

CEQA Revised Initial Study – Mitigated Negative Declaration

NW Calaveras Fuel Reduction Project

Prepared for:
Calaveras County Resource Conservation District
The Lead Agency Pursuant to § 21082.1 of the California Environmental Quality Act



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1. Regulatory Context

1.1 Stage of CEQA Document Development

☐ **Public Document.** This complete draft CEQA document was filed by the Lead Agency at the State Clearinghouse on May 29, 2025, and was circulated for a 30-day state agency and public review period. The review period ended on June 28, 2025.

☒ **Final CEQA Document.** This final CEQA document contains changes made in considering comments received during the public and agency review period.

1.2 Regulatory Guidance

This Initial Study-Mitigated Negative Declaration (IS-MND) defines the purpose and need, establishes an environmental baseline, and describes the environmental impacts analysis undertaken for the proposed NW Calaveras Fuel Reduction Project (Project). This document has been prepared by Registered Professional Foresters and professional staff working for Mason, Bruce & Girard, Inc. Natural Resource Consultants (MB&G) on behalf of the Lead Agency for the Project, Calaveras County Resource Conservation District (CCRCD). The document follows the State CEQA Guidelines which are codified in the California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000-15387, to demonstrate compliance with the California Environmental Quality Act (CEQA; Public Resources Code 21000-21189). Pursuant to Section 21082.1 of CEQA, the Lead Agency has prepared, reviewed, and analyzed the IS-MND and declares that the statements made in this document reflect CCRCD's independent judgement as Lead Agency. CCRCD further finds that the proposed Project, which includes revised activities and mitigation measures to reduce impacts to a less than significant threshold, will not result in any significant impact to the environment.

This IS-MND has been prepared by MB&G for CCRCD to evaluate the potential effects of the Project on the environment following approval and implementation. This document has been prepared in accordance with current CEQA Statutes (Public Resources Code Section 21000 *et seq.*) and current CEQA Guidelines (California Code of Regulations [CCR] Title 14 Section 15000 *et seq.*). Specifically, CCR Title 14 Section 15063, states "Following a preliminary review, the Lead Agency shall conduct an initial study to determine if the project may have a significant effect on the environment. . ." to determine the appropriate environmental document to be prepared. Further, CCR Title 14 Section 15070, states "A public agency shall prepare or have prepared. . . a mitigated negative declaration for a project subject to CEQA when. . . (b) The initial study identifies potentially significant effects, but (1) Revisions in the project plans or proposals made by or agreed to by the applicant before the proposed mitigated negative declaration and initial study are released for public review would avoid the effects or mitigate the effects to a point where clearly no significant effects would occur, and (2) There is no substantial evidence, in light of the whole record before the agency, that the project as revised may have a significant effect on the environment". In this circumstance, the IS-MND describes the Lead Agency's reasons for concluding that the proposed Project will not have a significant effect on the environment. For this reason, the preparation of an environmental impact report is not required. This IS-MND conforms to these requirements pursuant to the California Code of Regulations, Title 14, Section 15000 *et seq.*

1.3 Lead Agency and Contact Information

Calaveras County Resource Conservation District
423 E. Saint Charles Street, PO Box 1041
San Andreas, CA
95249

Trina Walley, Executive Director
Phone: (209) 226-0039
Email: twalley@calaverasrcd.org

1.4 Project Sponsor's Name and Address

Same as Lead Agency

1.5 Responsible and Trustee Agencies

The proposed Project has potential to impact state resources, including air, water, wildlife, historic, and pre-historic. The Initial Study-Mitigated Negative Declaration and the associated Notice of Intent will be submitted to OPR. The following Agencies will also receive a copy of the NOI:

- CAL FIRE (Responsible Agency)
- California Department of Fish and Wildlife (Trustee Agency)
- California State Historic Preservation Office (Trustee Agency)
- Central Valley Regional Water Quality Control Board, Region 5 (Trustee Agency)
- Calaveras County Air Pollution Control District (APCD; Trustee Agency)
- Native American Heritage Commission (NAHC; Trustee Agency)

1.6 Purpose of the Initial Study and Comment Period

The CCRCD has primary authority for oversight of the proposed Project as the Lead Agency. The purpose of the IS-MND is to present to the public and reviewing agencies the environmental consequences of implementing the proposed Project and to describe the adjustments made to the Project to avoid significant impacts to the environment, or to reduce them to a less than significant level. The IS-MND is being circulated for public and state agency review and comment for a 30-day review period as indicated in the ***Notice of Intent to Adopt a Mitigated Negative Declaration*** (NOI) filed with the State Clearinghouse and Calaveras County Clerk. **The review period began on May 29, 2025, and concluded on June 28, 2025.**

CEQA Guidelines defined in CCR Title 14 Section 15072 outline the requirements for providing the NOI to the State Clearinghouse for posting. They also require that the Lead Agency (CCRCD) post the NOI with the county clerk, send the NOI to relevant trustee agencies, and circulate the NOI using one of the following procedures:

- 1) Publication in a newspaper circulated in the area affected by the proposed Project,
- 2) Posting of the NOI on and off site in the area where the Project will be located, or
- 3) Direct mailing to the owners and occupants of property contiguous to the Project.

The Lead Agency has elected the first option (1). During public comment period, reviewing agencies and any members of the public are encouraged to submit views and comments on how the Project may affect the environment. To be considered by the Lead Agency, written comments must be postmarked, submitted, or emailed on or prior to the end date of public review period for CCRCD's consideration. Public comments should be addressed to:

For email submissions:

Calaveras County Resource Conservation District (CCRCD)

Attn: Trina Walley, Executive Director Email: twalley@calaverasrcd.org

For mail submissions:

Calaveras County Resource Conservation District
Attn: Trina Walley, Executive Director
423 E. Saint Charles Street, PO Box 1041
San Andreas, CA
95249

After comments are received from the public and reviewing agencies, CCRCD will consider the comments and (1) adopt the MND and approve the proposed Project, (2) undertake additional environmental studies; or (3) abandon the Project.

1.7 Mandatory Findings of Significance

The CEQA Lead Agency (CCRCD) finds that implementation of the proposed Project with incorporation of mitigations, listed herein, in Section 4, will not result in substantial or significant direct, indirect, or cumulative impacts to the environment. Therefore, a **Mitigated Negative Declaration** has been prepared.

2. Introduction and Environmental Setting

2.1 Project Location

The NW Calaveras Fuel Reduction Project will occur on private lands within the Wildland Urban Interface (WUI) communities of Rancho Calaveras, Quail Oaks Road, and surrounding neighborhoods. This area was strategically identified in collaboration with the local CAL FIRE unit for targeted fuels reduction treatments. The Project area is oriented north and west of the Valley Springs subdivision Rancho Calaveras and south of California Highway 12 and is situated diagonally SW to NE toward the intersection of State Highways 12 and 26. The Project area is comprised of 357 private parcels totaling approximately 3,080 acres. At the time of publication of this document, CCRCD has obligated grant funding through CAL FIRE (Grant Agreement 5GA22228) to treat approximately 470 acres mechanically and by hand, anticipated for fall 2025 implementation. At the discretion of the Registered Professional Forester (RPF) and/or Lead Agency, treatment areas may be removed from the Project area if too few landowners participate, or if there are not enough contiguous parcels to justify a treatment area. At the time of publication of this document, ROE was obtained from 146 parcels, with approximately 391 acres identified for a combination of mechanical and hand treatments (anticipated in fall 2025). Final treatment acreages anticipated for fall 2025 implementation will be determined based on landowner participation, grant funding availability, and environmental, operational, and cost constraints. Additional treatments, including follow-up treatments, may occur in the future if more grant funding is secured and there is adequate landowner participation within the Project area. Following the adoption of this IS-MND, if additional ROE is obtained from landowners within the Project area where activities are feasible and funding allows, project proponents will be notified as appropriate. In these instances, additional field reconnaissance and resource surveys will be conducted as necessary. Refer to Section 2.3 for project maps, including the ROE map depicting current landowner participation as of May 2025.

The legal description (Mount Diablo Base & Meridian 'MDB&M') for the Project is described in the following table:

Township	Range	Sections
4 North	10 East	22, 23, 26, 27, 28, 33, 34 and 35
3 North	10 East	3 and 4

2.1.1 General Plan Designation

The proposed Project area consists of lands in the following General Plan land use designations: Resource Production, Working Lands, Rural Transition A, and Rural Transition B.

2.1.2 Zoning

The proposed Project area is generally in a rural residential setting with a small number of agricultural parcels. The average lot size is approximately 9 acres, while the largest is approximately 127 acres. Land use in the Project area consists of the following zoning designations: RA – Residential Agricultural, RR – Rural Residential, AP – Agricultural Preserve, and A1 – General Agriculture

2.2 Project Background, Need, and Objectives

2.2.1 Background

The northwestern portion of Calaveras County has become, in part, a bedroom community for eastern San Joaquin and Stanislaus Counties. Large residential communities sprung up in these foothill settings beginning in the late 1970's and early 1980's. The hilly topography gives desired relief to the layout of residential subdivisions. This development, coupled with fire exclusion within a fire adapted landscape, has created a unique challenge for residents, land managers, and relevant agency partners in protecting life, property, infrastructure, and the environment from wildfire.

Historically, the area has experienced several wildfires, including the 1951 Burson Fire (2,600+ acres), 1992 Haibach Fire (440+ acres), 2004 Pattison Fire (2,400+ acres), the 2008 Evans Fire (100+ acres), and the 2017 Quail Fire (59+ acres). These fire perimeters are within the proposed Project area, which encompasses Blue Oak-Foothill Pine, Blue Oak Woodland, Chamise-Redshank Chaparral, Mixed Chaparral, Valley Oak Woodland, and Montane Hardwood habitat types. Several of these habitat types are fire-adapted plant communities that have been subject to fire exclusion for periods longer than their historic fire regime. The resulting landscape is primed for wildfire and requires fuels management to reduce overstocked vegetation.

2.2.2 Purpose & Need

The proposed Project aims to protect life, property, infrastructure, and habitat from catastrophic wildfire in the Valley Springs and Rancho Calaveras communities. The geographic scope of the NW Calaveras Fuel Reduction Project was identified by the local CAL FIRE Unit as a prioritized area for fuels reduction activities to reduce the probability of wildfire and support future fire suppression efforts. Targeted treatment areas are mainly characterized by Chamise-Redshank Chaparral and Blue Oak Woodland habitats (further discussed in Section 3) and are dominated by highly flammable chamise and thick buckbrush in several areas. The overstory is predominantly blue oak with some foothill pine. For the reasons described above, the areas targeted for treatment within the proposed Project are decadent and in need of fuels management to mitigate the risk of catastrophic wildfire and promote a more resilient landscape. In the event of a future unplanned wildfire, the intensity, flame length, and rate of spread will be significantly reduced as compared to a no-project alternative. Secondary benefits of the Project include opportunities for maintenance treatments, habitat conservation, and increased landscape resiliency.

2.2.3 Objectives

The proposed Project is designed to mimic a natural disturbance-recovery regime which is necessary to prevent catastrophic wildfire. Treatments will reduce heavy vegetative fuels, increase tree canopy spacing, and cut dead trees which present a hazard to infrastructure. The goal of the proposed Project is to treat a contiguous landscape as much as possible. Therefore, treatments will be primarily focused 100' away from dwellings. However, some exceptions may be made at the discretion of the Project RPF and/or Lead Agency. Proposed treatment methods include the following:

mastication, hand cutting and piling, hand cutting and lopping/scattering, hand cutting and chipping (broadcast or chip/haul), prescribed fire (broadcast or pile burning), and prescribed herbivore grazing.

Mastication will be the primary treatment method, followed by hand cutting and piling or lopping/scattering. Hand crews may be utilized in sensitive or mechanically inaccessible areas to achieve Project objectives. Dead trees which pose a hazard to structures or infrastructure will be directionally felled in a safe manner. Felled hazard trees up to 12" diameter at breast height (DBH) will be masticated or chipped whenever practicable. Felled hazard trees greater than 12" DBH will be cut to lay flat on the ground or piled for burning later. Prescribed fire may be utilized in select areas, and most likely in collaboration with CAL FIRE's Vegetation Management Program (VMP). Prescriptive grazing may be selectively utilized, particularly as a follow-up maintenance treatment. As of May 2025, CCRCD has grant funding (CAL FIRE Wildfire Prevention Grant 5GA22228) to treat approximately 470 acres of hazardous vegetative fuels anticipated for fall 2025. Fall 2025 implementation will focus on mechanical and hand treatments. Treatment specifications are further described below in Section 2.2.4.

2.2.4 Treatment Specifications

Vegetation Treatment Specifications ^{1,3}	
1. Tree Removal (Mechanical)	· Masticate trees up to 10" DBH to a variable spacing of 25' to 35' between boles, creating wider spacing around large hardwoods (>24" DBH) and narrower spacing between smaller residual trees. · Oaks with multiple stems connected to the same root collar shall be considered one tree (i.e., do not cut individual stems on trees that are otherwise being retained). · To achieve adequate canopy spacing, there may be instances where the Project Forester will approve removal of trees to a wider spacing than stated above.
2. Tree Removal (Hand crew)	· As designated by Project RPF or designee, cut and pile, lop and scatter, or cut and chip trees up to 10" DBH to a variable spacing of 25' to 35' between boles, creating wider spacing around large hardwoods (>24" DBH) and narrower spacing between smaller residual trees. · Oaks with multiple stems connected to the same root collar shall be considered one tree (i.e., do not cut individual stems on trees that are otherwise being retained). · To achieve adequate canopy spacing, there may be instances where the Project RPF will approve removal of trees to a wider spacing than that as stated above.
3. Brush Removal (Mechanical)	· In areas with overstory tree spacing of up to 60', masticate all brush within the treatment area which is 12" in height or greater. · Where overstory tree spacing is greater than 60' or no tree canopy exists, masticate to a 30' spacing while retaining variable sized patches of shrubs (100-200ft²) · Do not treat within 100' of a dwelling structure².

4. Brush Removal (Hand crew)	· In areas with overstory tree spacing of up to 60': as designated by the Project RPF or designee, either 1) cut and pile, 2) lop/scatter, or 3) cut and chip all brush within the treatment area which is 12" in height or greater. · Where overstory tree spacing is greater than 60', or no tree canopy exists: as designated by the Project RPF, either 1) cut and pile, 2) lop/scatter, or 3) cut and chip to a 30-foot spacing with variable sized patches of shrubs (100-200ft²). · Do not treat within 100' of a dwelling structure².
5. Dead Woody Material (Mechanical and Hand Crew)	· Treat all dead woody debris larger than 1" in diameter and less than 16" in diameter. · Dead woody material may be constructed into hand piles in applicable treatment areas, as determined by the Project RPF. The preference is to treat by mastication to the extent possible.
6. Dead Hazard Tree Removal	· Dead hazard trees are those which have the potential to impact a structure or road, and which are outside of the 100' defensible space zone around dwellings. · Dead hazard trees shall be directionally felled in a safe manner. Felled dead hazard trees up to 12" diameter at breast height (DBH) shall be masticated, or chipped (if applicable). Felled hazard trees greater than 12" DBH shall be cut and bucked to lay flat on the ground or piled (if applicable). Do not cut dead hazard trees within 100' of a dwelling structure². · Dead hazard trees may be designated by the Project RPF on-site. · Masticate/remove according to the Dead Woody Material specification (#5).
7. Material/Slash Depth	· All masticated or lopped and scattered material shall, on average, have a depth no greater than 6" · No area shall have a material or slash depth of greater than 12".
8. Pile Construction (Hand crew)	· Unless otherwise specified by the Project RPF or approved by CAL FIRE, hand piles must be at least 5' wide by 5' in height and shall be no larger than 8' in width or height. · Construct the sides of the pile as vertically and uniformly as possible, and on flat ground whenever practicable. · If piles are constructed on slopes greater than 20%, install a trench at least 8" deep on the downhill side of the pile to prevent burning material from rolling downhill. · Do not construct piles within 15' of the dripline of any residual trees, or within 10' of live vegetation. · Around all piles, cut a 36" control line down to mineral soil. · Cover piles with a minimum 4'x4' piece of burn paper to keep dry; do not use tarps. · Do not pile within 100' of any structures, unless otherwise approved by CAL FIRE.

9. Pile Burning (Potential maintenance treatment)	· Burning must be approved by the landowner. · Pile burning shall only be conducted by qualified, competent personnel, approved by CAL FIRE. · Do not burn trash, pre-treated wood, or uncured piles. · Do not burn within 100' of any structures, unless otherwise approved by CAL FIRE.
10. Broadcast Burning (Potential maintenance treatment)	· Burning must be approved by the landowner. · Broadcast burning shall only be conducted by qualified, competent personnel, approved by CAL FIRE. · Do not burn within 100' of any structures, unless approved by CAL FIRE.
11. Livestock grazing (e.g., goats, sheep)	· Reduce surface and ladder fuels by utilizing grazing livestock to achieve fuels reduction and vegetation management objectives, where approved by the landowner. · Do not treat within 100' of a dwelling structure².
12. Snag Retention	· Retain 4 of the largest snags per acre across treatment areas (where possible). Do not retain hazard trees described in spec #6.
13. Species Retention	· To conserve biodiversity and protect culturally significant plant species, do not treat California buckeye (<i>Aesculus californica</i>), chaparral currant (<i>Ribes malvaceum</i>), or other herbaceous vegetation including herbs, annual grasses, and forbs. · Do not cut any vegetation which has been mapped and/or flagged for avoidance; at the discretion of the Project RPF, additional species may be specified for avoidance on-site. · Do not masticate or remove the following species (Refer to AMMs BIO-2, BIO-3): Elderberry (<i>Sambucus</i> spp.), lone manzanita (<i>Arctostaphylos myrtifolia</i>), lone buckwheat (<i>Eriogonum apricum</i>).
¹ Adhere to all AMMs and Mitigation Measures during implementation. ² Exceptions may be made on a case-by-case basis as determined by the Project RPF and/or Lead Agency. ³ Treatments shall not include herbicide use.	

2.2.5 Avoidance and Minimization Measures (AMMs)

The following AMMs are incorporated into the project's design features and are considered integral elements. AMMs will be considered *prior* to any significance determinations discussed in Section 4 of this document. In cases where any of the following measures are duplicative or overlapping, the most comprehensive measure (i.e., the measure providing the most restriction) will apply.

BIO-1: Avoidance of Nesting Migratory Birds

- a. To the extent practicable, work will not occur during nesting season for birds protected under the Migratory Bird Treaty Act (MBTA), the California Fish & Game Code (CA F&GC) 3503, and the Bald and Golden Eagle Protection Act (BGEPA).
- b. The following bird nesting seasons apply:
 - i. Nongame nesting birds, including raptors (unless specified): **February 1 through August 31**
 - ii. Bald Eagle: **January 1 through August 31**

- c. If work is conducted during the above specified bird nesting seasons, Mitigation Measure #5 shall apply.

BIO-2: Avoidance of Elderberry Shrub (*Sambucus spp.*) and Valley Elderberry Longhorn Beetle (VELB)

- a. Elderberry shrubs are not slated for treatment. Refer to 2.2.4 for treatment specifications. No elderberry shrubs shall be removed or disturbed during implementation.
- b. Due to elderberry's cultural significance and host relationship with valley elderberry longhorn beetle (VELB, *Desmocerus californicus dimorphus*), a qualified individual will conduct prework surveys within reasonably accessible treatment areas, access routes, and staging areas immediately ahead of implementation for elderberry shrubs. Any detected elderberry shrubs will be mapped and/or flagged for avoidance within all treatment areas prior to implementation.
- c. If additional elderberry shrubs are encountered during implementation, the contractor(s) shall notify the Project RPF and/or designee and avoid the plant. The plants will be mapped and/or flagged for avoidance by a qualified individual.

BIO-3: Avoidance of lone manzanita and lone buckwheat

- a. lone manzanita and lone buckwheat are not slated for treatment. Refer to 2.2.4 for treatment specifications. No lone manzanita or lone buckwheat shall be removed or disturbed during implementation.
- b. Although not expected, if lone manzanita or lone buckwheat are encountered during implementation, the contractor(s) shall notify the Project RPF and/or designee and avoid the plant(s). The plant(s) will be mapped and flagged for avoidance by a qualified individual, and any occurrences will be submitted to the CNDDB.

BIO-4: Avoidance of Botanical Resources during Blooming Season

- a. To the extent practicable, implementation will be targeted to occur outside of blooming period to minimize effects to botanical resources and their pollinators.
 - If avoidance is not feasible, Mitigation Measure #1 shall apply.
- b. To avoid trampling, equipment staging will not be permitted in areas of observed botanical resources. Areas free of vegetation will be prioritized for equipment staging.
- c. Per treatment specifications (section 2.2.4), herbaceous vegetation, forbs, and annual grasses are not slated for treatment. Herbicide use is not permitted for this Project.

