammable fuel, long dry summers and steep slopes creates a significant natural hazard of wildland fires in many areas of Mendocino County. The risk of wildland fire for the proposed project is similar to that for other sites and can be minimized by making sure areas are clear of combustible material and ensuring spark arresters are in good working order on equipment. Therefore, potential impacts are considered less than significant.

Summary

Impacts to hazardous materials as a result of the proposed project are considered less than significant.

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

Environmental Setting

The project site is located approximately 5 miles west of the town of Redwood Valley, in a rural area of the County. Ukiah is located approximately 10 miles southeast. No residential communities are located in the general vicinity of the project site.

Findings

Questions A-C

The proposed project does not involve the development of any homes or businesses and would maintain existing uses on the project site. The proposed project would not generate commercial activities substantial enough to induce significant growth in the area. The proposed project would not displace people or housing. No impacts would occur.

Summary

No impacts to the local population and housing would occur as a result of the proposed project.

Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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12. Transportation and Circulation. Would the project:

- | | | | | |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|
| a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b) Conflict with an applicable congestion management program, including, but not limited to level-of-service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| e) Result in inadequate emergency access? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| f) Conflict with adopted policies regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance of such facilities? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

Environmental Setting

The project site is located along Reeves Canyon Road, which runs in a general east-west direction in central Mendocino County. Highway 101, located approximately 2.5 miles to the east, is the closest major highway to the project site.

Findings

Questions A-F

A slight increase in traffic is anticipated from the implementation of the proposed project. Operation and maintenance of the proposed project would generate seasonal vehicle trips by staff; the most labor-intensive periods for vineyard are during the spring and harvest seasons from about April through June and August through October, respectively. However, harvest activities would take place during off-peak traffic hours and any increase in traffic that they generate would be slight given the small scale of the project and would not represent a significant impact to transportation or circulation. No substantial impediments to emergency access or incompatible uses are anticipated. The proposed project is not expected to result in inadequate parking capacity, or conflict with adopted alternative transportation policies, plans, or programs. The project would not result in a change to air traffic patterns. Potential impacts are considered less than significant.

Summary

The proposed project would not result in significant impacts to transportation and traffic.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
13. Public Services. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service rations, response times or other performance objectives for any of the public services:				
a) Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Setting

Public services include fire and police protection, schools, parks, and other public facilities. The project site is located within unincorporated Mendocino County and law enforcement services for this area are provided by the Mendocino County Sheriff's Department. Fire protection services are provided by the Mendocino County Fire Department and CDF. The Redwood Valley-Calpella Fire Department is the closest fire department to the project site, located approximately 6 miles east.

The project area is served by the Ukiah Unified School District. Redwood Valley Elementary School, Eagle Peak Middle School, and Ukiah High School serve the project area.

Findings

Questions A-E

The proposed project would result in the continued use of the project site for agricultural purposes and would not generate additional demand for government facilities or services.

Summary

No impacts to public services would result from the proposed project.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
14. Utilities and Service Systems. Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental impacts?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental impacts?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Setting

The project site is not served by public water or wastewater services. The closest waste management facility is the Ukiah Transfer Station approximately 14 miles south of the project site.

Findings

Questions A-G

No new wastewater generation would result as part of the proposed project. The proposed project, if approved, would result in the approval of water rights to support agricultural use. An analysis of surface water supply is discussed in the Hydrology and Water Quality section above. Additional water supplies, such as connection to public water supply, would not be required. The proposed project would not generate substantial solid waste and would not conflict with government regulations concerning the generation, handling, or disposal of solid waste. No impacts would occur.

Summary

No impact to utilities and service systems would result from the proposed project.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
15. Aesthetics. Would the project:				
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Setting

The project area contains scenic resources characteristic of Mendocino County, including moderate to steep hills, ridges, and small valleys supporting open space, agricultural and pastoral settings, rural residences, and riparian areas. Much of the area has been historically used for timber harvesting and other agricultural operations. The existing agricultural use of the project site is consistent with the rural aesthetic quality of the area.