BIO-5: Avoidance of Sensitive Amphibians: CA Red-legged frog (CRLF), CA Tiger Salamander (CTS), Foothill Yellow-legged frog, and Western spadefoot

- a. Vehicle speeds within the project area, excluding public roads, shall be limited to 15mph. Reduced driving speeds provide the driver with increased reaction time to observe for sensitive species which may be on the road.
- b. Potentially suitable aquatic breeding habitat for CRLF, CTS, and/or foothill yellow-legged frog will be identified by spatial analysis and mapped. This will be followed by field reconnaissance and watercourse buffer flagging by a qualified individual (refer to AMM HYD-1) within the treatment areas, access routes, and equipment staging areas.
- c. California Tiger Salamander: If activities are planned to occur within suitable CTS upland habitat during the dispersal season (November 1 to April 30) or following the first fall rain event (whichever comes first), then Mitigation #3 shall apply (refer to Section 4 of the IS-MND).

- d. California Red-legged Frog: If activities are planned to occur within suitable CRLF upland habitat during the dispersal season (October 1 through April 1), then Mitigation #4 shall apply (refer to Section 4 of the IS-MND).
- e. Western spadefoot: Following precipitation events, a qualified individual will conduct prework surveys within all reasonably accessible treatment areas, access routes, and staging areas immediately ahead of implementation for rain pools and puddles; such areas shall be avoided. Watercourse buffers shall also be in effect throughout the course of project implementation (refer to AMM HYD-1).

CUL-1: Unanticipated Discovery and Avoidance of Cultural and Tribal Cultural Resources

- a. Following the adoption of this document, if right-of-entry is granted for additional parcels within the Project area where treatments are planned, the Calaveras Band of Mi-Wuk Indians will be consulted prior to any work occurring.
- b. For parcels not surveyed by a qualified professional archaeologist or RPF paraprofessional archaeologist: any unanticipated discovery or encounter of potential cultural resources (historic or pre-historic) will be assumed eligible for state and/or federal registers. The Project RPF will ensure that cultural resources are not adversely affected by Project activities.
- c. If a potential cultural or tribal cultural resource is discovered during implementation within a parcel which has not already been surveyed or flagged for avoidance as described above (b), the following procedure shall be followed:
 - i. Project activities within the immediate vicinity of the discovered resource will cease.
 - ii. The discovery will be flagged for avoidance within 50' of the discovery and mapped if appropriate.
 - iii. A qualified professional archaeologist, RPF paraprofessional archaeologist, and/or the preservation representative of the Calaveras Band of Mi-Wuk Indians will be consulted as soon as practicable for guidance on proceeding with project activities.

CUL-2: Inadvertent Discovery of Human Remains (Archaeology)

- a. In the unlikely event that human remains are encountered during implementation, work within 100' of the discovery shall be halted until such time as the resource can be evaluated, and the appropriate agency representative clears the site to proceed with Project activities. A qualified archaeologist will be consulted regarding appropriate agency involvement, proper documentation, and discovery evaluation.
- b. Pursuant to CA PRC §5097.98 and Health and Safety Code §7050.5, if a discovery as described in (a) is determined to be Native American human remains, the NAHC and those persons the NAHC believes to be descended from the deceased, referred to as the most likely descendant (MLD), shall be immediately notified. With permission of the landowner or a designated representative, the MLD may inspect the remains and any associated cultural materials and make recommendations for treatment or disposition of the remains and associated grave goods. The MLD shall provide recommendations or preferences for treatment of the remains and associated cultural materials within 48 hours of being granted access to the site.

EDU-1: Educational Program for Project Personnel

- a. Prior to implementation, all field personnel, including contractors and subcontractors, shall be provided with an educational session pertaining to sensitive species, historic and prehistoric cultural resources, AMMs, and Mitigation Measures for the Project.
- b. Any personnel working on the Project shall be directed to stop work and notify the Project RPF, designee, and/or Lead Agency if any special status species or potential archaeological resources are encountered during implementation.
- c. Any special status species encountered during implementation will be mapped, and occurrence data will be submitted to CNDDB and/or reported to the appropriate agency in a reasonably timely manner.

- d. Any personnel working on the Project shall stop work and notify the Project RPF, designee, and/or Lead Agency if any potential culturally significant resources, including tribal, are encountered during implementation (refer to AMM CUL-1).
- e. All personnel working on the Project will be provided with a basic field identification guide for reference as needed throughout the Project; the guide will include, at a minimum, pictures of the occurring and potentially occurring threatened and endangered species listed in Section 3.3.4 of the IS-MND.

GEO-1: Maximum Slope Limitations for Tracked and Wheeled Equipment

- a. Tracked equipment will be the preferred type utilized for mechanical operations.
- b. Vegetation removal and heavy equipment use shall not occur on unstable areas or excessively rocky areas.
- c. Heavy equipment operations shall be limited to the following slopes:

Equipment Type	Maximum Percent Slope¹
Wheeled front end loaders or masticators	25%
Tracked Chippers	40%
Tracked Masticators	55%
Walking Excavators equipped with masticators	65%
¹ For equipment operations in slopes >50%, equipment operators may only treat if they can exit the slope from the same direction they entered, and under their own mechanical power; this excludes areas with an erosion hazard rating of high, extreme, or in problem areas.	

- d. Heavy equipment operations shall not occur during saturated soil conditions. Saturated soil conditions are defined as when soil and/or surface material pore spaces are filled with water to such an extent that runoff is likely to occur. Indicators of saturated soil conditions may include, but are not limited to, one or more of the following:
 - 1) areas of ponded/pooled water;
 - 2) pumping water and fine materials from the soil or road surface during operations;
 - 3) loss of bearing strength resulting in the deflection of soil or road surfaces under a load (e.g., the creation of wheel ruts);
 - 4) spinning or churning wheels or tracks which produce a wet slurry; or
 - 5) inadequate traction without blading wet soil or surfacing materials.
- e. Heavily used trails created or utilized by equipment shall have water breaks constructed to prevent disruption to site hydrology. Water breaks shall be constructed either by hand or mechanically. They shall be constructed either prior to November 15th, or when the National Weather Service forecasts at least a 30% chance of precipitation within the next 24 hours, whichever occurs first. Water breaks shall be built to a minimum of 12" (preferred 18" to 24") in height when compacted (measured from the bottom the trough to the top of the

compacted water bar). The following table defines the maximum distance between water breaks on trails created or used by heavy equipment:

Trail Gradient	≤10%	11-25%	26-50%	>50%
Maximum Distance Between Waterbreaks	200'	150'	100'	75'

- f. Contractors must repair any unanticipated or accidental rutting or soil deflection resulting from activities.
- g. Refer to HYD-1(b) for drying periods to prevent soil compaction.
- h. Mechanical treatments shall not occur in areas identified as *problem areas* by CAL FIRE's Erosion Hazard Rating Tool (2022), or in areas where the erosion hazard rating is high or extreme; refer to Section 2.3.3 for the map depicting these areas within the Project area. Alternate treatment methods may be utilized at the discretion of the Project RPF in these areas.

HAZ-1: Spill Prevention of Hazardous Materials

- a. Hazardous materials which are necessary for Project implementation will be transported and stored safely in accordance with ANSI and OSHA standards as well as applicable law.
- b. Contractual language for the awarded bidder will include a requirement to develop a spill prevention plan for the Project. A spill kit will be required on-site during implementation.
- c. Mixing of chemicals and re-fueling of equipment shall be done outside of all watercourses, watercourse buffers, and other sensitive areas, with the utmost care possible.

HAZ-2: Wildfire Prevention and burning permits (smoke management plan, etc.)

To reduce the risk of ignition associated with Project activities, the following measures will be taken:

- a. All applicable equipment on the Project must have a spark arrestor and be properly maintained in good working order.
- b. A daily safety tailboard will be required by the contractor during Project implementation, which will include a review of the daily fire ratings, weather conditions, and steps that will be taken to reduce the risk of ignition.
- c. The contractor will be required to furnish all necessary fire suppression and safety equipment pursuant to local, state, and federal law. The contractor shall furnish an approved fire-plan to be included in their contract. Only competent and qualified individuals will be permitted to work on the Project.
- d. Hand piles will be constructed per treatment specifications.
- e. If prescribed burning is planned, all required/applicable permits and plans shall be obtained or developed. The contractor shall cooperate with the Calaveras County Air Pollution Control District (CCAPCD) and use the Prescribed Fire Incident Reporting System (PFIRS) system to develop a smoke management plan (if applicable; a suitable alternative may be used at the approval of CCAPCD).
- f. Burning will only be conducted with the full cooperation and coordination of the landowner(s) involved.

HYD-1: Avoidance of Riparian Areas, Sensitive Wetland Habitats, and Watercourses

- a. Equipment Staging: Equipment staging will be excluded from areas determined to have sensitive habitat for special status species, and from wet areas and watercourse buffers. Staging will occur on previously compacted surfaces whenever practicable.
- b. Drying period: To prevent soil compaction and to avoid the dispersal or migration of terrestrial amphibians, mechanical operations will cease during periods of significant rainfall and will be subject to a minimum drying period of 24 hours and up to 72 hours. Manual treatments, chipper operations on established roads, and chipper operations on previously compacted surfaces may continue.
- c. If a threatened or endangered species is identified at any time throughout the Project, contractors will cease operations and immediately notify the Project RPF or designee. CDFW or a qualified biologist will be consulted for guidance.
- d. To prevent erosion and sedimentation, to preserve water quality, and to protect aquatic species and riparian habitat, watercourses will be classified by a qualified individual and flagged with an appropriate buffer prior to implementation. Refer to the tables below for watercourse classifications, characteristics, buffers, and circumstantially permitted activities within the buffers. Refer to Section 3.3.3 for discussion on the hydrological features present within the proposed Project area.

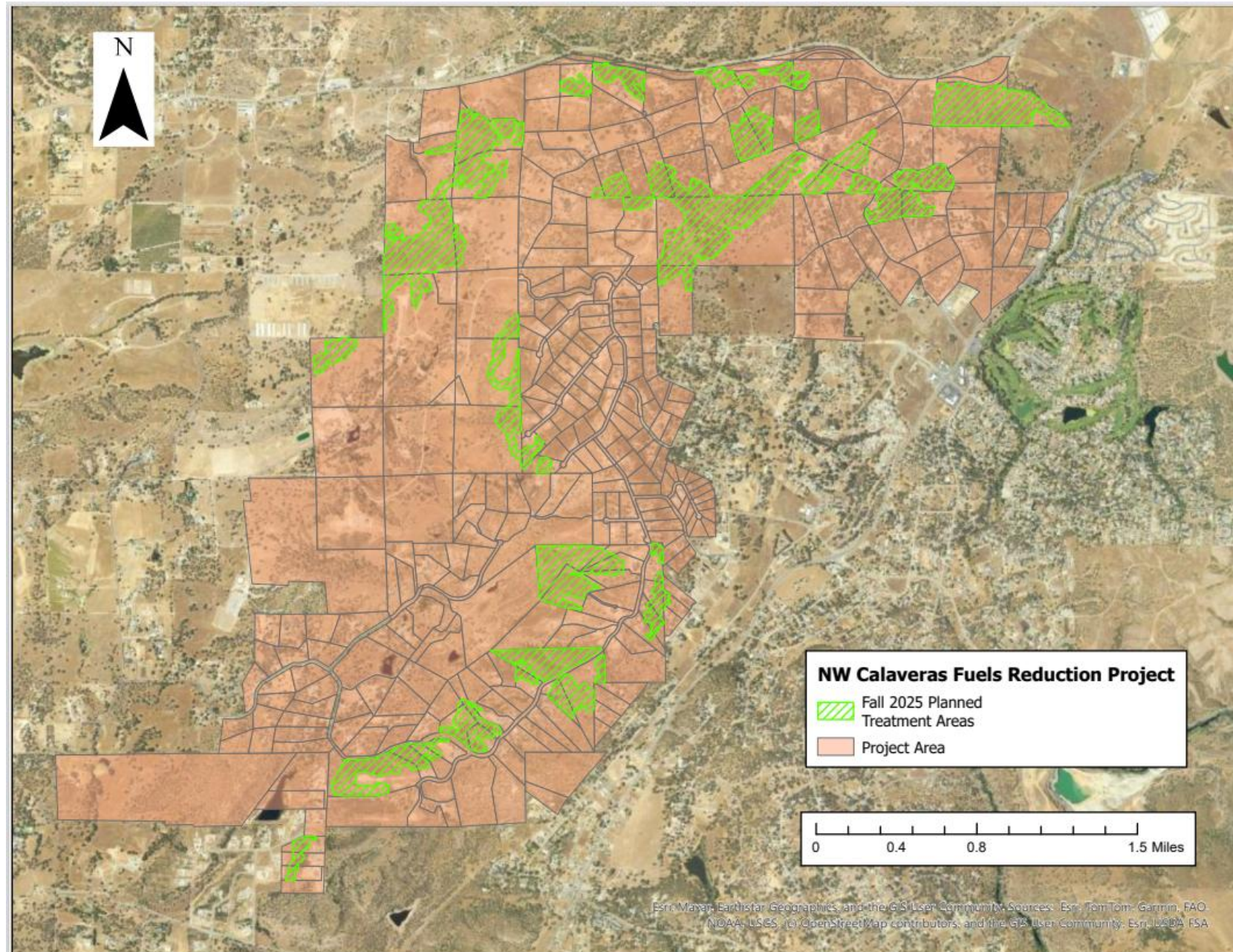
Watercourse and Lake Classifications, Characteristics, and Buffers				
Watercourse Classification	Class I ¹	Class II ²	Class III	Class IV
Water Class Characteristics or Key Indicator Beneficial Use	1) Domestic supplies, including springs, on site and/or within 100 feet downstream of the operations area and/or 2) Fish always or seasonally present onsite, includes habitat to sustain fish migration and spawning.	1) Fish always or seasonally present offsite within 1000 feet downstream and/or 2) Aquatic habitat for non-fish aquatic species. 3) Excludes Class III waters that are tributary to Class I waters.	No aquatic life present, watercourse showing evidence of being capable of sediment transport to Class I and II waters under normal high water flow conditions after completion of operations.	Man-made watercourses, usually downstream, established domestic, agricultural, hydroelectric supply or other beneficial use.
Slope Class	Watercourse Buffer (ft)^{3,4}			
<35%	n/a	50	25	Determined by consultation with facility owner/manager.
35-55%	n/a	75	50	Determined by consultation with facility owner/manager.
>55%	n/a	100	50	Determined by consultation with facility owner/manager.
¹ None present within the Project area but included for reference. ² For the purposes of the Project, vernal pools and other wet areas (e.g., bogs, seeps) will be afforded Class II protection during wet season. When dry, buffers will not apply. ³ Applied to both sides of the watercourse, measured perpendicularly from the top of the bank. ⁴ For all watercourse buffers, equipment is allowed to travel through the buffer at locations of existing and functional watercourse crossings.				

Permitted Activities				
Treatment Type	Class I Watercourse	Class II Watercourse	Class III Watercourse	Class IV Watercourse
Mechanical Thinning	n/a	No operations.	1) When water is present, equipment operations permitted in areas where side slopes are <35%. 2) Equipment tracks shall not enter buffer; masticators with boom mount attachments may reach into buffer to treat, as long as tracks remain outside of buffer. 3) Equipment is not permitted to cross the watercourse unless approved, in writing by the Project RPF or designee. 4) Woody debris or sediment shall not be deposited into existing channels. Debris greater than small incidental amounts will be removed from channels. Additional AMMs or mitigations may apply.	Determined by consultation with facility owner/manager.
Hand Thinning	n/a	Permitted within the buffer, excluding the stream channel to top of bank. Treated slash or debris must be moved at least 25ft from the banks of water courses. Additional AMMs or mitigations may apply.	Permitted. Treated slash must be moved at least 15ft from the banks of water courses. Additional AMMs or mitigations may apply.	Determined by consultation with facility owner/manager.

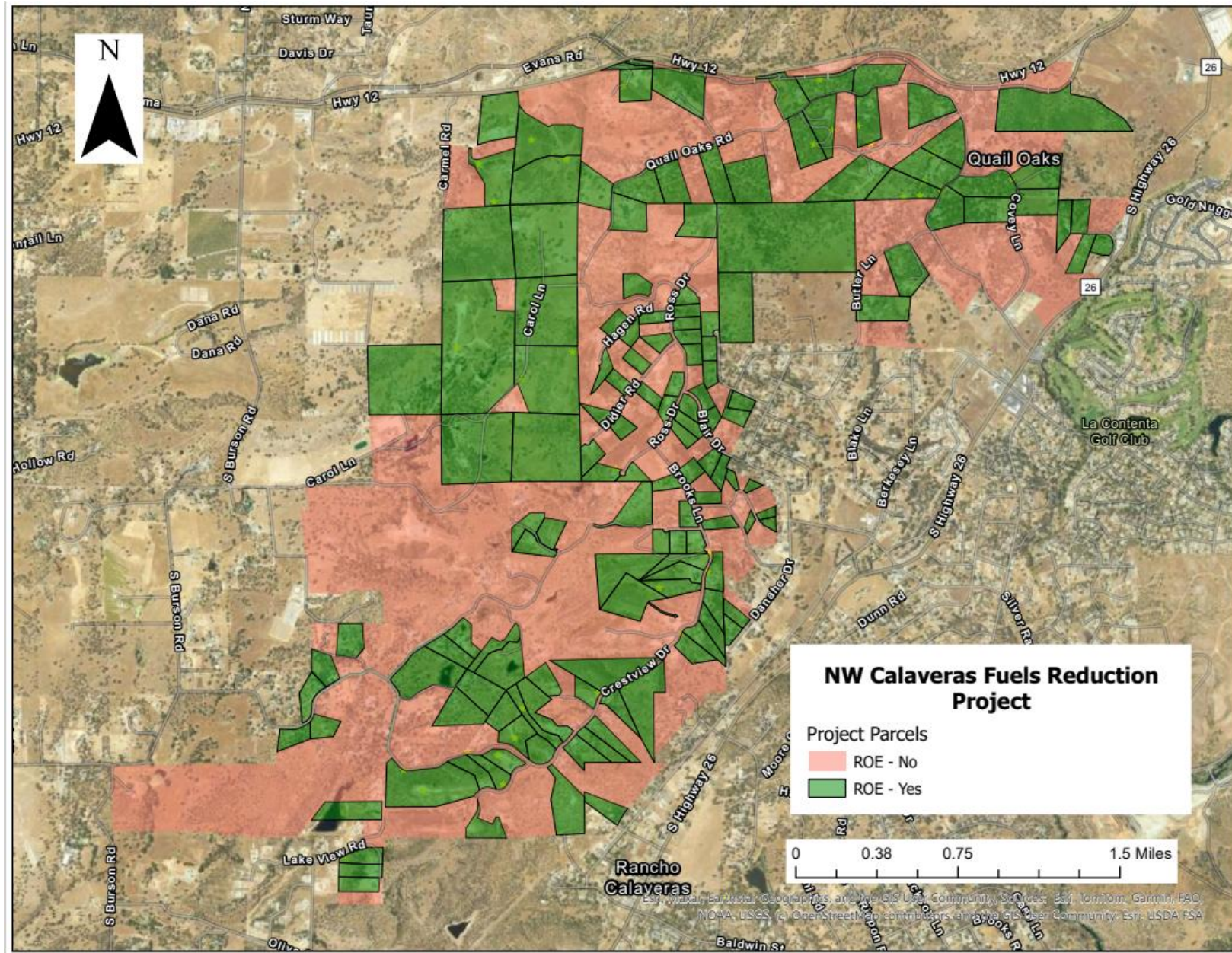
Piling/Burning	n/a	Prohibited within 25ft from watercourse ³ . Additional AMMs or mitigations may apply.	Prohibited within 15ft from watercourse ³ . Additional AMMs or mitigations may apply.	Determined by consultation with facility owner/manager.
Broadcast Burning	n/a	Control lines may come down to the bank of watercourses. On slopes greater than 35% adjacent to class II streams, water bars will be constructed at 10' AND 25' above stream banks. After 25', follow the erosion control table found in GEO-1. Additional AMMs or mitigations may apply.	Control lines may come down to the bank of watercourses. Erosion control features (water bars) shall be built at 10' above the banks of watercourses. Additional AMMs or mitigations may apply.	Determined by consultation with facility owner/manager.
Grazing	n/a	Livestock shall be fenced out of watercourses by at least 20ft and shall not be permitted to traverse across or within stream beds. Additional AMMs or mitigations may apply.	1) Livestock shall be fenced out of watercourses by at least 20ft and shall not be permitted to traverse across or within stream beds 2) Livestock is permitted to cross the watercourse when completely dry, upon approval by the Project RPF. Additional AMMs or mitigations may apply.	Determined by consultation with facility owner/manager.