Findings

Questions A-D

The proposed project would result in the continued agricultural use of the project site. This use is consistent with the rural aesthetic quality of the project area. The project site is not located within a State scenic highway. The proposed project would not substantially degrade the existing visual character of the site or introduce a new source of substantial light or glare. No impacts would occur.

Summary

No impacts would occur to aesthetics as a result of the proposed project.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
16. Cultural Resources. Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource as defined in §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Regulatory Setting

Under CEQA, historical resources are considered part of the environment (Public Resources Code, §§ 21060.5, 21084.1). An “‘historical resource’ includes, but is not limited to, any object, building, structure, site, area, place, record, or manuscript which is historically or archaeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California (Public Resources Code, §§ 21084.1, 5020.1, subd. (j)).”

In 1992, the Public Resources Code was amended as it affects historical resources. The amendments included creation of the California Register of Historic Resources (California Register) (Public Resources Code, § 5024.1). The State Historical Resources Commission administers the California Register and adopted implementing regulations effective January 1, 1998 (Cal. Code Regs., tit. 14, § 4850 et seq.). The California Register includes historical resources that are listed automatically by virtue of their appearance on, or eligibility for, certain other lists of important resources. The California Register incorporates historical resources that have been nominated by application and listed after public hearing. Also included are historical resources listed as a result of the State Historical Resources Commission’s evaluation in accordance with specific criteria and procedures.

CEQA requires consideration of potential impacts to resources that are listed or qualify for listing on the California Register, as well as resources that are significant but may not qualify for listing.

CEQA also provides protection for unique paleontological resources and unique geologic features, and requires that planners consider impacts to such resources in the project review process. CEQA distinguishes between ubiquitous fossils that are of little scientific consequence, and those, which are of some importance by providing protection for the latter. While CEQA does not precisely define unique paleontological resources, criteria established by the Society of Vertebrate Paleontology (SVP) provide guidance. The SVP defines a significant paleontological resource as one that meets one or more of the following criteria:

- Provides important information shedding light on evolutionary trends and/or helping to relate living organisms to extinct organisms;
- Provides important information regarding the development of biological communities;

- Demonstrates unusual circumstances in the history of life;
- Represents a rare taxon or a rare or unique occurrence, is in short supply and in danger of being destroyed or depleted;
- Has a special and particular quality, such as being the oldest of its type or the best available example of its type; or
- Provides important information used to correlate strata for which it may be difficult to obtain other types of age dates.

For the purpose of this analysis, a unique geologic feature is a resource or formation that:

- Is the best example locally or regionally;
- Embodies distinct characteristics of a geologic principal that is exclusive locally or regionally;
- Provides a key piece of geologic information important in geology or geologic history;
- Is a type locality of a geologic feature; or
- Contains a mineral not known to occur elsewhere locally or regionally; or is a common teaching tool.

Cultural Resources Study

A cultural resources study of the project site was conducted by Origer & Associates in 2010.⁸⁶ As part of the cultural resources study, a records search was conducted at the Northwest Information Center (NWIC) of the California Historical Resources Information System. The records search revealed that 1 prehistoric cultural resource has been recorded within the POU (CA-MEN-620/621), and 12 others within a 1 mile radius of the POU.

The prehistoric archeological site CA-MEN-620/621 has been visited 3 times in the past by teams of archaeologists, who described the site as a large midden site containing abundant obsidian and chert debitage and tools, and several house pit depressions.

Site CA-MEN-620/621 was revisited during the 2010 field survey, and several widely scattered archeological specimens were discovered at various places within existing vineyard blocks. Because the specimens were so widely scattered, they do not meet the criteria (3 or more specimens within an area that measures 10 meters square) to be documented as an archeological site. These specimens are interpreted to be “background scatter.”⁸⁷

On March 18, 2010, the State of California Native American Heritage Commission (NAHC) was asked to review the Sacred Lands file for information on the Native American cultural resources located within the project site. In a letter dated March 25, 2010 the NAHC responded stating that a search of the Sacred Lands file had failed to indicate the presence of Native American cultural resources in the immediate project area. However, the NAHC noted that the absence of specific site information in the Sacred Lands file does not indicate the absence of cultural resources in any project site, and provided contact information for Native American individuals who may have knowledge of cultural resources in the project area for further consultation.