2.3 Project Maps

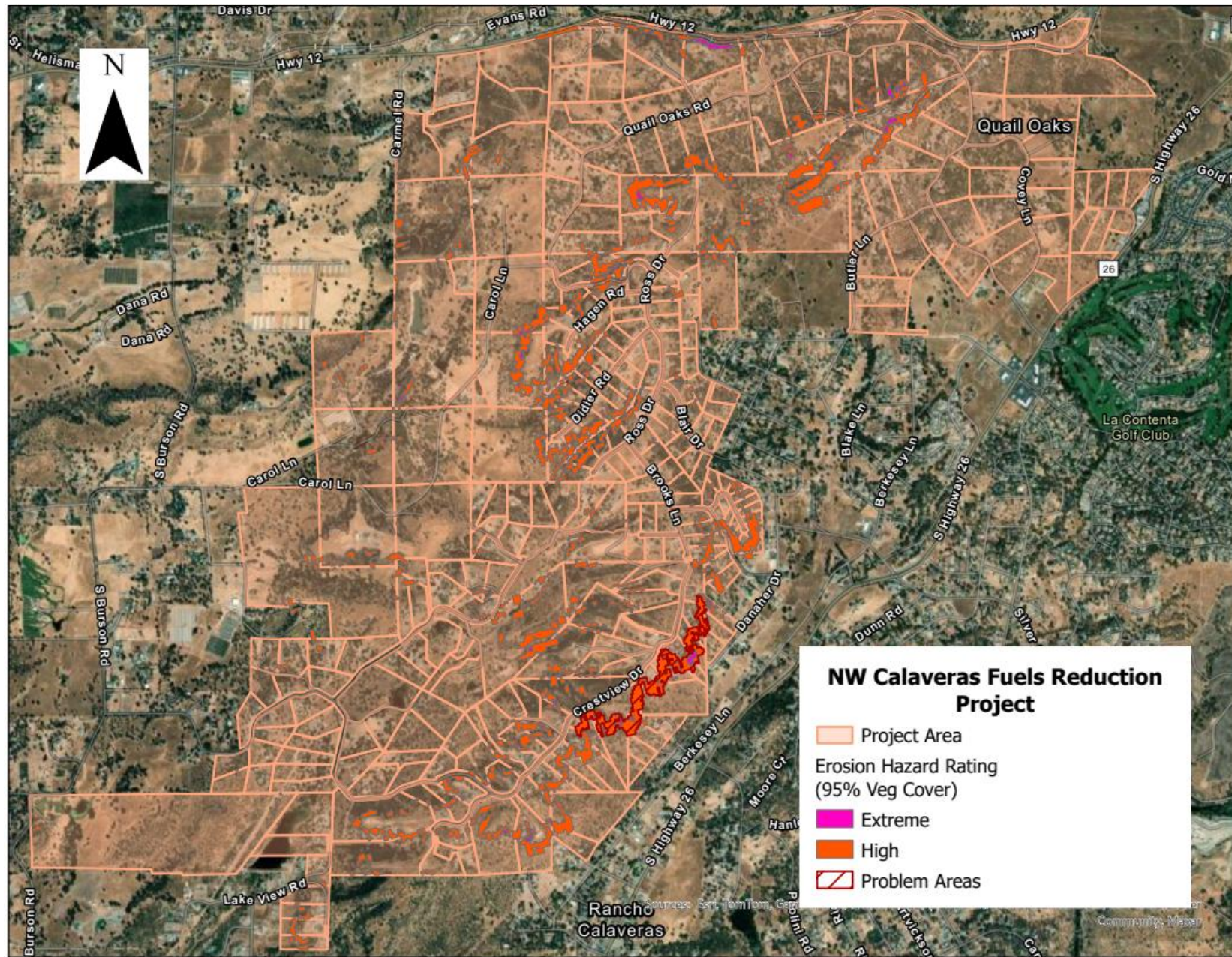
2.3.1 Project Area and Fall 2025 Treatment Map



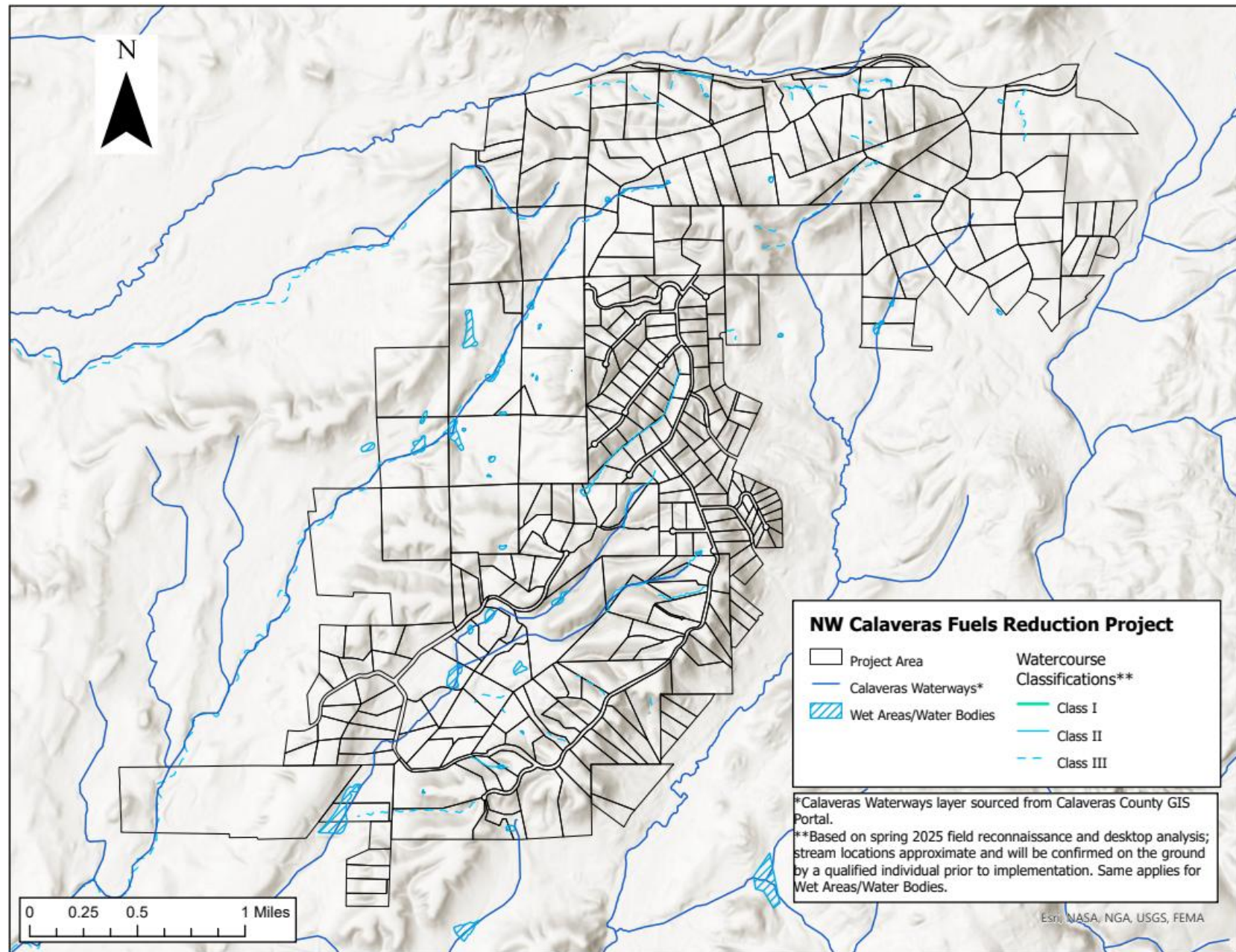
2.3.2 Right of Entry Map (as of May 2025)



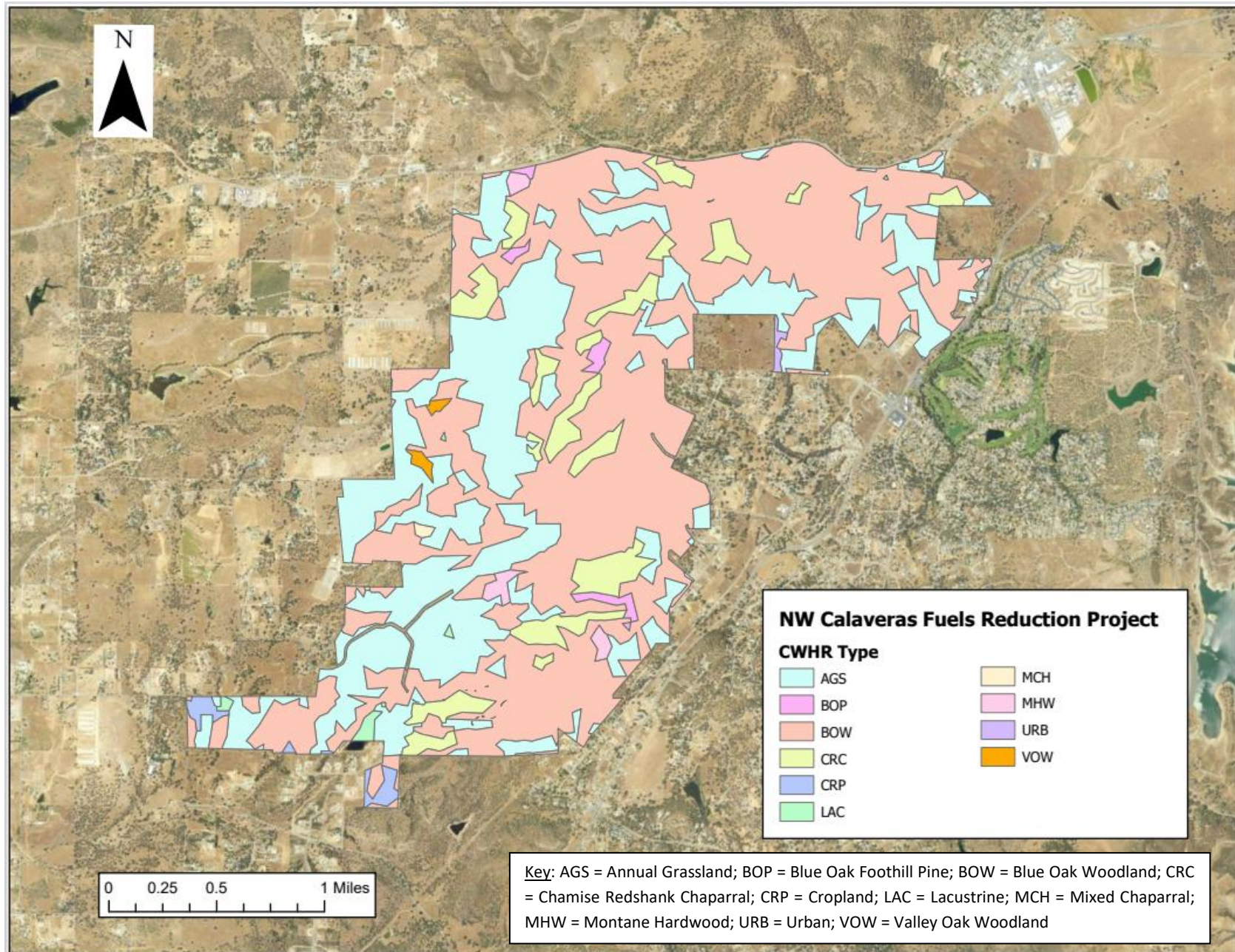
2.3.3 Erosion Hazards Map



2.3.3 Hydrology Map



2.3.4 California Wildlife Habitat Relationships (CWHR) Map



3. Environmental Determination and Analysis Findings

3.1 Analysis Methodology & Assessment Area

The conclusions of this report are based on technical review of publicly available data, field reconnaissance, and consultations with subject matter experts. Publicly available datasets reviewed for this IS-MND included special status species occurrence data, geospatial data, and other lists obtained from various credible sources, including but not limited to the following: Bureau of Land Management, Bureau of Reclamation, Calaveras County Assessor's Office and GIS Department, California Department of Fish and Wildlife, CAL FIRE, Calflora, California Native Plant Society (CNPS) Rare Plant Inventory, USDA Natural Resource Conservation Service, United States Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) Environmental Conservation Online System (ECOS), and iNaturalist (filtered: Threatened and Verifiable). Every effort was made to credit all sources referenced in the drafting of this IS-MND. Refer to the References section at the end of the document for more information.

To prepare the environmental baseline, an initial visit to the proposed Project area was conducted by the Project RPF in May 2024. This was followed by desktop analysis of preliminary vegetation, hydrology, soils, and species data, which were reviewed and refined by professional staff with Mason, Bruce & Girard, Inc. A Registered Professional Archaeologist was secured to establish the environmental baseline for archaeological resources, including cultural and tribal cultural resources, present within the proposed Project area (further described in Section 3.3.5). From February 2025 through April 2025, field reconnaissance and pedestrian surveys were conducted on parcels with planned treatment areas for fall 2025 implementation and where ROE was granted by the landowner. These site visits included meeting with landowners to discuss the project, assess avoidance areas, classify watercourses, identify sensitive habitat, conduct preliminary bird nest and botanical pedestrian surveys, identify hazards, map access routes, and locate potential staging areas. While traveling around and within the proposed Project, windshield surveys were also conducted for botanical resources and bird nests. Archaeological pedestrian surveys were also conducted under the direction of a Registered Professional Archaeologist and in consultation with the Calaveras Band of Mi-Wuk Indians during this timeframe. The following section describes the tribal consultation process.

3.2 California Native American Tribal Consultation

Pursuant to AB-52, a Tribal Consultation List Request was submitted to the California Native American Heritage Commission (NAHC). The obtained list from NAHC identified the following eight Tribes and/or tribal groups as having aboriginal ties to the project locale, or as having express interest in projects occurring within the geographic area of the Project: Buena Vista Rancheria of Me-Wuk Indians, Calaveras Band of Mi-Wuk Indians, Chicken Ranch Rancheria of Me-Wuk Indians, Lone Band of Miwok Indians, Jackson Rancheria Band of Miwok Indians, Nashville Enterprise Miwok-Maidu-Nishinam Tribe, Pakan'yani Maidu of Strawberry Valley Rancheria, and Tule River Indian Tribe. The listed Tribes were sent scoping letters by both email and certified mail. The scoping letters included the Project description and maps, along with requests for response, if formal consultation was desired. In a gesture of good faith, the California Valley Mewuk Tribe was also contacted by the methods described above due to the proximity of their historical range with the Project locale.

The following lists the level of response received by each Tribe that was scoped for the Project:

- Buena Vista Rancheria of Me-Wuk Indians – No response received.
- Calaveras Band of Mi-Wuk Indians – **Formal consultation requested.**
- Chicken Ranch Rancheria of Me-Wuk Indians – Read receipt received via email, no further response received.
- Lone Band of Miwok Indians – No response received.
- Jackson Rancheria Band of Miwok Indians – No response received.
- Nashville Enterprise Miwok-Maidu-Nishinam Tribe – No response received.
- Pakan'yani Maidu of Strawberry Valley Rancheria – No response received.
- Tule River Indian Tribe – No response received.

- California Valley Mewuk Tribe – Formal response received; Tribe had no comments or concerns for the Project.

Formal consultation with the Calaveras Band of Mi-Wuk Indians was initiated on February 21, 2025, in Valley Springs, CA. The consultation included pedestrian survey efforts with the Tribe's representatives, professional archaeologists overseen by a Registered Professional Archaeologist, the Project RPF, and the RPF designee. Communications with the Tribe are ongoing at the time of publication of this IS-MND and will be maintained throughout Project implementation.

3.3 Environmental Baseline

3.3.1 Primary Vegetation Types

The vegetation types present in the Project area were classified by desktop analysis using the California Wildlife Habitat Relationships (CWHR) system, hosted on the CAL FIRE eGIS portal (n.d.). The CWHR types encompassed by the Project area are depicted on the map in Section 2.3.4. The primary CWHR vegetation types present within the Project area are Chamise-Redshank Chaparral, Blue Oak Woodland, Blue Oak-Foothill Pine, and Annual Grassland. These habitat types were confirmed by field reconnaissance and windshield surveys. The additional vegetation types present within the Project area include mixed chaparral, valley oak woodland, and montane hardwood, but to a much lesser degree. There is also cropland, urban, and lacustrine habitats in small areas, none of which are within identified treatment areas. The primary vegetation types within the Project area are further described below.

Chamise-Redshank Chaparral (CRC)

Structure – Fire occurs regularly in Chamise-Redshank Chaparral (*Adenostoma fasciculatum* in the Sierra Nevada) and influences habitat structure. Mature Chamise-Redshank Chaparral is single layered, generally lacking well-developed herbaceous ground cover and overstory trees. Shrub canopies frequently overlap, producing a nearly impenetrable canopy of interwoven branches. Chamise-dominated stands average 1 to 2 m (3.3 to 6.6 ft) in height but can reach 3 m (9.8 ft) (England). Within the Project footprint, the most recent fire burned in 2004, while other areas have not burned since the 1990s or more. A study cited within England's *Chamise-Redshank Chaparral* states that chamise growth rates decline after 16 years along with accumulation of dead material. In old, unburned stands, species diversity is low.

Composition - CRC may consist of nearly pure stands of chamise or redshank, a mixture of both, or with other shrubs. The purest stands of chamise occur on xeric, south-facing slopes (Hanes 1976). Toyon, sugar sumac, poison oak, redberry, and California buckthorn are commonly found in drainage channels and on other relatively mesic sites (England). At upper elevations or on more mesic exposures, chamise mixes with ceanothus, manzanita, scrub oak, and laurel sumac. Ceanothus and sugar sumac are common associates of redshank (England).

Blue Oak Woodland (BOW)

Structure - Generally these woodlands have an overstory of scattered trees, although the canopy can be nearly closed on better quality sites (Pillsbury and De Lasaux 1983). The density of blue oaks (*Quercus douglasii*) on slopes with shallow soils is directly related to water stress (Griffin 1973). The canopy is dominated by broad-leaved trees 5 to 15 m (16 to 50 ft) tall, commonly forming open savanna-like stands on dry ridges and gentle slopes. Blue oaks may reach 25 m (82 ft) in height (McDonald 1985). Shrubs are often present but rarely extensive, often occurring on rock outcrops. Typically, understory is composed of an extension of Annual Grassland vegetation.

Composition - Blue oaks are the dominant species, comprising 85 to 100 percent of the trees present. Common associates in the canopy are interior live oak (*Quercus wislizeni*) in the Sierra Nevada and valley oak (*Quercus lobata*) where deep soil has formed. Associated shrub species include poison-oak, California coffeeberry, buckbrush, redberry, California buckeye, and manzanita *spp.* The ground cover is comprised mainly of annuals, such as brome grass, wild oats, foxtail, needlegrass, filaree, fiddleneck, and others. Comprehensive descriptions of different BOW's can be found in White (1966), Griffin (1977), Baker et al. (1981), and Pillsbury and De Lasaux (1983).

Blue Oak-Foothill Pine (BOP)

Structure - This habitat is typically diverse in structure both vertically and horizontally, with a mix of hardwoods, conifers, and shrubs. The shrub component is typically composed of several species that tend to be clumped, with interspersed patches of Annual Grassland. Woodlands of this type generally have small accumulations of dead and downed woody material and relatively few snags, compared with other tree habitats in California. Most existing stands of this type are in mature stages, with canopy cover ranging from 10 to 59 percent, and DBH ranging from 2.5 to 30 cm (1 to 12 in). Size class 6 depends on a sparse overstory of foothill pine above a lower canopy of oaks, as canopies of blue oak seldom exceed 15 m (50 ft) in height. Individual trees seldom exceed 125 cm (49 in) DBH and exceptionally may reach 30 m (100 ft) in height.

Composition - Blue oak and foothill pine typically comprise the overstory of this habitat, with blue oak usually most abundant. Stands dominated by foothill pine tend to lose their blue oak, which is intolerant of shade (P. M. McDonald, pers. comm.). In the foothills of the Sierra Nevada, tree species typically associated with this habitat are interior live oak and California buckeye. In the Coast Range, associated species are the coast live oak, valley oak, and California buckeye (Griffin 1977). Interior live oaks sometimes dominate the overstory, especially in rocky areas and on north-facing slopes at higher elevations (Neal 1980).