Letters were sent on March 29, 2010 to the Native American individuals identified by the NAHC. No responses were received.

Paleontological Resources

Surficial geology units of the project site are mapped as Franciscan Complex volcanic and metavolcanic late Jurassic/early Cretaceous in age.⁸⁸ A records search of the University of California's Museum of Paleontology's (UCMP's) database was conducted for paleontological resources. According to the UCMP's online database, although 475 specimen localities have been recorded within Mendocino County, there are no records of any vertebrate or invertebrate fossils within the project site, nor does the database show any localities or fossil discoveries contained in the Franciscan Complex.⁸⁹ No paleontological resources or unique geologic features were documented during the cultural resources field survey.

Findings

Questions A-D

One prehistoric archaeological site, CA-MEN-620/621, is located within the project site. The following term will be included in any water right permits or licenses issued pursuant to Applications 31059 and 31060:

- *The prehistoric archaeological site identified as CA-MEN-620/621 by Tom Origer & Associates in the report titled "A Cultural Resources Survey for the Linholme Property Water Right Applications (#31059 & #31060), Mendocino County, California" dated April 7, 2010, shall not be impacted by any subsurface disturbances (e.g., ripping, trenching, grading, or installation of buried pipelines). Routine maintenance of existing vineyard, including shallow discing and weed mowing will continue to be allowed. When vine replacement is necessary, vine removal shall be done as non-invasively as possible, by pulling the vines vertically with a chain attached to the hydraulic system on a tractor. Vine removal shall occur only while the soil is moist down to six inches, and new vines shall be replanted in the same location as the vines which were removed. The right holder shall mark the location of CA-MEN-620/621 with permanent fence posts. The delineation of the site area shall be determined by a professional archeologist in consultation with the State Water Board. GPS coordinates shall be used to identify the boundary of the sensitive area and be submitted to the Division of Water Rights. Right holder shall be responsible for all costs associated with the cultural resource related work.*

There is the possibility that subsurface archaeological deposits may exist in the project site, as archaeological sites may be buried with no surface manifestation. As such, the following term will be included in any water right permits or licenses issued pursuant to Applications 31059 and 31060:

- *Should any buried archaeological materials be uncovered during project activities, such activities shall cease within 100 feet of the find. Prehistoric archaeological indicators include: obsidian and chert flakes and chipped stone tools; bedrock outcrops and boulders with mortar cups; ground stone implements (grinding slabs, mortars and pestles) and locally darkened midden soils containing some of the previously listed items plus fragments of bone and fire affected stones. Historic period site indicators generally include: fragments of glass, ceramic and metal objects; milled and split lumber; and*

structure and feature remains such as building foundations, privy pits, wells and dumps; and old trails. The Deputy Director for Water Rights shall be notified of the discovery and a professional archaeologist shall be retained by the right holder to evaluate the find and recommend appropriate mitigation measures. Proposed mitigation measures shall be submitted to the Deputy Director for Water Rights for approval. Project-related activities shall not resume within 100 feet of the find until all approved mitigation measures have been completed to the satisfaction of the Deputy Director for Water Rights.

There is also the possibility that an unanticipated discovery of human remains could occur. The following term will be included in any permits or licenses issued pursuant to Applications 31059 and 31060:

- *If human remains are encountered, the right holder shall comply with Section 15064.5 (e) (1) of the California Environmental Quality Act Guidelines and the Health and Safety Code Section 7050.5. All project-related ground disturbances within 100 feet of the find shall be halted until the Mendocino County Coroner has been notified. If the Coroner determines that the remains are Native American, the Coroner will notify the Native American Heritage Commission to identify the most-likely descendants of the deceased Native Americans. Project-related ground disturbance, in the vicinity of the find, shall not resume until the process detailed under Section 15064.5 (e) has been completed and evidence of completion has been submitted to the Deputy Director for Water Rights.*

There is the possibility that unanticipated discovery of paleontological resources could occur. The following term will be included in any permits or licenses issued pursuant to Applications 31059 and 31060:

- *If vertebrate fossils are discovered during project activities, all work shall cease within 100 feet of the find until a qualified professional paleontologist as defined by the Society of Vertebrate Paleontology's Conformable Impact Mitigation Guidelines Committee (2011) can assess the nature and importance of the find and recommend appropriate treatment. The Division of Water Rights will also be notified of the discovery and the qualified professional paleontologist's opinion within 48 hours of the initial finding. Treatment may include preparation and recovery of fossil materials, so that they can be housed in an appropriate museum or university collection, and also may include preparation of a report for publication describing the finds. Project activities shall not resume until after the qualified professional paleontologist has given clearance and evidence of such clearance has been submitted to the Division of Water Rights.*

Summary

With the terms outlined above, impacts to cultural resources as a result of the proposed project are considered less than significant.

17. Recreation. Would the project:

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

Environmental Setting

Recreational areas in Mendocino County include beaches, forests, wild land areas, lakes, and creeks which offer such recreational opportunities as hiking, picnicking, hunting, boating, fishing, and swimming. Lake Mendocino and numerous State parks located near Ukiah provide abundant recreational facilities in the area.

Findings

Questions A and B

The proposed project involves the operation of agricultural facilities, and would not increase the use of existing neighborhood and regional parks or other recreational facilities. The proposed project does not include recreation facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment. No impact would occur.

Summary

No recreational impacts would occur as a result of the proposed project.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
18. Mandatory Findings of Significance				
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Question A

As discussed in the preceding sections, the proposed project has the potential to degrade the quality of the environment by adversely impacting geology and soils, air quality, hydrology and water quality, biological resources, agriculture and forestry resources, and cultural resources. However, with implementation of the identified terms, potential impacts would be reduced to a less than significant level.

Question B

These impacts in combination with the impacts of other past, present, and future projects, could contribute to cumulatively significant effects on the environment. However, with implementation of the identified terms, the proposed project would avoid or minimize potential impacts and would not result in cumulatively considerable environmental impacts.

Question C

No potentially significant adverse impacts to humans have been identified.

III. DETERMINATION

On the basis of this initial evaluation

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

I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A NEGATIVE DECLARATION will be prepared.

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

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

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

Prepared By:

ORIGINAL SIGNED BY DZWEIG

NOV 01 2013

David Zweig
Analytical Environmental Services

Date

Reviewed By:

ORIGINAL SIGNED BY JDICK-MCFADDEN

DEC 05 2013

Jennifer Dick-McFadden
Environmental Scientist

Date

ORIGINAL SIGNED BY CSFRAZIER

FEB 02 2014

C. Scott Frazier
Senior, Napa River Watershed Unit

Date

(Form updated 3/28/00)

Authority: Public Resources Code Sections 21083, 21084, 21084.1, and 21087.

Reference: Public Resources Code Sections 21080(c), 21080.1, 21080.3, 21082.1, 21083, 21083.1 through 21083.3, 21083.6 through 21083.9, 21084.1, 21093, 21094, 21151; *Sundstrom v. County of Mendocino*, 202 Cal. App. 3d 296 (1988); *Leonoff v. Monterey Board of Supervisors*, 222 Cal. App. 3d 1337 (1990).

IV. LIST OF PREPARERS

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V. LIST OF ATTACHMENTS

Appendix A Gravel and Large Wood Augmentation

VI. INFORMATION SOURCES

¹ Application to Appropriate Water By Permit. Application Nos. 31059 and 31060. September 1, 2000.