Annual Grassland (AGS)

Structure - Annual Grassland habitats are open grasslands composed primarily of annual plant species. Many of these species also occur as understory plants in Valley Oak Woodland (VOW) and other habitats. Structure in Annual Grassland depends largely on weather patterns and livestock grazing. Dramatic differences in physiognomy, both between seasons and between years, are characteristic of this habitat. Fall rains cause germination of annual plant seeds. Plants grow slowly during the cool winter months, remaining low in stature until spring, when temperatures increase and stimulate more rapid growth. Large amounts of standing dead plant material can be found during summer in years of abundant rainfall and light to moderate grazing pressure. Heavy spring grazing favors the growth of summer-annual forbs, such as tarweed and turkey mullein, and reduces the amount of standing dead material. On good sites, herbage yield may be as high as 4900 kg/ha (4400 lb/ac) (Garrison et al. 1977).

Composition - Introduced annual grasses are the dominant plant species in this habitat. These include wild oats, soft chess, ripgut brome, red brome, wild barley, and foxtail fescue. Common forbs include broadleaf filaree, redstem filaree, turkey mullein, true clovers, bur clover, popcorn flower, and many others. California poppy, the State flower, is found in this habitat. Perennial grasses, found in moist, lightly grazed, or relic prairie areas, include purple needlegrass and Idaho fescue. Vernal pools, found in small depressions with a hardpan soil layer, support *downingia* spp., meadowfoam, and other species (Parker and Matyas 1981). Species composition is also related to precipitation (Bartolome et al. 1980). Perennial grasses are more common on northern sites with mean annual rainfall greater than 150 cm (60 in). Soft chess and broadleaf filaree are common in areas with 65-100 cm (25-40 in) of rainfall, and red brome and redstem filaree are common on southern sites with less than 25 cm (10 in) of precipitation (Bartolome et al. 1980).

3.3.2 Soils and Topography

The proposed Project area is situated within a transition zone from California's Central Valley to the foothills of the Sierra Nevada mountains. The topography is hilly with slopes mostly under 30%. There are several areas within the Project with steep slopes rising to form tabletop mesas and ridgelines. In these areas, slopes range from 30% to 65%, sometimes greater. The National Resource Conservation Service's (NRCS) Web Soil Survey was utilized to determine information regarding soil types and composition throughout the Project's analysis area. The following information has been distilled from the larger Custom Soil Resource Report for the area, which is attached in Appendix B of the IS-MND. The soils analysis area totaled 3,688.7 acres and is comprised of seven different soil types to varying degrees. This analysis took into account an area slightly larger than the Project area, hence the larger footprint.

Table 2: Soils Types in Project Area

Soil Types	Parent Material	Components	Slopes (%)	Permeability	Typical Soil Textures (Profile)
Archerdale-Hicksville Association	Mixed alluvium	Clay loam and similar (65%); Gravelly loam and similar (20%); minor components (15%)	0-2	Moderately low to moderately high; moderately high	<i>Archerdale</i> Ap - 0 to 10 inches: clay loam A - 10 to 30 inches: clay Bw - 30 to 60 inches: clay; <i>Hicksville</i> A - 0 to 10 inches: gravelly loam Bt - 10 to 45 inches: gravelly sandy clay loam 2Bt - 45 to 60 inches: very gravelly sandy clay loam
Amador sandy loam	Residuum weathered from acidic tuff	Amador and similar (76%); minor components (24%)	2-15	Very low to moderately low	A - 0 to 2 inches: sandy loam Bw - 2 to 15 inches: sandy loam Cr - 15 to 25 inches: bedrock
Miltonhills-Amador Complex	Colluvium over residuum derived from acidic tuff; residuum weathered from acidic tuff	Miltonhills and similar (50%); Amador and similar (30%); minor components (20%)	15-45	Very low to moderately low	<i>Miltonhills</i> A - 0 to 10 inches: fine sandy loam Bw - 10 to 16 inches: fine sandy loam C - 16 to 24 inches: gravelly fine sandy loam Cr - 24 to 33 inches: bedrock; <i>Amador</i> A - 0 to 3 inches: loam Bw - 3 to 12 inches: fine sandy loam Cr - 12 to 22 inches: bedrock
Ultic Haploxeraifs-Typic Palexerults-Aquultic haploxeraifs complex	Colluvium over residuum derived from fanglomerate; Slope alluvium over residuum derived from fanglomerate	Ultic haploxeraifs and similar (50%); Typic paxerults, very deep, and similar (30%); Aquultic haploxeraifs and similar (15%); minor components (5%)	1-12	Moderately low to high; moderately low to moderately high; very low to moderately high	<i>Ultic Haploxeraifs</i> A - 0 to 3 inches: sandy loam Bt1 - 3 to 12 inches: gravelly sandy loam Bt2 - 12 to 17 inches: clay Cd - 17 to 26 inches: very paragravelly coarse sandy loam <i>Typic Palexerults</i> Oi - 0 to 0 inches: slightly decomposed plant material A - 0 to 2 inches: gravelly silt loam Bt1 - 2 to 10 inches: very cobbly loam Bt2 - 10 to 18 inches: gravelly clay loam 2BCt - 18 to 22 inches: silty clay loam 2C1 - 22 to 41 inches: silty clay loam 2C2 - 41 to 59 inches: clay <i>Aquultic Haploxeraifs</i> Oi - 0 to 1 inches: slightly decomposed plant material A - 1 to 2 inches: silt loam Bc - 2 to 9 inches: silt loam 2Bt1 - 9 to 13 inches: very gravelly silty clay loam 2Bt2 - 13 to 19 inches: silty clay 2Cr - 19 to 29 inches: bedrock
Soil Types	Parent Material	Components	Slopes (%)	Permeability	Typical Soil Textures (Profile)
Pardee cobbly loam	Mixed alluvium over residuum weathered from conglomerate or tuff	Pardee and similar (76%); minor components (24%)	2-15	Very low to low	A - 0 to 9 inches: cobbly loam Bt1 - 9 to 17 inches: very cobbly loam 2Bt2 - 17 to 18 inches: very cobbly clay 2R - 18 to 79 inches: bedrock

Pardee-Amador complex	Mixed alluvium over residuum weathered from conglomerate tuff	Pardee and similar (50%); Amador and similar (40%); minor components (10%)	15-40	Very low to low; very low to moderately low	<i>Pardee</i> A - 0 to 4 inches: gravelly sandy loam BA - 4 to 10 inches: very cobbly sandy loam Bt - 10 to 18 inches: very cobbly sandy clay loam 2R - 18 to 79 inches: bedrock <i>Amador</i> A - 0 to 3 inches: silt loam Bw - 3 to 16 inches: gravelly silt loam Cr - 16 to 26 inches: bedrock
Copperopolis-Whiterock complex	Residuum weathered from slate	Copperopolis and similar (50%); Whiterock and similar (25%); minor components (25%)	3-15	Low to high	<i>Copperopolis</i> A - 0 to 3 inches: channery loam Bw - 3 to 13 inches: very channery loam BC - 13 to 14 inches: extremely gravelly loam R - 14 to 79 inches: bedrock; <i>Whiterock</i> A1 - 0 to 2 inches: loam A2 - 2 to 8 inches: loam R - 8 to 79 inches: bedrock

3.3.3 Hydrology

According to desktop GIS analysis of publicly available data obtained from Calaveras County’s GIS online portal, two main waterways are present within the Project area: Bear Creek (HUC18040003, San Joaquin Delta) and Indian Creek (HUC18040011, Upper Calaveras). Several unnamed and unclassified watercourses within these hydrologic units were also shown. A hill shade layer was overlayed to the map to aid in identifying topographical features conducive to hydrologic transport, such as draws and ravines. Following desktop analysis, the Project RPF and designee conducted field reconnaissance and water course classification from February 2025 through April 2025 for anticipated fall 2025 treatments. Bear Creek appeared diverted in several areas along Highway 12 and had little to no water within the Project area. Indian Creek was confirmed on the ground and classified as a Class III stream. Field reconnaissance, watercourse classification, and data collection/mapping were conducted within the Project area where right-of-entry was obtained from participating landowners. Wet areas, vernal pools, and seeps were commonly observed and will be afforded Class II buffers during implementation, if water is present. The hydrologic features analyzed by both desktop and field reconnaissance are shown on the hydrology map in Section 2.3.3 of this document. No Class I watercourses were identified/confirmed during spring 2025 field reconnaissance efforts. Assuming additional right-of-entry is obtained from landowners in the future, field reconnaissance, watercourse classification, and mapping will be conducted prior to implementation in treatment areas.

3.3.4 Sensitive Species

The CDFW CNDDDB was used to determine the potential presence of threatened and endangered (“T&E”) plant and animal species and their habitat within the Project analysis area. Per recognized industry Best Management Practices (“BMPs”) the species survey consisted of a 3x3 USGS 7.5’ Quadrangle map (“quad”) area for a CNDDDB query using CDFW’s RareFind5 and BIOS6 tools, with the Project area sitting as centrally as practicable. The nine-quadrangle area for this biological scoping process consisted of the following nine USGS 7.5’ Quadrangle maps:

1. Lone
2. Jackson
3. Mokelumne Hill
4. Wallace
5. Valley Springs
6. San Andreas
7. Valley Springs SW
8. Jenny Lind
9. Salt Spring Valley

Of these 9 quadrangles, the Project area lies primarily within the Valley Springs quadrangle, with the western portion of the Project area within the Wallace quad. The query of CNDDDB data using the RareFind5 tool yielded occurrence data for a total of 14 species that are listed as sensitive species at either the state or federal level, or both. Of those 14 species, 3 are listed as endangered, 1 is proposed to be endangered, 8 are threatened, and 2 are proposed to be listed as threatened. Of the 14 sensitive species, 6 have known occurrences within the quadrangle, and 2 have known occurrences within the Project analysis area. The following table lists all sensitive species and their state/federal listing status which are recognized by the CNDDDB database.

Scientific Name	Common Name	Federal Status	State Status	Taxon Group
PLANTS				
<i>Arctostaphylos myrtifolia</i>	lone manzanita	Threatened	None	Dicots
<i>Eriogonum apricum</i> var. <i>apricum</i>	lone buckwheat	Endangered	Endangered	Dicots
WILDLIFE				
Amphibians				
<i>Ambystoma californiense</i> pop. 1	California tiger salamander – central California DPS ¹	Threatened	Threatened	Amphibians
<i>Actinemys marmorata</i>	Western pond turtle	Proposed Threatened	SSC	Reptiles
<i>Rana boylei</i> pop. 5	Foothill yellow-legged frog – south Sierra DPS	Endangered	Endangered	Amphibians
<i>Rana draytonii</i>	California red-legged frog	Threatened	SSC	Amphibians
<i>Spea hammondi</i>	Western spadefoot	Proposed Threatened	SSC	Amphibians
Birds				
<i>Haliaeetus leucocephalus</i>	Bald eagle	Delisted	Endangered	Birds
<i>Agelaius tricolor</i>	Tricolored blackbird	None	Threatened	Birds
<i>Buteo swainsoni</i>	Swainson's hawk	None	Threatened	Birds
Invertebrates				
<i>Bombus crotchii</i>	Crotch's bumble bee	None	Candidate Endangered	Insects
<i>Branchinecta lynchi</i>	Vernal pool fairy shrimp	Threatened	None	Crustaceans
<i>Desmocerus californicus dimorphus</i>	Valley elderberry longhorn beetle (VELB)	Threatened	None	Insects
Fish				
<i>Oncorhynchus mykiss irideus</i> pop. 11	Steelhead – Central Valley DPS	Threatened	None	Fish
¹ DPS = Distinct population segments ² SSC = Species of Special Concern				

Botanical Resources: Descriptions and Ecology

lone manzanita (*Arctostaphylos myrtifolia*)

lone manzanita is a low growing, broadly spreading evergreen shrub that is typically less than 4 feet tall. Its bark is red, smooth, and waxy with narrow, elliptic olive-green leaves less than an inch long. Flowering from January to February, it produces small, urn-shaped, white to pinkish-white flowers. It is distinguishable from other manzanita species by its overall smaller physical attributes (form and leaf size), fine hairs on the leaves and branches, and leaf color (U.S. Fish & Wildlife Service, n.d.). lone manzanita is only known to occur in the lone Formation along a narrow strip of land, approximately 19.5 miles. This species is associated with the rare lone soil, an Oxisol soil type. Per the USGS National Geologic Map Database map titled *Type Region of the lone Formation* (Eocene), the lone Formation's southern terminus is less than a mile north of the Project area.

lone buckwheat (*Eriogonum apricum*)

lone buckwheat is a perennial flower which grows to 3-8 inches in height with an upright stature. It has round to oval leaves which are smooth and can be 3-10 millimeters wide. This buckwheat species produces small white flowers from July to October. lone buckwheat is only known to occur within rocky outcroppings and patchy openings of the shrub

community along the Lone Formation in western Amador County, CA. It is an associated species of lone manzanita (U.S. Fish & Wildlife Service).

Elderberry (*Sambucus spp.*)

Generally, elderberry is a bushy, multi-stemmed shrub but can also take the form of a small, single-stem tree. In either form, elderberries can generally grow to heights of 6 to 13 feet tall. The taxonomy of elderberry varies, and the plant is classified by several different botanical names. For example, blue elderberry (sometimes called black elderberry) may be classified as *Sambucus cerulea*, *Sambucus nigra* spp. *cerulea*, or *Sambucus mexicana*. Several species may be observed in California, including Black elderberry (*Sambucus nigra*), Common or American elderberry (*Sambucus canadensis*), and Red elderberry (*Sambucus racemosa*). Elderberry have long, pinnately compound, opposite with odd-pinnate (5-9) serrate leaflets, resembling those of California walnut and Oregon ash. Blooming season varies by elevation, but in the Sierra Nevada, it can be expected to bloom around May or June. The very small, cream white flowers grow in groups that present flat, broad tops (inflorescence). Common elderberry berries are 5-6 mm wide and are a blue to deep purple color at maturity (Stevens & Nesom), while red elderberry berries are deep red in color. Common elderberry is widely distributed across the western United States and Canada across a wide range of elevation (up to 9,000'). Elderberry generally grows on moist, well-drained sunny sites, usually occurring in early seral communities or in openings in moist forest habitats, and moist areas within drier, more open habitats (United States Department of Agriculture, Natural Resource Conservation Service).

Terrestrial and Aquatic Wildlife Species: Descriptions and Ecology

Bald Eagle (*Haliaeetus leucocephalus*)

The Bald Eagle is the national symbol of the United States and is one of the largest birds in North America, weighing 8 to 14 pounds with a wingspan of 6.5 to 8 feet. Adults are characterized by a dark brown body and their signature pure white head and tail. Adolescents are mostly brown, often lighter than that of adults and mottled with varying levels of white on their heads and tails (Wildlife Branch - Wildlife Diversity Program, n.d.). Bald Eagles have a range that is widespread throughout North America and can be found throughout California, primarily near bodies of water, rangelands, and coastal wetlands. Bald Eagles build large stick nests in the upper canopy of trees in the dominant canopy class. Their nests are typically built near bodies of water, as fish and waterfowl are their primary diet, along with the carrion of aquatic and terrestrial species. Many bald eagles are resident, meaning that these individuals (and mating pairs) do not migrate during the winter due to the mild climate in California, and can be found here year-round. However, Bald eagles, in general, are migratory birds. During winter months, California populations see an influx due to eagles migrating south from harsher climates (Wildlife Branch - Wildlife Diversity Program, n.d.).

Tricolored blackbird (*Agelaius tricolor*)

The Tricolored blackbird ("TCB") is a medium-sized (7-9.5 inch), sexually dimorphic North American passerine. Adult males are typically larger than females and are black with bright red and white plumage on the wing shoulder. Adult females have sooty brown-black plumage with distinct grayish streaks, a relatively white chin and throat, and a smaller reddish shoulder-patch (U.S. Fish & Wildlife Service, n.d.). Per CDFW, nesting bird season is typically between February 1 through August 31. The TCB's preferred nesting habitat has historically been in freshwater marshes located near suitable foraging habitat. Increasingly, TCB has been found to nest in silage fields in the San Joaquin and Central Valleys. Foraging habitat for the TCB is primarily in floodplains, irrigated pastures, and ripening or cut grain fields (The Tricolored Blackbird Working Group, 2007).

California Tiger Salamander (*Ambystoma californiense* pop. 1)

The California Tiger Salamander (CTS) is a large, stocky salamander with a broad, rounded snout. Adults average 6 to 9.5 inches (16 to 24 centimeters) in length and have random white or yellowish spots or bars against a black body. Their small

eyes, which have black irises, protrude from their heads. Males are typically larger than females (U.S. Fish & Wildlife Service, n.d.). CTS require access to both aquatic and upland habitat throughout their life cycle. They use standing bodies of fresh water, like ponds, vernal pools and other ephemeral or permanent water bodies for breeding. These bodies of water must hold water for a minimum of 12 weeks to support the salamander larvae development. The salamanders also need access to upland habitats that contain small animal burrows or underground hideaways, including those constructed by California ground squirrels (*Spermophilus beecheyi*) and valley pocket gophers (*Thomomys bottae*). These areas are described as open oak woodlands and grasslands (Stanford University, n.d.). CTS uses these underground burrows for shelter and protection from predators and desiccation during nonbreeding periods. The burrows are also good locations to find insects to eat (U.S. Fish & Wildlife Service, n.d.).

Crotch's Bumble Bee (*Bombus crotchii*)

Crotch's Bumble Bee can be distinguished by its square-shaped face and rounded midleg ankles. Drones have yellow hair on their face, black striping mid-thorax, and yellow coloring on the front abdomen while the rest of the abdomen is predominantly black and red. Queens and worker bees are primarily black from head to mid-thorax and between wing bases. The species occurs throughout California, including the Central Valley, Sierra Nevada foothills, Pacific Coast, Western Desert, and adjacent foothills throughout much of the state's southwestern region. Crotch's Bumble Bee inhabits grasslands and shrublands at lower elevations as it requires a warmer, drier climate than many other Bumble Bee species (Los Padres ForestWatch, 2013). Like all Bumble Bees, Crotch's Bumble Bee is a floral generalist, and may be found pollinating any number of different flowering botanical species. All pollinators require the nectar and pollen of flowering plants to survive. That said, according to the USDA's *Bumble Bees of the Western United States* (2012), the select (preferred) food plant genera for Crotch's Bumble Bee are *Antirrhinum* (snapdragon), *Phacelia* (scorpionweed), *Clarkia*, *Dendromecon* (bush poppy), *Eschscholzia* (California poppy), and *Eriogonum* (wild buckwheats).

Vernal Pool Fairy Shrimp (*Branchinecta lynchi*)

Vernal Pool Fairy Shrimp are small freshwater crustaceans found in vernal pools across California. They have slender bodies with large, stalked compound eyes and 11 pairs of swimming legs that also function as gills. They glide through the water upside down, swimming by beating their legs in a complex, wavelike movement that passes from front to back. Unlike other types of shrimp, the vernal pool fairy shrimp does not have a hard outer shell. Vernal pool fairy shrimp are restricted to vernal pools found in California and southern Oregon. They are currently found in 32 counties across California's Central Valley, central coast and southern California and in Jackson County in southern Oregon (U.S. Fish & Wildlife Service, n.d.).

Swainson's Hawk (*Buteo swainsoni*)

Swainson's Hawks are broad-winged Buteos of between 48 and 56 cm in length with females slightly larger than males. Males and females have similar plumage. Swainson's Hawks are polymorphic with pale, light and intermediate morph plumage ranging from dark to light or rufous in color. Most Swainson's Hawks have a sharp contrast between their wing linings and flight feathers, however, some of the darkest Swainson's Hawks do not have this distinction. Swainson's Hawks are distinguishable from other Buteos by their narrower body and wings, but are still often confused with Broad-winged, White-tailed and Short-tailed Hawks. They often nest peripheral to riparian systems but will also use lone trees in agricultural fields/pastures or roadside trees when available and adjacent to suitable foraging habitat (U.S. Fish & Wildlife Service, n.d.). Per CDFW, Swainson's Hawks typically nest between March 1 through September 1.

Valley Elderberry Longhorn Beetle (*Desmocerus californicus dimorphus*)

The Valley Elderberry Longhorn Beetle ("VELB") is a medium-sized, red and dark green insect. It is approximately 0.8 inch (2 centimeters) long. Females are larger than males and resemble males except that the first pair of wings do not fully cover the abdomen when viewed from above. Males have longer, thicker antennae than females, as well as red-orange wing covers with four spots. VELB lives throughout California's Central Valley from Shasta County in the north through

Madera County in the south. It is dependent on its host plant, the elderberry, a shrub that grows in riparian areas and foothill oak woodlands in California. Females lay their eggs on the bark of the elderberry shrub, and larvae hatch and burrow into the plant stems. Larvae take one to two years to emerge as adults. Adults only live from a few days to a few weeks after emerging and likely die within three months (United States Department of Agriculture, Natural Resource Conservation Service).