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APPENDIX A

GRAVEL AND LARGE WOOD AUGMENTATION

Water Right Applications 31059 and 31060 of Linholme Properties, LTD

Gravel and Large Wood Augmentation

October 25, 2013

Introduction

Construction and operation of onstream dams have the potential to adversely affect instream flows and fishery resources by: interrupting fish migratory patterns; interrupting downstream movement of gravel, woody debris, or benthic macroinvertebrates; causing loss of riparian habitat or wetlands; or creating invasive species habitat. The State Water Board's vacated Policy for Maintaining Instream Flows in Northern California Coastal Streams recommends that projects requesting onstream reservoirs prepare mitigation plans, where needed, for invasive species management, riparian habitat replacement, and/or gravel and wood augmentation. Based on the following evaluation, it has been determined that a gravel and wood augmentation plan for Applications 31059 and 31060 of Linholme Properties, Ltd is not warranted.

Project Description

The Project is located within the Russian River watershed approximately ten miles northwest of the City of Ukiah. The property can be found within Sections 28, 29, 32 and 32, Township 17 North and Range 13 West, MDB&M, and is on the Laughlin Ranch 7.5-minute U.S. Geological Survey (USGS) topographic quadrangle.

Application 31059 proposes the direct diversion of up to 5.6 acre-feet (af) of water, at a rate up to 2.04 cubic feet per second (cfs), from March 15 through March 31. Water would be diverted at an existing reservoir POD 1 located on three Unnamed Streams tributary to Mill Creek thence Forsythe Creek thence Russian River. Water would be diverted from the reservoir for beneficial use via a 14-inch diameter low-level outlet pipe. Water would be used for frost protection of 22 acres of existing vineyard.

Application 31060 proposes to divert up to 20.5 af of water to storage from the same POD as named in Application 31059 from December 15 to March 31. Water would be used for the purposes of irrigation, frost protection, and heat control of the same 22 acres name in Application 31059.

Gravel Augmentation

Natural Resource Conservation Service Soil Survey Data

According to the Natural Resource Conservation Service (NRCS) soil survey data¹ for the project site (specifically the watershed drainage area of the tributaries above the reservoir) the drainages are situated in the Yorkville (45 percent), Yorktree (20 percent), and Squawrock (15 percent) soil complex. The channels of Tributaries 1 and 2 are shallow and minimally incised within the upper soil horizon. The profile of the major component soil (45 percent) of the

¹ Natural Resources Conservation Service. United States Department of Agriculture. Web Soil Survey. Available online at: <http://Websoilsurvey.nrcs.usda.gov>.

complex (Yorkville) on the site is loam from 0-15 inches and clay from 15-41 inches in depth. Similarly, the profile of the second highest component soil (20 percent) of the complex (Yorktree) is loam from 0-12 inches, gravelly clay loam from 12-24 inches, and clay from 24-42 inches in depth. The profile of the lowest (15 percent) component soil (Squawrock) is cobbly loam from 0-7 inches, very cobbly clay loam from 7-16 inches, very gravelly clay loam from 16-21 inches and bedrock from 21-25 inches. Based on this information it can be asserted the majority of transportable materials in the tributaries consist of the finer matrix components of the Yorkville, Yorktree, and Squawrock soil complexes.

Summary of Stream Assessment Report

A comprehensive stream characterization and assessment of the tributaries upstream of the Unnamed Stream, as well as the Unnamed Stream and Mill Creek was conducted by AES fisheries biologists on May 11 and September 9, 2010, and March 23 and June 16, 2011. A summary of the findings has been included below. Please see **Exhibit A** for an aerial photograph of the project site and tributaries.

Tributaries 1 and 2

During field surveys conducted in 2008 and 2010, the substrates observed within Tributaries 1 and 2 were dominated by coarse gravels, within a sandy matrix (80 percent) as well as many cobbles and small boulders. Tributaries 1 and 2 above the reservoir are comprised of clay, silt, sand, and coarse gravels. The lower and middle reaches are dominated by bedrock, coarse boulders, cobbles, and larger gravels. Nearest to the reservoir, sands have embedded the larger coarse gravel and cobble sized particles. These streams also lack coarse sediment deposits which indicate poor bedload sorting potential due to lack of hydraulic flushing capacity.² In addition, tributaries 1 and 2 did not exhibit significant meander, exposed banks or channel incision indicating very low erosion potential and, thus, very little potential for contribution of substrates to the downstream reaches.