Western Pond Turtle (*Actinemys marmorata*)

The Western Pond Turtle is a relatively small, mostly aquatic turtle with colorations ranging from brown to black on the turtle's carapace with possible yellow markings on its head and legs, which may not always be present. The turtle should not be confused with the painted turtle, which has *stripes* on its head and legs. An adult turtle size ranges from 15-20 cm (6-8 in), with a weight range of 448-1100 g (1 lb-2.4 lb.). Displaying sexual dimorphism, males have a noticeably longer tail and lighter throats than females, and typically have a flatter shell that is less marked/marbled than that of a female. With a life span of up to 50 years, the species is omnivorous, typically reaches sexual maturity after 10 to 15 years, and thrives in streams, ponds, lakes, permanent wetlands, and ephemeral wetlands. Range extends throughout most of California, but not at higher elevations of the Sierra Nevada, eastern slopes of the Sierra Nevada, the great basin, or the high and low deserts of the state. Although mostly aquatic, females seek out terrestrial nesting sites during nesting season which occurs from late May to mid-July. Females may travel up to 100 m (325 ft) to find suitable nesting sites. Females will lay egg clutches in soil sites with sparse vegetation at southern exposure (foothill areas), or along slow-moving, sandy stream banks. Nest sites are covered with wet soil and therefore may not be easily identifiable by the untrained eye. During drought, turtles may travel longer distances in response to drying habitat or other factors (U.S. Fish & Wildlife Service, n.d.).

Coastal Rainbow Trout/Steelhead– Central Valley DPS (*Oncorhynchus mykiss irideus*)

The Coastal Rainbow Trout is native to coastal tributaries throughout California and can take both anadromous and non-anadromous forms. Many populations today have been introduced in historically fishless regions of the Sierra Nevada and are derived from hatcheries. The species is referred to as Steelhead when it migrates to the ocean; California Rainbow Trout stay in freshwater all their lives, are smaller in size, and are sometimes referred to as resident rainbow trout. Resident rainbow trout are silvery in appearance and often have black spots with pinkish bands on each side, with gill covers that are pink to purple. Overall, coloration of the species is said to be highly variable. When found in smaller streams, the species can also take on a darker coloration on its backside with yellow tones on its belly, and orange tips on its fins (CalTrout). Habitat of the coastal rainbow trout varies, but with a common characteristic – they are found in cool, clear, fast-flowing waters such as streams and rivers. They are also able to thrive in tailwaters of large dams but can also be found in lakes or large reservoirs if there is ample food to support a population. Depending on their life stage, fish will have different habitat requirements (depth, water velocity, and substrate). The fish prefer to live in areas of a stream where they can passively remain in place along a nearby current, where food sources pass by in faster currents. Overhanging vegetation and submerged vegetation serve as protection from predators. The fish mature around 2-3 years of age, spawn 1-3 times, and most commonly survive up to 5-6 years. Spawning occurs in February to June but can vary depending on several factors. For stream-dwelling morphs, trout feed primarily on aquatic insects, terrestrial insects that drift into the water column, and occasionally, frogs and even other fish (Caltrout.org).

Foothill Yellow-legged frog – South Sierra DPS (*Rana boylei*)

The foothill yellow-legged frog is a small to medium sized frog measuring 1.5 to 3.2 inches in length. It is reported to have mottled gray, olive, or brown colored skin, and has yellow shading on its underside, including the underside of its rear legs. It is found from Oregon to Southern California, closely associated with streams, and occurs in a wide variety of vegetation types. The South Sierra DPS is listed as endangered by the U.S. Fish & Wildlife Service, due to a “strong pattern of declining stream occupancy, rapid reductions in occupied range and predicted inability to survive a catastrophic event”

(U.S. Fish & Wildlife Service, n.d.). The species is found in streams of both the foothills and mountains of the Sierra Nevada and Pacific Coastal Range, up to an estimated 5,000 feet elevation. It occurs in variable vegetation types, including but not limited to valley-foothill hardwoods and conifers, ponderosa pine, mixed conifer, mixed chaparral, and wet meadows. As a stream-obligate species, they are rarely observed outside the water's edge, and they typically breed in shallow, rocky water with at least partial sunlight exposure. The frogs may also be observed in open, rocky and sandy perch areas near the edge of the watercourse. The species is threatened by altered waterflows, predation by non-native species, disease, climate change, and high-severity wildfire. Habitat conversion/degradation and water-related recreation also threaten the Foothill Yellow-legged Frog (U.S. Fish & Wildlife Service, n.d.).

California Red-legged Frog (*Rana draytonii*)

The California red-legged frog is the largest native frog species in the western US, with females measuring at up to 5.4 inches in length (138 mm) and males measuring up to 4.5 inches (116 mm). The species is described as colorful in appearance, having red or salmon pink abdomens and undersides of their legs. Their backsides are described as being black blotchy or flecked with skin colorations that range from brown, gray, olive, or reddish-brown. The species ranges from portions of California's Coast Range to the Northern Transverse Ranges, and in very isolated populations of the Sierra Nevada foothills. The species is extirpated from its historic Central Valley range. This amphibian depends on water sources including streams and ponds for both habitat and breeding grounds. When stream levels are too high for the species, they will migrate to upland areas for food and shelter. When temperatures are high, they will also seek refuge under rocks or boulders, duff, animal burrows, and small stream channels. While mostly nocturnal, juveniles can also be diurnal. Frogs are inactive in cold temperatures (e.g., late winter months), as well as hot/dry temperatures (e.g., late summer months). Females lay eggs during or shortly after large rainfall events from November to May, and fewer than 1% of a clutch survive past the tadpole phase of the species (U.S. Fish & Wildlife Service, n.d.).

Western spadefoot (*Spea hammondi*)

The Western spadefoot is an amphibian that is considered a "vernal pool specialist" and is now regarded as severely declining due to decline in habitat type. At maturity, the species grows from 1.5 inches (3.8 cm) to 2.5 inches (6.3 cm) in length (Western Spadefoot - *Spea hammondi*, n.d.). They are described as stout, with short legs, warty skin, vertical pupils, and greenish, brown, cream, or gray skin color. The species is characterized by having a spade shaped wedge on each of its hindfeet. Western spadefoot is a California Species of Special Concern and is a candidate for federal listing under the US Endangered Species Act (California Conservation Genomics Project, 2023). The species is almost entirely terrestrial, except for the rainy season which typically spans between October to May. They reportedly emerge occasionally at other times of the year during rain events. Western spadefoot uses the hardened spades on its hindfeet to burrow underground as deep as 1 meter during the dry season (Roberts, n.d.) allowing it to inhabit hot, dry environments. They are rarely seen because they spend most of their lives inside the earth-filled burrows and only emerge at night during the rainy season (Western Spadefoot - *Spea hammondi*, n.d.). The species prefer treeless habitats which support vernal pool formation. Vernal pools are required for breeding, which occurs from January to June (Roberts, n.d.).

3.3.5 Archaeological Resources

The professional services of Environmental Resources Compliance, LLC (ERC) were secured to support the Initial Study and impact analysis for archaeological resources within the proposed Project area. In late January 2025, a California Historic Resources Information System (CHRIS) Information Center Record Search was conducted by ERC's Registered Professional Archaeologist (RPA). Results of the CHRIS search were utilized by the RPA and their designated professionals to locate previously recorded sites and flag them for avoidance. In addition to the local tribal knowledge provided by the Calaveras Band of Mi-Wuk Indians, the results and data procured through the CHRIS search were also referenced in considering the probability of cultural resources present throughout the proposed Project area.

Archaeological reconnaissance pedestrian surveys began in February 2025 through April 2025 and were prioritized within parcels having planned fall 2025 treatment areas. Sites and features discovered during surveys were mapped and flagged for avoidance. Additional pedestrian surveys may be scheduled as additional ROE is obtained and dependent upon funding availability. No detrimental impacts of cultural resources resulting from the proposed Project are anticipated, if treatment specifications, AMMs, and Mitigations are followed throughout implementation. Refer to Sections 5.5 and 5.18 of the IS-MND for more information. The Confidential Cultural Resource Package for the proposed Project on file with the Lead Agency.

4. Mitigation Measures

The following Mitigation Measures shall be followed during implementation to reduce impacts to a less than significant threshold or avoid impacts altogether. Section 5 covers analyses of impacts to resource categories and describes which mitigation measures will be applied to reduce potentially significant impacts below a threshold of significance. The awarded implementation contractor(s) shall follow all mitigation measures listed herein. Refer to Appendix A (Mitigation Monitoring and Reporting Plan) for additional information on the implementation and oversight of project mitigations.

Mitigation #1: Botanical Resources - Protections for Select Food Plant Genera of Crotch's Bumble Bee

To protect the preferred plant food sources for *Bombus crotchii* during floristic blooming season, the following measures will be followed:

- a. Ahead of implementation, a qualified individual will conduct prework surveys of all reasonably accessible areas within the treatment area, access route(s), and equipment staging area(s) for the presence of *Antirrhinum* (snapdragon), *Phacelia* (scorpionweed), *Clarkia* spp., *Dendromecon* (bush poppy), *Eschscholzia* (California poppy), and *Eriogonum* spp. (wild buckwheats).
 - i. If any of these select food plant genera are observed in the Project area, a 10-foot exclusion buffer will be flagged for avoidance around the outermost plant of an observed plant population.
- b. Prescribed Fire:
 - i. Prescribed burning within occupied or suitable habitat for special-status bumble bees will occur from October through February to avoid the bumble bee flight season.
 - ii. If prescribed fire is planned within a treatment area where any of these plant genera are present, a fire line will be constructed down to bare mineral soil where the 10' exclusion buffer would be flagged (i). Burn piles shall not be constructed on observed plants or within range to where plants would be scorched or killed by radiant heat.
- c. If herbivore grazing is planned within a treatment area where any of these plant genera are present, the plant(s) will be fenced for exclusion. An alternative exclusion method may be implemented upon approval of the Project RPF, if the plants are not grazed upon.

Mitigation #2: Protections for Western Pond Turtle

- a. During a significant drought event, and/or during nesting season (May 15 through July 15) in areas of suitable terrestrial habitat for the species, a qualified individual will conduct prework surveys immediately ahead of implementation of all reasonably accessible areas within the treatment units, access routes, and equipment staging areas for presence of the species.
- b. If a turtle is encountered during operations, work will immediately stop, and the contractor shall notify the Project RPF or designee; work shall not resume until the turtle leaves the worksite on its own accord. If a nest is identified, work will immediately stop, and the contractor shall notify the Project RPF or designee; the nest will

be flagged for avoidance before work will be permitted to resume. Any occurrences will be submitted to the CNDDDB.

- e. Any observed individuals shall not be relocated unless CDFW is first consulted and an Incidental Take Permit (Fish and Game Code § 2081 (b); Cal. Code Regs., tit. 14, §§ 783.2-783.8) is obtained by the Lead Agency.

Mitigation #3: Protections for California Tiger Salamander (CTS; *Ambystoma californiense* pop. 1)

For treatment areas that are within 1.25 miles of potentially suitable aquatic habitat, as described in AMM BIO-5:

- a. A qualified individual will conduct prework surveys of all reasonably accessible areas within the treatment area, access route(s), and equipment staging area(s) to confirm if suitable CTS upland dispersal habitat is present. Suitable upland dispersal habitat includes areas (grasslands and open woodlands) where ground squirrels and other small rodent burrows are present. Prework surveys will be based on the contractor's work schedule but will occur no more than 72 hours prior to operations.
 - i. If the absence of suitable upland dispersal habitat is confirmed, no further steps are necessary.
- b. If the presence of suitable upland habitat is confirmed, then a qualified individual will conduct walking surveys for the presence of animal burrows (CTS refugia):
 - i. If the absence of burrows is confirmed, no further steps are necessary.
 - ii. If the presence of burrows is confirmed, the burrows will be mapped and either delineated with exclusion tape, marked with pin flagging next to the burrow(s), or flagged in areas where delineation is not feasible, for exclusion and avoidance.
- c. In treatment areas where burrows are confirmed by the steps outlined above, the following seasonality restrictions shall apply:
 - i. If work is planned after the first fall rain of at least 0.5" or starting November 1 when CTS dispersal season begins (whichever occurs first), and until CTS dispersal season ends on April 30 or when nearby suitable breeding habitat within 1.25 miles is dry (whichever occurs last), then the contractor must be cleared for work by a qualified individual prior to operations.
 - ii. Where (i) above applies, operations shall also wait at least 30 minutes after sunrise and shall stop at least 30 minutes prior to sunset to allow for the safe passage of any unaccounted CTS.
- d. Prework surveys of all staged equipment will be conducted by a qualified individual to account for CTS utilizing equipment as refugia.
- e. If CTS is observed, the occurrence will be reported to CNDDDB and CDFW shall be consulted for guidance.
- f. Any observed individuals shall not be relocated unless CDFW is first consulted and an Incidental Take Permit (Fish and Game Code § 2081 (b); Cal. Code Regs., tit. 14, §§ 783.2-783.8) is obtained by the Lead Agency.

Mitigation #4: Protections for CA Red-legged Frog (CRLF)

For treatment areas that are within 1.7 miles of potentially suitable aquatic breeding habitat, as described in AMM BIO-5, either (a) or (b), described in the following, shall occur:

- a. A qualified biologist shall implement protocol level surveys following the *Revised Guidance on Site Assessments and Field Surveys for California Red-legged Frog* (U.S. Fish and Wildlife Service, 2005).
 - i. If a qualified biologist implements protocol level surveys and confirms the absence of CRLF, no further measures shall apply for that respective treatment area.

- ii. If CRLF are found to be present, then a qualified individual shall actively monitor operations to ensure no individuals are harmed or disturbed by activities. Alternatively, an Approved Designated Biologist may relocate an individual, if an appropriate location exists.
- b. An exclusion buffer of 300' from aquatic habitat will be flagged for all activities, except grazing, and shall apply during CRLF dispersal season from October 1 through April 1, or within 24 hours following a rain event of greater than 0.25".
 - i. If avoidance is not feasible within the 300' exclusion buffer from aquatic habitat during active dispersal season, or following a rain event of greater than 0.25", then a qualified individual will conduct prework surveys of all reasonably accessible areas within the treatment area, access route(s), and equipment staging area(s) prior to activities, to confirm the absence of CRLF. Activities will be monitored by a qualified individual during work in these areas.
 - ii. If the above (i) is being implemented and project activities require moving or treating large woody debris greater than 12" in diameter, that piece of woody debris shall be evaluated by a qualified individual to confirm the absence of CRLF.
- c. Refer to AMM HYD-1 (b) regarding drying periods for mechanized equipment following rainfall. Manual treatments, chipper operations on established roads, and chipper operations on compacted surfaces may continue.
- d. For activities performed year-round (e.g., manual treatments): within 30' of any class I or II watercourses, sensitive habitat areas (e.g., wet seeps), or running class III watercourses, a qualified individual will conduct secondary walking surveys of all reasonably accessible areas within the treatment areas, access route(s), and equipment staging area(s) prior to activities, to confirm the absence of CA Red-legged Frog. Activities will be actively monitored by the qualified individual until work ceases within 30' of the watercourse or habitat.
- e. If an individual is found during any of the above listed steps, or an individual enters the treatment area during active operations, all work will stop within a non-disturbance buffer of 100' around the individual unless it is determined by a qualified individual that a different buffer is appropriate to avoid disturbance, injury, or mortality. Additionally, the following shall apply:
 - i. Treatment activities will cease within the buffer until the animal leaves on its own.
 - ii. The occurrence will be reported to CNDDDB and CDFW shall be consulted for guidance.
 - iii. Any observed individuals shall not be relocated unless CDFW is first consulted and an Incidental Take Permit (Fish and Game Code § 2081 (b); Cal. Code Regs., tit. 14, §§ 783.2-783.8) is obtained by the Lead Agency.

Mitigation #5: Protections for Swainsons Hawk, Tricolored Blackbird, Bald Eagle, and nongame nesting birds

If activities are planned during bird nesting season, the following steps shall apply:

- a. No more than 7 days prior to the first day of implementation within a treatment area, a qualified individual shall conduct prework surveys of all reasonably accessible areas within the treatment area, access routes, and equipment staging areas for the presence of nesting birds or bird nests. If no nests or colonies are observed, no further steps are necessary.
 - a. Any known nest locations (active or inactive) identified during field reconnaissance will be re-visited as part of this step.
- b. If an active nest or nesting bird is identified, the contractor will cease activities and immediately notify the Project RPF or designee; CDFW will be consulted for further guidance and occurrences of special status species

will be reported to CNDDDB. Any encountered nests shall be mapped, and a corresponding performance-based exclusion buffer shall apply. The buffer will be flagged whenever practicable, and the following shall apply:

- i. No mechanical equipment operations or vegetation altering activities shall occur within the exclusion buffer, except for grazing. Factors to be considered for determining buffer location will include the following: presence of natural buffers provided by vegetation or topography, nest height above ground, baseline levels of noise and human activity, species sensitivity, and expected treatment activities.
- ii. The preliminary exclusion buffer will depend on species as follows:
 - Non-raptors: 50' buffer
 - Tricolored Blackbird: 60' buffer, in accordance with CDFW's "Staff Guidance Regarding Avoidance of Impacts to Tricolored Blackbird Breeding Colonies on Agricultural Fields in 2015". If a nesting colony is present within 300' CDFW will be consulted. A nesting colony is defined as a spatially discrete cluster of breeding/nesting territories, usually tightly packed together.
 - Swainsons Hawk: 0.5-mile buffer
 - Bald Eagle: 10-acre (660 foot) buffer
- c. A qualified individual will actively monitor the nest(s) during any activities which may cause disturbance. Should a nesting bird exhibit agitated behavior resulting from activities (e.g., vocalizing, flying defensively, flying off the nest or otherwise disturbing brooding) the exclusion buffer will be increased until activities are far enough from the nest that the behavior(s) stop.
- d. The exclusion buffer will remain in place for the duration of the Project during nesting season, or until chicks have fledged.
- e. Any observed individuals shall not be relocated unless CDFW is first consulted and an Incidental Take Permit (Fish and Game Code § 2081 (b); Cal. Code Regs., tit. 14, §§ 783.2-783.8) is obtained by the Lead Agency.

5. Evaluation of Environmental Impacts and Summary of Findings

These following subsections of the document are formatted based on the Environmental Checklist Form in *Appendix G* of the CEQA Guidelines (CCR Title 14) and provide an analysis of the proposed Project's potential impacts on resources identified in the checklist. Based on CEQA Guidelines, the level of potential impact on each resource is determined as one of the four categories: No Impact, Less Than Significant Impact, Less Than Significant Impact with Mitigation Incorporated, or Potentially Significant Impact. Impact determinations are justified in the discussion along with any proposed mitigations, although occasional notes justifying the "No Impact" determination may be included.

The proposed Project will not have any significant effects on the environment after implementation of mitigation measures. The following determinations have been made which support the Lead Agency's decision to prepare a mitigated negative declaration:

1. The proposed Project will have No Impact related to: Cultural Resources, Energy, Geology and Soils, Hazards and Hazardous Materials, Land Use, Minerals, Population and Housing, Public Services, Recreation, Transportation, Tribal Cultural Resources, Utilities and Service Systems, and Wildfire.
2. The proposed Project will have Less Than Significant Impact related to: Aesthetics, Agriculture and Forestry Resources, Air Quality, Greenhouse Gas Emissions, Hydrology and Water Quality, and Noise.

3. The proposed Project will have Less Than Significant Impact with Mitigation Incorporated related to Biological Resources and Mandatory Findings of Significance.