Due to the hydrology of the tributaries that feed the reservoir, the potential for coarse sediment deposition within the reservoir is unlikely. Tributaries 1 and 2's poor hydraulic flushing capacity limits sediment transport. Deposition from these tributaries into the reservoir is likely to include small particulars such as fine gravels, sands, and silts. This indicates that unless there is a large precipitation event, only fine sediment would be trapped in the reservoir.³

Tributary 3

Coarse gravels were observed upstream of the reservoir in the benthos of Tributary 3. While coarse gravels were also observed upstream of the reservoir in the benthos of Tributaries 1 and 2, Tributary 3 contained the greatest source of coarse particles, as shown in the cumulative particle distribution plot in Attachment 4 of the Stream Assessment Report.⁴ Tributary 3 is heavily armored with larger substrates in the upper and middle reaches, suggesting that the stream's capacity to move larger gravels, cobbles and boulders is limited. The continuous flushing of finer interstitial sediments, and the finer matrix of the existing soil complexes, has resulted in large coarser particles being stacked up on one another within the upper reaches while the limited areas of the lower reach where coarse deposition has occurred (from the upper

² Stream Assessment Report, Linholme Properties Water Rights Project Applications 31059 and 31060. Prepared by Analytical Environmental Services. August 27, 2010, Revised September 30, 2011.

³ Ibid.

⁴ Ibid.



limit of anadromy (ULA) to the reservoir), the accumulation includes fine sediment. The U.S. Forest Service Size Class Pebble Count Analyzer (SCPCA) was used to calculate cumulative particle size distribution within Tributary 3 from the ULA downstream to the reservoir. The cumulative particle size distribution determined that the D50 within the study reach is 30 millimeters (mm). While a majority (approximately 75 percent) of the particles sampled in the pebble count were within the range of suitable spawning sized substrates for anadromous fish (six to 102 mm), most of the cobble substrates and larger gravels within the reach were heavily embedded.⁵

Due to the hydrology of the tributaries that feed the reservoir, the potential for coarse sediment deposition within the reservoir is unlikely. Tributary 3 has limited capacity to move the larger gravels, cobbles and boulders found within its reaches. The continuous flushing of finer sediments has caused coarser sediment to remain in the upper reaches of Tributary 3 while near the reservoir, where some coarse deposition has occurred in the past, there is a larger accumulation of fine sediment. This indicates that unless there is a large precipitation event, only fine sediment would be trapped in the reservoir.⁶

Recommendations

The three tributaries upstream of the onstream reservoir and their associated drainage area (254 acres)⁷ is relatively small. The morphology of these stream channels and the observations made during multiple site visits by AES biologists indicate that these tributaries convey short duration intermittent flows from December through April and into May during average water years while interrupted (e.g., surface and subterranean) low flows can persist through June during high water years such as in the 2010/2011 water year. The tributaries were observed at bank full condition in March 2011 during an agency site visit; these conditions were anomalous when compared to the average flows for this time of year when correlated to USGS gauging station #1146100 Russian River near Ukiah.⁸

This intermittent hydrology and small drainage area limits the maximum particle size that can potentially be transported during peak flow events based on slope, flow volume, flow duration and flow velocity generated by these small channels. As such, it is not anticipated that these tributaries contribute significantly to gravel recruitment downstream into Class I waters where fish could potentially spawn. Evidence in support of this statement includes the massive sand bar deposits located at the points where the tributaries drain into the reservoir (Figures 4 and 5 in the Stream Assessment Report⁹) and the armored particles throughout these upper reaches of these drainages. Further, no significant deposits of spawning-sized gravels and/or cobbles (six to 102 mm)¹⁰ were observed in the tributaries at the point where the streams enter the reservoir where flow velocities are reduced and larger particles would drop out during fluvial transport.

⁶ Ibid.

⁷ Cumulative Flow Impairment Index and Water Availability Analysis for Applications 30687 and 30688 of Linholme Properties, Ltd. Wagner & Bonsignore Consulting Civil Engineers. March 17, 2010.

⁸ Pers. Comm. Nick Bonsignore. Email correspondence dated 6/14/2011. Re: Draft Site Visit Report for Linholme (email 1 of 2).