5.1 Analysis of Impacts to Aesthetics

Except as provided in Public Resources Code Section 21099, would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☒	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

5.1.1 Discussion

a) The Project will occur within privately owned properties where roadways are used primarily by residents and occasional visitors. There are no known scenic vistas along roadways within the Project area that would be impacted by the Project. **No Impact.**

b) There are no state scenic highways within the Project area, and the Project is not visible from any state scenic highways. **No Impact.**

c) The proposed Project will involve the removal of small trees (less than or equal to 10" DBH) and brush which will alter the visual character of the site and its surroundings to some degree. If prescribed fire or herbivory is used, there may be visual impacts of flames and smoke, or livestock. Some portions of the Project are visible from public roads, but most treatment areas are visible only from private property. Project activities can be reasonably expected to reduce visual screening effects of natural vegetation in some areas, such as between neighboring residences, between residences and roadways, or other public viewpoints. However, proposed treatments will be transient in nature and are not expected to substantially degrade the visual character of the Project area. The vegetative understory will naturally regenerate over time. Landowners participating in the proposed Project were given opportunities to share concerns related to aesthetics upon providing ROE and during spring 2025 site visits; additional opportunities will be available prior to implementation. **Less Than Significant Impact.**

d) In its current state, several portions of the Project area are considered overgrown with understory brush and ladder fuels, which is partly a result of a suppressed historic fire regime within the landscape. The Project will reduce understory vegetation in identified areas where wildfire hazard threatens public safety. Live overstory vegetation is not prescribed for treatment. Although minimal, there will be areas of the Project post-treatment that allow for more natural, visual light penetration. **Less Than Significant Impact.**

5.2 Analysis of Impacts to Agriculture and Forestry Resources

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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 nonagricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public 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))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☒	☐
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?	☐	☐	☐	☒

5.2.1 Discussion

a) The Project will not involve the conversion of any land use designations and is not a construction or development project. **No Impact.**

b) Existing zoning will be unaffected by the Project; future zoning will also have no effect. **No Impact.**

c) The Project poses no conflicts with existing zoning. **No Impact.**

d) The Project will involve the cutting of trees and vegetation primarily within Blue Oak Woodland and Chamise Redshank Chaparral habitat. Refer to the Section 2.2.4 – Treatment Specifications. Established trees over 10" DBH will be retained and limbed to 10' aboveground to reduce ladder fuels. Trees less than 10" DBH will be cut to fulfill a variable spacing specification. Herbivory may be used as a fuels management strategy in select areas, such as mechanically inaccessible areas or where hand work is not practical. Prescribed fire (pile burning and/or broadcast burning) may occur in select areas in coordination with CAL FIRE to reduce hazardous vegetative fuels and promote resiliency in fire-adapted plant communities. Treatments may enhance habitat biodiversity and suitability for many plant and animal species by mimicking

disturbance. By reducing canopy closure between trees and removing dense and overgrown vegetation within the TIZ, the Project will conserve nearby agricultural resources and forest lands by reducing the likelihood of catastrophic, fast-spreading wildfire. **Less Than Significant Impact.**

e) Although there will be an immediate reduction in vegetative fuels following the proposed treatments, the vegetation will eventually grow back successional. There will be no forest type-conversion resulting from the proposed Project. **No Impact.**

5.3 Analysis of Impacts to Air Quality

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	☒
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	☐	☒	☐
c) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☐	☒
d) Result in other emissions (such as objectionable odors) adversely affecting a substantial number of people?	☐	☐	☐	☒

5.3.1 Discussion

a) The proposed Project area is within the Mountain Counties Air Basin, under the jurisdiction of the Calaveras County Air Pollution Control District (CCAPCD). Project activities are subject to the CCAPCD's district rules but will not conflict with, or obstruct the implementation of, any applicable air quality plans. Due to the county's federal non-attainment status for ozone (further discussed in (b)), CCAPCD prepared an EPA-required Ozone Emergency Episode Plan, under Rule 428 (EPA Compiled Rules and Regulations: Calaveras County Air Pollution Control District (APCD), 1972). The CCAPCD Ozone Emergency Episode Plan breaks down general emissions sources into four categories: district, stationary, mobile, and areawide. The proposed Project will be a source of both mobile and stationary emissions, with mobile sources as the most typical. Prescribed pile burning will be the only stationary source of criteria pollution, and all burning operations shall comply with applicable law and CCAPCD rules. **No Impact.**

b) The U.S. Clean Air Act requires the Environmental Protection Agency (EPA) to set National Ambient Air Quality Standards for the six common air pollutants (criteria pollutants) in the United States. These criteria pollutants are Ozone (O₃), Particulate Matter (PM_{2.5}, PM₁₀), Carbon Monoxide (CO), Lead, Sulfur Dioxide (SO₂), and Nitrogen Dioxide (N₂O). They are

named for how they are regulated, based off criteria related to their harmful effects on human and environmental health (Environmental Protection Agency, 2025). Calaveras County is in non-attainment status for 8-hour ozone under 2015 federal standards (Environmental Protection Agency, 2025). Under state standards, Calaveras County is in non-attainment for Ozone and PM₁₀, and unclassified for PM_{2.5}.

There is limited data available for emissions significance thresholds established within Calaveras County. To establish thresholds of significance for criteria pollutants, Chapter 4.3 of the *Draft Environmental Impact Report for Calaveras County* was referenced (Calaveras County, 2018). These established project-level thresholds of significance are for proposed *development* projects, not vegetation management projects. In the absence of other applicable emissions thresholds, considering these thresholds for ROG, NO_x, and PM₁₀ presents a conservative air quality impact analysis for the proposed Project. Refer to the table below.

Calaveras County Air Pollution Control District Thresholds of Significance ¹	
Pollutant ^{2,3}	Construction/Operational Thresholds (lbs/day)
ROG	150
NO _x	150
PM ₁₀	150
¹ (Calaveras County, 2019) ² ROG = Reactive Organic Gases; NO _x = Nitrogen Oxides, ozone precursors; PM ₁₀ = Inhalable Particulate Matter (particle diameter of ≤ 10 microns) ³ Refer to Section 5.8 for greenhouse gas emissions analysis.	

The expected sources of criteria pollutants from the proposed Project are equipment operations, vehicles/transportation, and prescribed burning. Such sources are assessed as follows:

i) Equipment Operations

The main source of criteria pollutant emissions will be from equipment operations, but a net increase of criteria pollutants is unlikely. The exact equipment used for the proposed Project won’t be known until a contract is awarded for implementation, with the first implementation contract anticipated for fall 2025, assuming the adoption of the IS-MND. However, common industry knowledge and experience provides an idea of what equipment will be used. A masticator is the primary type of equipment needed to fulfill the Project’s objectives. Masticators and other types of equipment require a carrier machine to operate and can be configured in various ways. Typical carrier machines are excavators, skid steers, or tractors.

We assume one excavator-type masticator, an excavator-type feller-buncher, a skid steer, and a mini-excavator with brush rake and grapple attachments for implementation in mechanical treatment areas. This equipment is commonly used in fuel reduction and forestry projects of similar scope and scale. For anticipated fall 2025 implementation, approximately 391 acres have been identified for treatment based on ROE and other factors. Some acres are slated for hand treatments, presenting a conservative analysis for criteria pollutant emissions. A production rate of 5 acres per day was assumed for mechanical treatments, estimated at approximately 78 working days for fall 2025 implementation. These estimations were used to calculate average daily emissions of criteria pollutants using the Sacramento Metro Air Quality Management District Construction Mitigation Tool (Sacramento Metropolitan Air Quality Management District, 2024). The table below represents the model estimations, and the full worksheets are attached in Appendix C:

Equipment Type	Model Year	Horsepower	Est. Hours of Operation ⁴	Fuel Type
Excavator	2020	326 ¹	780	Diesel

Excavator	2020	326 ¹	780	Diesel
Skid Steer	2020	70 ²	780	Diesel
Mini-excavator	2020	70 ³	780	Diesel
Total Average Daily Emissions (lbs/day)				
ROG		NO _x	PM ₁₀	
0.74		3.85	0.07	
¹ Based off average horsepower for excavator-type masticators (Jain, Sikkink, Keefe, & Byrne, 2018)				
² Based off the highest range value of horsepower for midsized skid steers (Eusebio, 2022)				
³ Based off the highest value of horsepower for CAT mini excavators (Mini Excavators, n.d.)				
⁴ Assuming 78 days for fall 2025 implementation, at 10 hours/day for operations.				

The estimated daily emissions of equipment operations for ROG, NO_x, and PM₁₀ are all well below the established daily thresholds for Calaveras County. These estimations assume the most active operational scenario of operating simultaneously over a standard workday and treating all acres mechanically, which presents a conservative analysis. Actual Project-related emissions are expected to be less. **Less Than Significant Impact.**

ii) Vehicle Travel

Refer to Section 5.8 for Greenhouse Gas Emissions Analysis pertaining to Vehicle Travel. Air quality impacts from Project-related vehicle travel will be insignificant, with mechanical equipment being the primary source of pollution from project activities. **No Impact.**

iii) Fugitive Dust

Fugitive dust resulting from Project activities will not be a long-term source. According to Krause and Smith, Ph.D. (2006), PM₁₀ is mainly produced by mechanical processes, whereas PM_{2.5} (finer particles) are produced mainly from mobile and stationary combustion sources. Mechanical operations have the potential to generate fugitive dust (PM₁₀), particularly during periods of low soil moisture. Refer to (i) for estimated PM₁₀ emissions resulting from mechanical operations. **Less Than Significant Impact.**

iv) Burning Emissions

Prescribed fire will be utilized on an occasional basis and most likely implemented under CAL FIRE's VMP by highly qualified individuals. It is not the primary treatment method for the proposed Project but has the potential to impact air quality whenever conducted. Burn operations would be regulated by the CCAPCD under Rules 318, 321, and 428. Prior to any burning, fire practitioners shall coordinate with CCAPCD to obtain necessary permits and develop a smoke management plan whenever applicable (refer to AMM HAZ-2). **Less Than Significant Impact.**

c) According to the CA Air Resources Board (CARB), "sensitive receptors are children, elderly, asthmatics and others who are at a heightened risk of negative health outcomes due to exposure to air pollution" (2025). Locations that may be considered "sensitive receptor locations" include hospitals, schools, and day care centers. Potential sensitive receptor locations within the Project vicinity which may be impacted by the proposed Project include the following: Jenny Lind Elementary School, Valley Springs Elementary School, Toyon Middle School, Valley Springs Health and Wellness Center, and a few day care centers. As discussed in (b), Project activities will be transient in nature and will not produce substantial pollutant concentrations. Sensitive receptors are not expected to be adversely affected by the proposed Project. The proposed Project aims to prevent catastrophic wildfire, which would be a major source of emissions with the potential to significantly impact sensitive receptors. **No Impact.**

d) Objectionable odors resulting from Project activities will not adversely affect a substantial number of people. As discussed in (b), mechanical operations during implementation will temporarily increase pollution and may produce objectionable odors for some individuals, nearby residences, or businesses. Smoke from burning is expected as the main

source of objectionable odor(s), but will only occur with the cooperation of landowners and in adherence to AMM HAZ-2. Overall, objectionable odors associated with Project activities will be both temporary and insignificant. **No Impact.**

5.4 Analysis of Impacts to Biological Resources

Under CEQA, the effects of a Project on biological resources are considered to be potentially significant if the proposed Project-related actions result in any of the following, (CEQA Environmental Checklist Appendix G):

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.	☐	☒	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites?	☐	☒	☐	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.	☐	☐	☐	☒

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.	☐	☐	☐	☒
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5.4.1 Discussion & Mitigation

a) In this section, biological resources are categorized as either botanical resources or terrestrial and aquatic wildlife species. The impact analysis for each species includes the following: listed AMMs (Section 2.2.5), discussion, and impact determination. For species which could be significantly impacted by the proposed Project after consideration of AMMs, mitigation measures shall apply to reduce potential impacts below a threshold of significance. Section 3.3.4 discusses the methodologies used to obtain occurrence data and life history information on sensitive, threatened, and endangered species within the proposed Project area. The table below lists the species that occur, or have the potential to occur, within the proposed Project area:

Scientific Name	Common Name	Federal Status	State Status	Taxon Group
PLANTS				
<i>Arctostaphylos myrtifolia</i>	lone manzanita	Threatened	None	Dicots
<i>Eriogonum apricum</i> var. <i>apricum</i>	lone buckwheat	Endangered	Endangered	Dicots
WILDLIFE				
Amphibians				
<i>Ambystoma californiense</i> pop. 1	California tiger salamander – central California DPS ¹	Threatened	Threatened	Amphibians
<i>Actinemys marmorata</i>	Western pond turtle	Proposed Threatened	SSC	Reptiles
<i>Rana boylei</i> pop. 5	Foothill yellow-legged frog – south Sierra DPS	Endangered	Endangered	Amphibians
<i>Rana draytonii</i>	California red-legged frog	Threatened	SSC	Amphibians
<i>Spea hammondi</i>	Western spadefoot	Proposed Threatened	SSC	Amphibians
Birds				
<i>Haliaeetus leucocephalus</i>	Bald eagle	Delisted	Endangered	Birds
<i>Agelaius tricolor</i>	Tricolored blackbird	None	Threatened	Birds
<i>Buteo swainsoni</i>	Swainson's hawk	None	Threatened	Birds
Invertebrates				
<i>Bombus crotchii</i>	Crotch's bumble bee	None	Candidate Endangered	Insects
<i>Branchinecta lynchi</i>	Vernal pool fairy shrimp	Threatened	None	Crustaceans
<i>Desmocerus californicus dimorphus</i>	Valley elderberry longhorn beetle (VELB)	Threatened	None	Insects
Fish				
<i>Oncorhynchus mykiss irideus</i> pop. 11	Steelhead – Central Valley DPS	Threatened	None	Fish

¹DPS = Distinct population segments

²SSC = Species of Special Concern

Botanical Resources

Lone manzanita (*Arctostaphylos myrtifolia*)

Avoidance/Minimization Measures: BIO-3, BIO-4, HAZ-1, HAZ-2, EDU-1

Discussion: A CNDDDB query yielded occurrence data for lone manzanita in the Wallace, Valley Springs, San Andreas, lone, and Jackson quads. There are zero recorded occurrences within the Project area, and the likelihood of an occurrence is low due to the species' niche habitat requirements. The nearest recorded occurrence is approximately 2 miles north of the northernmost portion of the Project area. In June 2024, and during Spring 2025 field reconnaissance, both windshield and pedestrian surveys were conducted. There were no confirmed sightings of lone manzanita, which is very distinct in comparison to associated plants of the area. Further, the incorporated AMMs aim to avoid or reduce impacts to lone manzanita in the unlikely event it is encountered during Project activities.

Impact Determination: No Impact.

Lone buckwheat (*Eriogonum apricum*)

Avoidance/Minimization Measures: BIO-3, BIO-4, HAZ-1, HAZ-2, EDU-1

Discussion: The CNDDDB/BIOS6 and Calflora queries (described in Section 3) yielded 6 and 12 known occurrences, respectively. For both queries, the nearest occurrence was measured 8.8 miles north of the northernmost portion of the Project area. A windshield survey in May 2024 resulted in zero observations of the plant and very few areas where it could possibly grow. Considering that lone buckwheat grows on barren outcrops, in addition to the presence of annual grasses covering nearly the entire vegetative portion of the treatable Project area, the possibility of lone buckwheat occurring within the Project is very low. Dense groundcover and the lack of associated species (lone manzanita) further supports this determination. Further, the incorporated AMMs aim to avoid or reduce impacts to lone buckwheat in the unlikely event it is encountered during Project activities.

Impact Determination: No Impact.

Terrestrial and Aquatic Wildlife Species

Nongame Nesting Birds

Avoidance/Minimization Measures: BIO-1, HAZ-2, EDU-1.

Discussion: The incorporated AMMs aim to avoid or reduce impacts to nongame nesting birds. However, the proposed Project could still have significant impact on nesting birds utilizing habitat within treatment areas, if avoidance during nesting season is unfeasible. If mechanical, hand, and burning treatments occur during nesting season, activities could incidentally damage an established nest or cause disturbance to nesting birds resulting in nest abandonment.

Impact Determination: Less Than Significant with Mitigation Incorporated.

Mitigation: Mitigation Measure #5

Bald Eagle (*Haliaeetus leucocephalus*)

Avoidance/Minimization Measures: BIO-1, HYD-1, HAZ-2, EDU-1.

Discussion: The incorporated AMMs aim to avoid or reduce impacts to bald eagle. However, the proposed Project could still have significant impact on nesting eagles utilizing habitat within treatment areas, if avoidance during nesting season is unfeasible. If mechanical, hand, and burning treatments occur during nesting season, activities could incidentally damage an established nest or cause disturbance to nesting eagles resulting in nest abandonment. Results of the CNDDDB query showed one known occurrence of bald eagle within the 9-quad query area. The nest site was recorded in 1994, and its presence is presumed extant. The nest site is nearly three miles from the eastern edge of the Project area and on the opposite side of New Hogan Reservoir. Suitable habitat also exists within the Project area, including several parcels with permanent ponds that could be desirable for the species. During spring 2025 field reconnaissance, there was a confirmed sighting of a pair of bald eagles flying above the proposed Project area, but a nest was not located or spotted.

Impact Determination: Less Than Significant with Mitigation Incorporated.

Mitigation: Mitigation Measure #5**Tricolored Blackbird (*Agelaius tricolor*)****Avoidance/Minimization Measures:** BIO-1, HYD-1, HAZ-2, EDU-1.

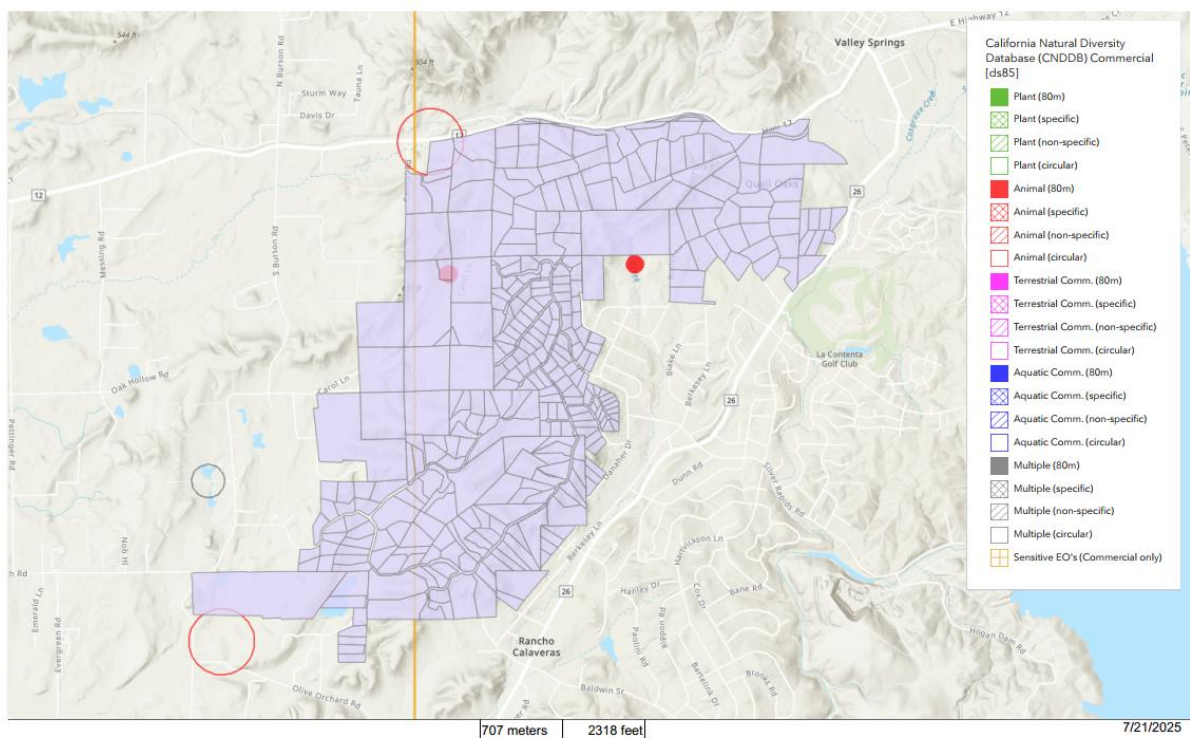
Discussion: The incorporated AMMs aim to avoid or reduce impacts to tricolored blackbird (TCB). However, the proposed Project could still have significant impact on nesting TCB colonies utilizing habitat within treatment areas, if avoidance during nesting season is unfeasible. If mechanical, hand, and burning treatments occur during nesting season, activities could incidentally damage an established nest or cause disturbance to nesting birds resulting in nest abandonment. According to the CNDDb, there are several occurrences of TCB in the 9-quadrant query area for the proposed Project. There are no reported occurrences within the Project area, but suitable habitat is present.

Impact Determination: Less Than Significant with Mitigation Incorporated.**Mitigation:** Mitigation Measure #5**California Tiger Salamander (CTS, *Ambystoma californiense* pop. 1)****Avoidance/Minimization Measures:** BIO-5, HYD-1, HAZ-1, HAZ-2, EDU-1.

Discussion: The incorporated AMMs aim to avoid or reduce impacts to California tiger salamander (CTS). There have been occurrences of CTS within and near the Project area. There are two occurrences immediately adjacent to (and/or intersecting) the Project area that were reported as having 1/5-mile accuracy, and two occurrences within the Project area that were reported as having 80-meter accuracy. The latter occurrences were reported in 2015 and 2019. The occurrence map, below, is included at the request of CDFW per July 2025 communications following agency comment.

7/21/25, 12:15 PM

BIOS Viewer@CDFW

NW Calaveras Fuels Reduction Project - CTS Occurrences (Wallace & Valley Springs Quads)

Treatment units are designed to treat areas of dense vegetation, with activities inherently avoiding potentially suitable breeding habitat and potentially suitable upland grassland habitats. Burrowing California ground squirrels (*Otospermophilus beecheyi* and *O. douglasii*) create burrows utilized by CTS. These ground squirrels “tend to avoid flood irrigated areas, thick chaparral, dense woods and very moist areas. . .” (University of California Agriculture and Natural Resources, 2020). Considering that CTS usage of upland habitat is primarily limited to areas where burrows exist, it stands

to reason that these upland habitats are primarily in grasslands. Grasslands and savannas are the main terrestrial habitats utilized by CTS. Habitats with patches of shrubs as well as oak woodlands may be used for travel, although oak woodlands to a lesser extent. However, these habitats do not substitute for grasslands and generally lack abundant burrows which are desirable to the species (Ford, et al., 2013). Further, dense herbaceous vegetation is believed to reduce ground squirrel populations, which may reduce the likelihood of suitable burrows that would be utilized by CTS (Ford, et al., 2013). Treatment areas are prioritized for densely overgrown chamise habitats, where the likelihood of CTS occurrence is presumably low. However, there are treatment areas planned in densely spaced oak woodlands, which could threaten any migrating CTS during dispersal season. There is also potential for equipment to collapse burrows, which could inadvertently result in the harm or mortality of CTS if the burrow is being utilized. Also recognized is that individuals, especially juveniles, may shelter in aboveground refuges, such as staged equipment. Therefore, there is potential for CTS to be significantly impacted by Project activities.

Impact Determination: Less Than Significant with Mitigation Incorporated.

Mitigation: Mitigation Measure #3

Crotch's Bumble Bee (*Bombus crotchii*)

Avoidance/Minimization Measures: BIO-2, BIO-3, BIO-4, EDU-1

Discussion: The incorporated AMMs aim to avoid or reduce impacts to Crotch's bumble bee. As an uncommon species, the phenology of Crotch's Bumble Bee is not fully understood. Information available for Southern California shows that queens are most active from March to May; workers from April to August; and males from May to September (Koch, Strange, & Williams, 2012). With this information, we can generalize that the species is active from March to September, however this largely depends on elevation and climate. Therefore, we cannot fully ascertain the phenology of Crotch's Bumble Bee within the proposed Project area.

Utilizing Calflora's Observation Search Tool (Calflora), an approximate 9-quadrant search of the six select food plant genera for Crotch's Bumble Bee was completed. The purpose of the search was to determine if any of these select food plant genera had occurrence/observation data within the Proposed Project area over the last 5 years from the date of the search (December 5, 2024). The table below summarizes the findings of this search.

Select Plant Food (Genus)	Observed (Y/N)	# of Observations	Quadrangle
<i>Antirrhinum</i>	N	N/A	N/A
<i>Phacelia</i>	Y	3	Wallace, Valley Springs, Jenny Lind
<i>Clarkia</i>	Y	14	Wallace, Valley Springs, Valley Springs SW, Jenny Lind
<i>Dendromecon</i>	N	N/A	N/A
<i>Eschscholzia</i>	Y	19	Wallace, Valley Springs, Valley Springs SW, Jenny Lind
<i>Eriogonum</i>	Y	2	Jenny Lind

Based on the results of the Calflora query above, 4 of the 6 select food plant genera occur in the general region of the Project: *Phacelia*, *Clarkia*, *Eschscholzia*, and *Eriogonum*. It can be assumed there is a possibility these select food plants may exist within the Project area. The presence of other common flowering botanical species could support the bumble

bee as well. Although no publicly available data exists confirming the presence of Crotch's Bumble Bee within the proposed Project area, there is the potential for the species to be significantly impacted by Project activities.

Impact Determination: Less Than Significant with Mitigation Incorporated.

Mitigation: Mitigation Measure #1

Vernal Pool Fairy Shrimp (*Branchinecta lynchi*)

Avoidance/Minimization Measures: HYD-1, HAZ-1, EDU-1

Discussion: The incorporated AMMs aim to avoid or reduce impacts to Vernal pool fairy shrimp. The species only exist in vernal pools, which will be excluded from all equipment by watercourse buffers. Project activities will not occur within vernal pools.

Impact Determination: No Impact.

Swainson's Hawk (*Buteo swainsoni*)

Avoidance/Minimization Measures: BIO-1, HYD-1, EDU-1

Discussion: The incorporated AMMs aim to avoid or reduce impacts to Swainson's hawk. It is unlikely that a Swainson's hawk nest will be affected by tree removal activities, given the species' preference for nest sites in tall trees isolated trees, along riparian corridors, or edges of agricultural fields. However, it is possible that activities could still have significant impact on nesting hawks in areas near riparian corridors, even with watercourse buffers in place. If avoidance of mechanical, hand, and burning treatments is unfeasible during nesting season, activities could incidentally damage an established nest or cause disturbance to a nesting hawk, resulting in nest abandonment.

Impact Determination: Less Than Significant with Mitigation Incorporated.

Mitigation: Mitigation Measure #5

Valley Elderberry Longhorn Beetle, VELB (*Desmocerus californicus dimorphus*)

Avoidance/Minimization Measures: BIO-2, BIO-4, EDU-1

Discussion: VELB has a commensal symbiotic relationship with its host plant elderberry (*Sambucus spp.*). Therefore, elderberry preservation is essential to VELB's reproduction and survival. Elderberry is also culturally significant to many indigenous peoples of California, including the Calaveras Band of Mi-Wuk Indians, further emphasizing the importance of its preservation. Windshield surveys in June 2024 and field reconnaissance throughout late winter/early spring 2025 confirmed the presence of elderberry throughout the Project area. As part of the Project's design, elderberry is listed for retention and avoidance in both the treatment specifications (Section 2.2.4) and AMMs. Although unlikely, elderberry plants could be incidentally damaged during treatments, which is especially true for younger plants or plants not immediately identifiable within dense brush areas. Therefore, the incorporated AMMs aim to avoid or reduce impacts to VELB (and the host shrub elderberry).

Impact Determination: Less Than Significant.

Western Pond Turtle (*Actinemys marmorata*)

Avoidance/Minimization Measures: BIO-5, HYD-1, HAZ-1, EDU-1

Discussion: The incorporated AMMs aim to avoid or reduce impacts to western pond turtle. Project activities will not occur in riparian areas, wet areas, or ponds. Implementation is targeted to occur outside of the species nesting season, which overlaps with fire season. However, the species may suffer significant impact if operations occur within an inconspicuous nesting site, or during a drought event or significant dry period, when turtles are seeking refugia or nesting in terrestrial sites.

Impact Determination: Less Than Significant with Mitigation Incorporated.

Mitigation: Mitigation Measure #2

Coastal Rainbow Trout/Steelhead – Central Valley DPS (*Oncorhynchus mykiss irideus*)**Avoidance/Minimization Measures:** HYD-1

Discussion: The incorporated AMMs aim to avoid or reduce impacts to coastal rainbow trout or downstream impacts to water quality. There are no Class I watercourses within the proposed Project area. Therefore, no suitable habitat exists within the Project area that could support coastal rainbow trout.

Impact Determination: No Impact.

Foothill Yellow-legged Frog – South Sierra DPS (*Rana boylei*)**Avoidance/Minimization Measures:** BIO-5, HYD-1, HAZ-1, EDU-1

Discussion: The incorporated AMMs aim to avoid or reduce impacts to the foothill yellow-legged frog. Project activities will not occur in riparian areas, wet areas, vernal pools, or ponds. During spring 2025 field reconnaissance, two individuals were identified along a gravel road in a wet puddle, outside of any planned treatment areas. It was promptly reported to CNDDB. The species is rarely observed away from the water's edge of their habitat, making any significant impact highly unlikely.

Impact Determination: Less Than Significant.

California Red-legged Frog, CRLF (*Rana draytonii*)**Avoidance/Minimization Measures:** BIO-5, HYD-1, HAZ-1, EDU-1

Discussion: The incorporated AMMs aim to avoid or reduce impacts to CRLF. Project activities will not occur in riparian areas, wet areas, vernal pools, or ponds. However, the species is sympatric with CTS and may be significantly impacted if encountered during implementation while migrating to upland habitat or refugia.

Impact Determination: Less Than Significant with Mitigation Incorporated.

Mitigation: Mitigation Measure #4

Western Spadefoot (*Spea hammondi*)**Avoidance/Minimization Measures:** BIO-5, HYD-1, HAZ-1, EDU-1

Discussion: The incorporated AMMs aim to avoid or reduce impacts to western spadefoot. Project activities will not occur in riparian areas, wet areas, vernal pools, or ponds. Rain pools and puddles will be assessed prior to activities. Therefore, it is not expected that suitable breeding habitat for western spadefoot will be significantly impacted. Suitable terrestrial habitat is also present within the Project area; however, given the species' habitat preference for open areas and grasslands, and their nocturnal life history, the likelihood of encountering a western spadefoot is very low.

Impact Determination: Less Than Significant.

b) The proposed Project will not have a substantial adverse effect on riparian habitats. As discussed in (a), AMMs and proposed mitigations (where applicable) will prevent or avoid significant impacts to riparian habitats and the species which depend on them. There will be no substantial adverse effect on other sensitive natural communities, and the proposed Project does not conflict with any local, regional, state, or federal policies or regulations. **No Impact.**

c) The proposed Project involves no activities which would removal, fill, alter, or hydrologically interrupt the function of protected wetlands. Activities will be excluded from all wetlands, regardless of protected status. **No Impact.**

d) The proposed Project will not interfere with native fish species, habitat, or migration. Riparian habitat will be protected by watercourse buffers, activity restrictions, and other associated AMMs (Section 2.2.5). Refer to (a) for discussion and proposed mitigation for CTS and CRLF. Any potentially significant impact to the upland dispersal of both CTS and CRLF will be avoided, reduced, or otherwise offset by AMMs and mitigation. On the contrary, the proposed Project could have a positive impact on the sympatric species by establishing open upland habitat, where presently dense vegetation would

otherwise continue to 1) impede their upland dispersal to nearby grasslands where refugia exists, and/or 2) impede ground squirrels from creating burrows, which serve as a preferred upland refugia of both CTS and CRLF. **No Impact.**

e,f) The proposed Project does not involve activities which conflict with local policies or ordinances pertaining to biological resources, tree preservation, habitat conservation, or the environment. The Calaveras County Oak Woodlands Ordinance, Section 17.101.010(a,c,e), seeks to preserve and enhance healthy oak woodlands consistent with fire safety considerations. The plan is most applicable to development projects or projects involving the removal or conversion of oak woodlands. The proposed Project does not seek to remove oak woodlands or convert oak woodlands. Conversely, the proposed Project will enhance oak woodland habitat by accomplishing the following: reducing canopy closure by increasing the spacing between individual oak trees; retaining oak trees over 10" in diameter; establishing a more open oak woodland understory; creating opportunities for broadcast burning, which will benefit the fire-adapted ecosystem; and increasing oak woodland resiliency from catastrophic wildfire. **No Impact.**

5.5 Analysis of Impacts to Cultural Resources

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	☐	☐	☐	☒
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☐	☐	☒
c) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☐	☒

5.5.1 Discussion

a,b) Archaeological and historical resources will not be adversely affected or changed by Project activities. Spring 2025 field reconnaissance and pedestrian surveys were conducted by a Registered Professional Archaeologist and designated field personnel. Recorded sites within parcels containing treatment areas (anticipated fall 2025 implementation) were flagged and mapped for avoidance from activities. If additional ROE is granted by landowners for future treatments, field reconnaissance and surveys will be conducted as described in Section 3.3.5 of the IS-MND. Additionally, AMM CUL-1 aims to and prevent avoid impacts to archaeological or historical resources. **No impact.**

c) Human remains will not be disturbed by Project activities. Additionally, AMM CUL-2 describes the steps that shall be taken in the event there is an unanticipated discovery of human remains within the Project area. **No Impact.**

5.6 Analysis of Impacts to Energy

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of	☐	☐	☐	☒

energy resources, during Project construction or operation?				
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☐	☒

5.6.1 Discussion

a) The proposed Project's energy consumption will be limited in scope and duration and is comparable to many fuel reduction projects happening statewide to prevent catastrophic wildfire, conserve natural resources, and protect life and property. The Project will involve the use of equipment for treatments and vehicles for transport and contract administration. Primary sources of energy that will be consumed to support Project activities will be fossil fuels. For a more detailed analysis on fossil fuel emissions, refer to Section 5.8. **No Impact.**

b) The Project does not have a focus on energy production and will have a negligible impact on energy reserves. A basic web search discovered a Greenhouse Gas Strategy for Calaveras County. Several established energy-related goals are listed in the strategic document, including many wildfire mitigation strategies which strongly align with the Project's proposed treatments. Some of these wildfire mitigation strategies include 1) a partnership strategy to “. . .thin out and remove vegetation in proximity to structures and roadways. . .”, 2) a strategy to obtain funding from the California Climate Investments Fire Prevention Grants Program for operational costs, and 3) “. . .conduct fuel treatments along highway corridors, restoring ecosystem resilience and protecting communities” (Calaveras Planning Coalition). This information confirms that the proposed Project does not conflict with or obstruct plans for renewable energy or energy efficiency. **No Impact.**

5.7 Analysis of Impacts to Geology and Soils

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				☒
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☐	☒
ii) Strong seismic ground shaking?	☐	☐	☐	☒
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☐	☒
iv) Landslides?	☐	☐	☐	☒
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☐	☒
c) Be located on a geologic unit or soil that is unstable, or that would	☐	☐	☐	☒

become unstable as a result of the Project, and potentially result in on or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?				
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☐	☒
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	☒

5.7.1 Discussion

a,i,ii,iii,iv) The proposed Project is not a construction project and will occur aboveground only. There will be no drilling or ground disturbance such that substantial ground vibrations will occur. Therefore, the public will not be exposed to seismic related hazards. A layer of mulched vegetative debris will be left on the ground following treatments. Tree retention will maintain adequate root stabilization and canopy cover within the Project area. This will prevent substantial hillslope exposure and/or erosion that could result in a landslide. Treatment areas will maintain an estimated 95% vegetation cover in the form of mulched material from mastication, providing further stabilization to soils and erosion prevention. Additionally, slope limitations will be in effect for heavy equipment, and mechanical operations will be excluded from areas with high to extreme erosion hazard ratings (refer to AMM GEO-1). **No Impact.**

b) Refer to Section 5.10 for impact analysis for hydrology, which accounts for erosion and sedimentation. Proposed treatments will not remove topsoil or result in substantial erosion. **No Impact.**

c) The proposed Project is not a construction project. Project activities will be restricted to above-ground operations using machinery, hand work, prescribed fire, and herbivory. There will be no activities which lead to geological instability resulting in landslides, liquefaction, or collapse. The probability of the Project causing lateral spreading due to severe vibration or rapid ground motion is highly improbable. **No Impact.**

d) The proposed Project is not a construction project and will not result in any structures built on expansive soils that could later create substantial risk to life or property. **No Impact.**

e) The proposed Project does not include the installation of septic tanks or activities related to wastewater disposal. **No Impact.**

f) The proposed Project is not planned within any known paleontological sites of interest or significance. Project activities do not include digging so there will be no disturbance to any undiscovered paleontological features, should they exist. There are no known unique geologic features within the Project area that could be adversely impacted by activities. **No Impact.**

5.8 Analysis of Impacts to Greenhouse Gas Emissions

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☐	☒

5.8.1 Discussion

a) The Project’s proposed treatments and related activities will generate Greenhouse Gas (GHG) emissions resulting from the following: 1) heavy equipment operations, 2) vehicle transportation, 3) decomposition of organic matter, 3) prescribed grazing, and 4) prescribed fire (pile and broadcast burning). The exact equipment, number of animals, and areas to be burned are subject to change depending on priority, feasibility, funding availability, environmental constraints, and landowner participation. Activities will also generate emissions from vehicle travel to/from and within the Project area, which is insignificant when compared to emissions from interstate and intrastate commerce and the daily commutes of working citizens throughout Calaveras County. Some level of GHG emissions from the decomposition of organic material post-treatment is also expected. The use of herbivores for grazing and prescribed fire will produce GHGs, although these treatment types will be less common and temporary in nature. The following discussion breaks down the analysis for each source.

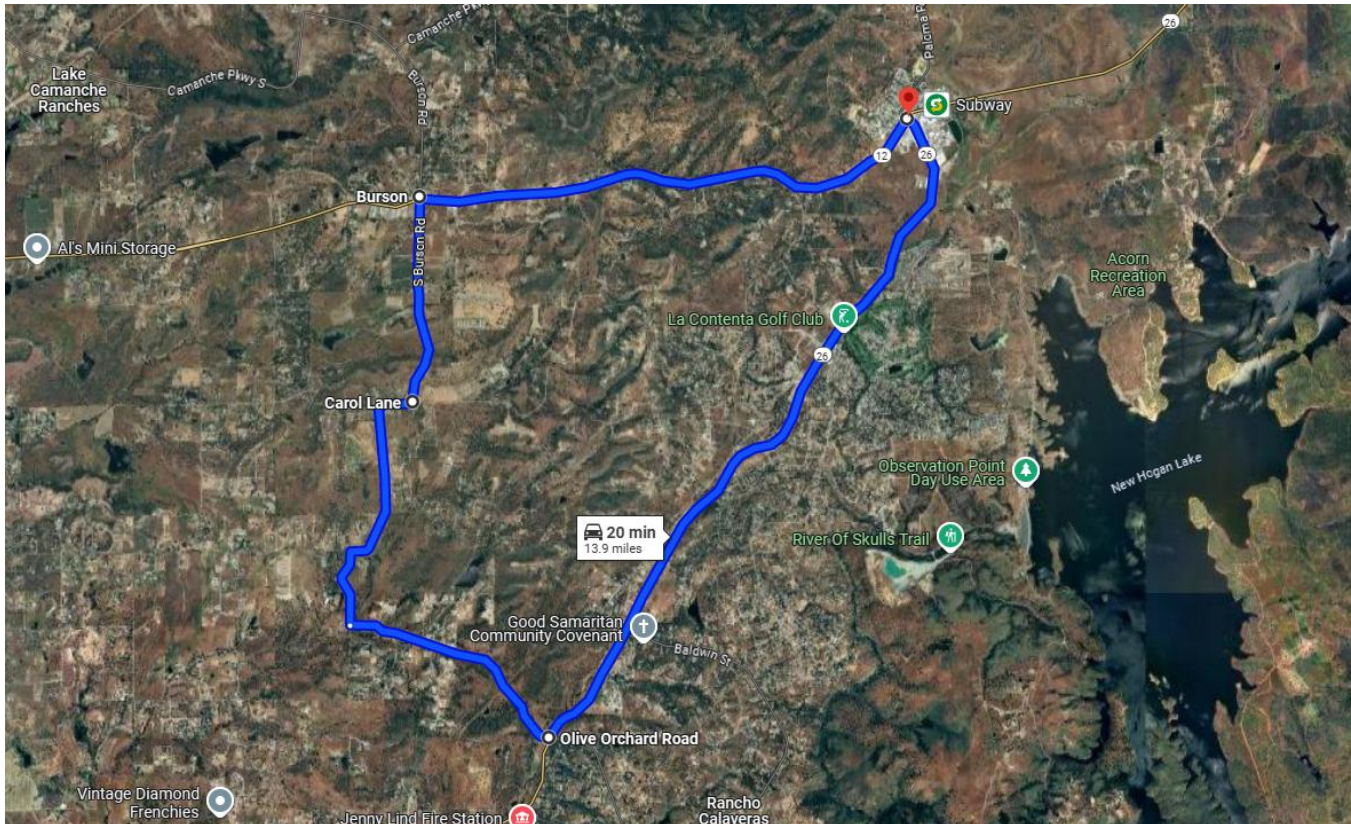
1) Heavy Equipment:

An initial implementation contract for mastication and hand work is anticipated for fall 2025, which will determine the specific equipment utilized for mechanical treatments. To estimate daily CO_{2e} for mechanical operations anticipated for fall 2025, the San Joaquin Metropolitan Air Quality Management District’s Mitigation Model was used, which is publicly available on the district website. Refer to Appendix C for the model calculation worksheet. The following equipment is assumed for GHG emissions analysis: one skid steer, one excavator-type masticator, one feller-buncher, and one mini-excavator. This equipment is commonly used for fuels reduction projects and/or is a functional equivalent to such equipment. At an estimated 391 acres anticipated for fall 2025 treatments, with a production rate of 5 acres/day and crews working 10-hour days, 78 days of mechanical operations is assumed which represents the most active operational scenario. Further, approximately 32 acres will be treated by hand (possibly more), presenting a conservative analysis for GHG emissions. With these inputs into the Mitigation Model as described above, the estimated daily GHG emissions rate (CO_{2e}) for the proposed Project’s mechanical operations is 3,585.5 lbs/day or 1.63 tons/day.