⁹ Stream Assessment Report, Linholme Properties Water Rights Project Applications 31059 and 31060. Prepared by Analytical Environmental Services. August 27, 2010, Revised September 30, 2011.

¹⁰ Ibid.

The sand deposits noted at the confluences with the reservoir supports the assertion that when flushing stream flows are experienced the stream energy generated has a limited capacity to move larger gravels and cobbles to downstream areas of deposition. Therefore, it is not anticipated that the reservoir inhibits significant recruitment of gravels to downstream Class I waters, and in fact appears to be functioning as a sediment catch basin reducing the potential to embed downstream spawning substrates in Mill Creek.

The reservoir could actually benefit the incubation conditions in Mill Creek during these late season high flow periods as it would reduce extraneous sediment transport and deposition to the habitat in Mill Creek which is much better suited for spawning and incubation.

Wood Augmentation

Mendocino County Resource Conservation District (MCRCD) conducted an assessment¹¹ of large wood recruitment to Tributaries 1, 2 and 3 at the project site. These conclusions are summarized below.

Summary of Assessment of Large Wood Recruitment

Tributaries 1 and 2

Tributaries 1 and 2 are significantly smaller than the outlet channel below the reservoir. These tributaries had average bankfull widths ranging from 6 to 7 feet, with channel gradients of 8% and 6% respectively. The slope and width of the channel indicate that there is potential to transport pieces of wood up to twice bankfull width (12-14 feet), but logs over 1-foot diameter and longer than six feet are unlikely to move any significant distance.

Since the ability of Tributaries 1 and 2 to transport small wood exists, the question then turns to the potential recruitment of Large Woody Debris (LWD) to the channels. The hill slopes within 50 feet of the channels were comprised of oak trees, shrubs, and grasses. No dead and standing (D/S) trees were observed within 50 feet of any channel. The dead and down (D/D) LWD pieces were all oak logs in varying stages of decay. Only one Douglas fir was observed within 50 feet of a channel, and it was alive and appeared healthy. The LWD pieces in contact with the channel had rotted to the point of being fragile, and will break apart before significant movement downstream occurs. A few LWD pieces have served as rooting substrate for poison oak patches, and will not move downstream. The longevity of downed oak logs in these small channels is likely to be 10 years or less before they decay into soil.

Tributary 3

Tributary 3 is significantly smaller than the outlet channel below the reservoir. Tributary 3 was different than tributaries 1 and 2 because channel gradient from the reservoir to the downed LWD was relatively flat (~1%) up to where the oak tree fell into the channel. At that point the gradient increased to 16% up to the culvert outlet. The potential for Tributary 3 to move the downed LWD is very small because of its low gradient.

Conclusion and Recommendations

Significant barriers to wood migration downstream exist in each of the surveyed channels. Fencing across the channels to prevent deer from entering vineyards has effectively prevented

¹¹ Assessment of Large Wood Recruitment to Stream Channels Above Reservoir at Linholme Vineyards, Redwood Valley California. Prepared by Mendocino County Resource Conservation District. February 29, 2012.

small wood from floating downstream. Further upstream on Tributary 3 the ranch road crosses the channel over culverts. These culverted crossings prevent downstream movement of LWD. A bedrock outcrop on Tributary 2 constricts the channel to 4 feet wide, and had no large wood present. These structures would prevent LWD recruitment to Mill Creek even if the dam were not present.

The predominance of oak trees and lack of conifers in the assessed tributaries indicates that no lasting source of large woody debris exists in this sub-watershed that would be contributed to Mill Creek. The narrow bankfull widths of Tributaries 1 and 2 effectively prevent movement of any large pieces of wood, even if such pieces were present. The existence of wood migration barriers in all three tributaries such as fences, culverts, and bedrock outcropping would prevent the movement of large wood pieces even if the dam were not present. It is therefore the opinion of the MCRCD Fisheries Biologist (Joseph D. Scriven) that no significant and lasting recruitment of large wood has been hindered by the presence of the dam on Linholme Vineyards property.