Further, Section 4.3 of the *Calaveras County Draft General Plan* states that the CCAPCD “has not adopted thresholds of significance for GHG emissions related to the implementation of a proposed project (2018, p. 27).” The goal of the proposed Project is to mitigate the potential for catastrophic wildfire, which would result in much higher CO_{2e} emissions than mechanical operations for the proposed Project. **Less Than Significant Impact.**

2) Vehicle Transportation:

For anticipated fall 2025 treatments, vehicle transportation and equipment hauling (mobilization and demobilization) will produce GHG emissions. Crew transport and occasional contract administration will not be considerable sources of GHG emissions and can be compared to typical transportation emissions occurring daily throughout Calaveras County, such as work commuting and commercial hauling. Future potential treatments are expected to produce similar, negligible amounts of GHGs. The image below provides an example of the approximate route around the proposed Project area. **No Impact.**



3) Organic Decomposition:

Emissions from decomposition of treated biomass will occur over several years. This decomposition is part of the natural carbon cycle. During decomposition, remaining trees and vegetation will uptake and sequester carbon. Additionally, thinning dense overgrown understory vegetation allows for the establishment of healthier trees and increased stand resilience, thereby reducing competition and facilitating more efficient carbon sequestration. A no-project alternative would result in a vulnerable landscape primed for uncontrolled and unpredictable wildfire. When compared to biomass decomposition from mechanical and hand treatments, catastrophic wildfire would release more CO₂ than the no-project scenario. **No Impact.**

4) Applied Grazing:

Models to calculate emissions from grazing for fuels reduction are not readily available. Grazing goats and sheep would likely be used for maintenance treatments in the future, which is highly dependent on funding availability, landowner participation, and other considerations. Grazing efforts may occur at a rate of every 1-2 years, although this is subject to change. Ruminant grazers emit methane during feeding and digestion. While the number and concentration of ruminants is unknown, the amount of grazing proposed for this Project will be limited in size and scale, and is not expected to have a significant impact on greenhouse gas emissions. Livestock is prevalent throughout the rural residential and agricultural settings of Calaveras County. **No Impact.**

5) Prescribed Fire:

Although this method of implementation will be infrequent, burning operations will produce greenhouse gas emissions. Total emissions from pile burning will depend on the size and number of piles burned, which cannot be accurately calculated until piles are constructed. Total emissions from broadcast burning will depend on the acreage burned, fuels density, and fuels composition. A personal communication with CCAPCD in April 2025 confirmed that any relevant air quality permits and the approval of a Smoke Management Plan would be required for prescribed burning. Further, CCAPCD's preferred method for developing and submitting such plans is through the Prescribed Fire Information Reporting System (PFIRS), which is addressed in AMM HAZ-2. This will involve emissions calculations of both PM₁₀ and CO_{2e} to ensure compliance with CCAPCD rules. **Less Than Significant Impact.**

b) The proposed Project does not conflict with any local standards, policies, or regulations as outlined in the *Calaveras County General Plan* (2018). The estimated emissions from the Project are below any established thresholds of significance for Calaveras County. **No Impact.**

5.9 Analysis of Impacts to Hazards and Hazardous Materials

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☐	☒
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?	☐	☐	☐	☒
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e) For a Project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project result in a safety hazard for people	☐	☐	☐	☒

residing or working in the Project area?				
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
g) 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?	☐	☐	☐	☒

5.9.1 Discussion

a) The Project will require the use of combustibles and substances needed to operate equipment and vehicles. Quantities of these substances will be no more than what is necessary to accomplish the Project's objectives. The use and transport of these materials will be limited to the period of Project implementation and will not occur continuously for unreasonable periods of time. Based on the amount of hazardous material planned for use, the chances of unintentional release into the environment at hazardous levels are low. The incorporated AMM HAZ-1 aims to avoid any potential impacts related to hazards or hazardous materials. **No Impact.**

b) The Project will generally occur in areas not readily accessible to the general public. Activities are not expected to cause foreseeable upset to the public. **No Impact.**

c,d,e) The Project is not located on a hazardous material site. Activities will not expel hazardous emissions into the environment. The local Calaveras County Airport is over 10 miles east of the approximate Project center. The proposed Project does not involve the airport or airport development. **No Impact.**

f) The Project's objectives align with the following goals of the *Calaveras County Multi-Jurisdictional Hazard Mitigation Plan*, (2021): 1) Minimize risk and vulnerability of the community to the impacts of natural hazards and protect lives and reduce damages and losses to property, economy, and environment in Calaveras County; 2) Provide protection for critical facilities, infrastructure, utilities, and services from hazard impacts. Treatments will support future emergency response operations by reducing hazardous fuels along/near critical egress routes. In the event an ignition occurs, fire severity will be reduced, thereby improving safety conditions for firefighters and emergency responders during incident response. This necessitates follow-up treatments, such as grazing or prescribed fire. **No Impact.**

g) Fuels treatments will reduce the WUI community's risk of exposure to wildland fire in the Project area. From an implementation standpoint, the use of equipment and prescribed fire poses an inherent risk of wildfire ignition, if proper safety precautions and AMMs are not followed. By default, mastication and heavy equipment will avoid rocky areas, metals, and other objects in the landscape, but equipment could still strike nonvisible rocks, metals, or objects. Faulty equipment also poses an ignition risk, if the equipment is faulty or poorly maintained. The incorporated AMMs HAZ-1 and HAZ-2 aim to prevent potential ignitions resulting from Project activities. **No Impact.**

5.10 Analysis of Impacts to Hydrology and Water Quality

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge	☐	☐	☐	☒

requirements or otherwise substantially degrade surface or groundwater quality?				
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable management of the basin?	☐	☐	☐	☒
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:	☐	☐	☒	☐
i) result in a substantial erosion or siltation on- or off-site;	☐	☐	☒	☐
ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	☐	☐	☐	☒
iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	☐	☒
iv) impede or redirect flood flows?	☐	☐	☐	☒
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to Project inundation?	☐	☐	☐	☒
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☐	☒

5.10.1 Discussion

a) The proposed Project area spans through the Upper Bear Creek Watershed (HUC 180400030401), Indian Creek Watershed (HUC 180400110305), and Cosgrove Creek Watershed (HUC 180400110303), all within the San Joaquin River Basin. Section 3.3.3 of the IS-MND describes the hydrological characteristics of the region and water courses identified within the Project area. The proposed Project would not violate any water quality standards outlined in the San Joaquin

River Basin Water Quality Control Plan (California Regional Water Quality Control Board Central Valley Region, 2019). The incorporation of the following AMMs aims to prevent impacts to surface and ground water quality: GEO-1, HYD-1, HAZ-1, HAZ-2, and EDU-1. **No Impact.**

b) The proposed Project will not require the use of excessive amounts of water which would deplete or interfere with groundwater recharge. **No Impact.**

c,i) The proposed Project does not involve surface grading or development. Activities will not alter existing watercourses or result in increased sedimentation or erosion. Equipment operations will be excluded or limited from watercourse buffers. Tracked equipment increases surface area contact with the ground, helping to reduce ground disturbance and increase mobility in challenging terrain. Slope restrictions will prevent equipment operations in areas where there is potential for significant erosion or sedimentation. Although mastication will alter existing surface vegetation, an estimated 95% vegetative cover in the form of masticated debris will remain following treatments. Utilizing CAL FIRE’s “Erosion Hazard Rating Tool” (2022), “problem areas” and areas with an erosion hazard rating of “high” to “extreme” were identified for equipment exclusion; refer to the map in Section 2.3.3. Upon approval by the Project RPF, these areas may be treated by an alternate method, likely by hand. Hand treatments will be followed by either lopping/scattering, hand piling, or chipping. Hand pile construction and woody debris will be excluded from watercourses. Prescribed grazing will likely be utilized as a follow-up treatment and is expected to have minimal effect on hydrology. The incorporation of the following AMMs aims to prevent impacts to hydrological features: GEO-1, HYD-1, HAZ-1, HAZ-2, and EDU-1. **Less Than Significant Impact.**

ii) As described in (c,i), the incorporated AMMs will prevent surface runoff from occurring in the post-treatment landscape. Project activities will not result in flooding on or off-site. **No Impact.**

lii, iv) The Project will not cause any major alterations to site hydrology that would lead to water runoff exceeding the capacity of existing or planned stormwater drainage systems. Activities will not impede or redirect floodwater. **No Impact.**

e) The proposed Project does not conflict with any water quality control or groundwater management plans if incorporated AMMs and treatment specifications are followed. Treatments will promote landscape resilience by managing densely overgrown vegetative fuels, such that a future wildfire ignition would burn at reduced intensity. Therefore, the proposed Project is expected to benefit long term groundwater sustainability and water quality. **No Impact.**

5.11 Analysis of Impacts to Land Use and Planning

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Physically divide an established community?	☐	☐	☐	☒
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒

5.11.1 Discussion

a,b) The proposed Project will not involve construction of barriers or block access routes which could divide established communities. It does not conflict with any land use plans, policies, or regulations, including those outlined in *The Valley Springs Community Plan* (2016), and the *Rancho Calaveras Special Plan* (1999). **No Impact.**

5.12 Analysis of Impacts to 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 value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

5.12.1 Discussion

a,b) The Project will have no effect on mineral resource availability. All Project activities are above-ground and will not hinder future mining efforts or resource availability. **No Impact.**

5.13 Analysis of Impacts to Noise

Would the Project result in:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☐	☒
b) Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c) For a Project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project expose people residing or	☐	☐	☐	☒

working in the Project area to excessive noise levels?				
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5.13.1 Discussion

a) Heavy equipment use has the potential to temporarily increase noise to a nuisance level, especially near residences and/or businesses. The Calaveras County “Noise Element” (Calaveras County, 2018) outlines policies aiming to maintain compatibility of noise with land use and consistent with the county’s rural atmosphere. Section 9.02.010 of Calaveras County Municipal Code, Noise Control, includes sound level limitations (Section 9.02.030), specific noise regulations (Section 9.02.050), and exemptions (Section 9.02.060). No regulations exist regarding fuels reduction or wildfire prevention activities. Section 9.02.060(D) states that “Sound from construction activity [is exempt], provided that all construction in or adjacent to residential areas shall be limited to the daytime hours between seven a.m. and six p.m., unless otherwise subject to conditions in a valid discretionary land use permit that addresses construction noise associated with the Project.”

Given the similarity of expected noise levels between construction equipment and fuels reduction equipment, Project activities will adhere to the County Noise Ordinance Subsection 9.02.060(D). The table below, derived from County Municipal Code, outlines Exterior Noise Level Standards in Calaveras County.

Land Use Type*	Sound Level (A-Weighted) Decibels	
	7:00 a.m. – 10:00 p.m.**	10:00 p.m. – 7:00 a.m.
Residential	60	50
Commercial	70	60
Industrial (Industry)	75	65

These exterior Noise Level Standards do not apply to construction equipment, provided the provisions of Subsection 9.02.060D are complied with. Further, implementation will only occur in areas with obtained ROE, granted by landowners who agree to Project activities. **No Impact.**

b) Heavy equipment will not be used within 100’ of permanent dwellings or structures, unless an exception is made by the RPF to achieve Project objectives and in agreement with the landowner. Because activities within treatment areas will be temporary, ground borne vibrations are not expected to cause a lasting disturbance. **Less Than Significant Impact.**

c) Calaveras County Airport is roughly 12 miles from the approximate Project center. No Project activities are associated with the airport or any airstrips. **No Impact.**

5.14 Analysis of Impacts to Population and Housing

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

5.14.1 Discussion

a,b) The proposed Project is not a development project, and does not involve construction of homes or infrastructure. Activities will not involve the displacement of people or existing housing. **No Impact.**

5.15 Analysis of Impacts to Public Services

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:	☐	☐	☐	☒
i) Fire protection?	☐	☐	☐	☒
ii) Police protection?	☐	☐	☐	☒
iii) Schools?	☐	☐	☐	☒
iv) Parks?	☐	☐	☐	☒
v) Other public facilities?	☐	☐	☐	☒

5.15.1 Discussion

a,i,ii,iii,iv,v) The Project will not impact government facilities or public services. Treatments will positively impact future wildland firefighting efforts by reducing hazardous vegetative fuels. The proposed Project was developed in collaboration with the CAL FIRE Tuolumne-Calaveras Unit. Mechanical and hand treatments anticipated for fall 2025 will be funded through CAL FIRE grant 5GA22228. **No Impact.**

5.16 Analysis of Impacts to 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?	☐	☐	☐	☒
b) Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse	☐	☐	☐	☒

physical effect on the environment?				
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5.16.1 Discussion

a,b) The Project does not occur within or near any recreational areas or facilities; the Project does not propose any construction or expansion of recreational areas or facilities. **No Impact.**

5.17 Analysis of Impacts to Transportation

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☐	☐	☒
b) Conflict or be inconsistent with CEQA Guidelines § 15064.3, subdivision (b)?	☐	☐	☐	☒
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
d) Result in inadequate emergency access?	☐	☐	☐	☒

5.17.1 Discussion

a,b,c,d) The Project will have a negligible effect on local traffic patterns. The need for traffic control will be evaluated on a site-specific basis but, generally, is not expected. Activities will not conflict with any congestion management programs. Work occurring near roadways will be confined to rural residential settings where traffic levels are low. There will be no effect on air traffic or airport operations and activities do not involve construction or alterations to public roads. Emergency access will be improved by prioritizing fuels reduction treatments, whenever possible, near ingress/egress locations. Refer to Section 5.8.1 for discussion on greenhouse gas emissions produced from Project-related transportation. **No Impact.**

5.18 Analysis of Impacts to Tribal Cultural Resources

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the Project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code § 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms	☐	☐	☐	☒

of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	☐	☐	☐	☒
ii) A resource determined by the Lead Agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code § 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code § 5024.1, the Lead Agency shall consider the significance of the resource to a California Native American tribe.	☐	☐	☐	☒

5.18.1 Discussion

a,i,ii) As discussed in Section 3.2 of this document, scoping letters were sent to tribes pursuant to AB-52. Formal consultation with the Calaveras Band of Mi-Wuk Indians occurred in February 2025 and all tribal input was carefully considered for the proposed Project. Then, field personnel conducted site visits and field reconnaissance in treatment areas anticipated for fall 2025 implementation. For these visits, the Calaveras Band of Mi-Wuk Indians was included in the scheduling process and tribal representatives attended several site visits. Communication and coordination with the Tribe are ongoing as additional ROE is obtained by participating landowners. Additionally, the incorporated AMMs CUL-1 and CUL-2, and the species retention specifications outlined in Section 2.2.4, aim to prevent impacts to tribal cultural resources. **No Impact.**

5.19 Analysis of Impacts to Utilities and Service Systems

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Require or result in the relocation or construction of new or expanded water, wastewater	☐	☐	☐	☒

treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?				
b) Have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☐	☒
c) Result in a determination by the wastewater treatment provider, which serves or may serve the Project that it has adequate capacity to serve the Project's Projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
d) Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☐	☒
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☐	☒

5.19.1 Discussion

a,b,c,d,e) The Project will not generate wastewater or significantly increase water supply demand. Storm flows will not be affected. Activities do not require solid waste disposal, nor will they impact local wastewater providers. The Project will not occur near communications infrastructure or result in an increased demand for infrastructure or services. All Project activities will follow applicable local, state, and federal law. **No Impact.**

5.20 Analysis of Impacts to Wildfire

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose Project occupants to, pollutant	☐	☐	☐	☒

concentrations from a wildfire or the uncontrolled spread of a wildfire?				
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☐	☒
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☐	☒

5.20.1 Discussion

a,b,c,d) The purpose of the Project is to reduce hazardous vegetative fuels and minimize the severity of potential wildfire through fuels management. Therefore, the Project will not have a significant adverse effect on any emergency response/evacuation plans and will not exacerbate wildfire risks. Further, the Project does not involve the installation or maintenance of any infrastructure or utilities. Lastly, Project activities will inherently reduce the hazards associated with wildfire risk. Therefore, it is not expected that treatments will expose people or structures to significant risks such as runoff or post-slope instability. Refer to Sections 5.7, 5.9, and 5.10 for impact analysis and discussion related to hydrology, geology, and hazards. **No Impact.**

5.21 Analysis of Mandatory Findings of Significance

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
<i>a) Does the Project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?</i>	☐	☒	☐	☐
<i>b) Does the Project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the</i>	☐	☐	☒	☐

<i>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)?</i>				
<i>c) Does the Project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?</i>	☐	☐	☒	☐

5.21.1 Discussion

- a) The purpose of the Project is to prevent wildfire through fuels management. By reducing hazardous vegetative fuels, wildland fire behavior will be more defensible and predictable for future suppression efforts. To fulfill the purpose of the Project, the vegetative landscape will be unavoidably altered. The removal and/or modification of vegetation will impact habitat utilized by a variety of biological resources. Cumulative effects may include a reduction in abundance for some species, while others may have an increase in abundance. These fluctuations, while Project caused, will not fall outside the natural range of variation. Project activities will not result in the listing of any species. The incorporation of Mitigation Measures ensures the proposed Project will not degrade the quality of the environment or cause a significant adverse effect on threatened and endangered species. There will be no resulting significant impact on fish, wildlife, or plant species including special status species, or prehistoric or historic cultural resources. **Less Than Significant with Mitigation Incorporated.**
- b) The proposed Project aligns with local and state-level plans which include wildfire prevention, landscape resilience, and climate adaptation. All potential impacts of the proposed Project have been identified in this IS-MND. Although the Project will have varying degrees of impact to the environment, they are both temporary and minimal when compared to the potentially significant impacts of a high intensity wildfire in a no project scenario. Potentially significant impacts to the environment will be prevented or reduced by Mitigation Measures. There are no known past, current, or future projects which could be cumulatively considerable, and which could result in a cumulatively significant impact. **Less Than Significant Impact.**
- c) The proposed Project will not have environmental effects which would cause substantial adverse effects on human beings. However, some populations may experience temporary impacts related to aesthetics, air quality, greenhouse gas emissions and noise. **Less Than Significant Impact.**

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Appendix A - Mitigation Monitoring and Reporting Plan

In accordance with CEQA Guidelines § 15074(d), when adopting a mitigated negative declaration, the Lead Agency will adopt a mitigation monitoring and reporting plan (“MMRP”) that ensures compliance with mitigation measures required for project approval. Mitigation Measures have been developed for the Project to reduce environmental impacts to a less than significant level or to avoid impacts altogether. Refer to Section 4 of the IS-MND for the full description of Mitigation Measures. The MMRP identifies the parties responsible for overseeing each mitigation measure, and which party is responsible for monitoring mitigations, when applicable. The MMRP shall be kept on file by the Lead Agency and updated weekly during project implementation when operations are active.

Mitigation #1: Botanical Resources - Protections for Select Food Plant Genera of Crotch’s Bumble Bee

Schedule: Prior to and during project implementation.

Responsible Party: Project Manager for Lead Agency, and/or contracted RPF

Verification of Compliance:

Initials _____ **Date(s):** _____

Mitigation #2: Protections for Western Pond Turtle

Schedule: Prior to and during project implementation.

Responsible Party: Project Manager for Lead Agency, and/or contracted RPF

Verification of Compliance:

Initials _____ **Date(s):** _____

Mitigation #3: Protections for California Tiger Salamander (*Ambystoma californiense* pop. 1)

Schedule: Prior to and during project implementation.

Responsible Party: Project Manager for Lead Agency, and/or contracted RPF

Verification of Compliance

Initials _____ **Date(s):** _____

Mitigation #4: Protections for CA Red-legged Frog

Schedule: Prior to and during project implementation.

Responsible Party: Project Manager for Lead Agency, and/or contracted RPF

Monitoring Party: Qualified Biologist, if (a) applies

Verification of Compliance

Initials _____ **Date(s):** _____

Mitigation #5: Protections for Swainsons Hawk, Tricolored Blackbird, Bald Eagle, and nongame nesting birds

Schedule: Prior to and during project implementation.

Responsible Party: Project Manager for Lead Agency, and/or contracted RPF)

Monitoring Party: Qualified Biologist or Qualified Individual, if (c) applies

Verification of Compliance

Initials _____ **Date(s):** _____

Appendix B – Soils Report



United States
Department of
Agriculture

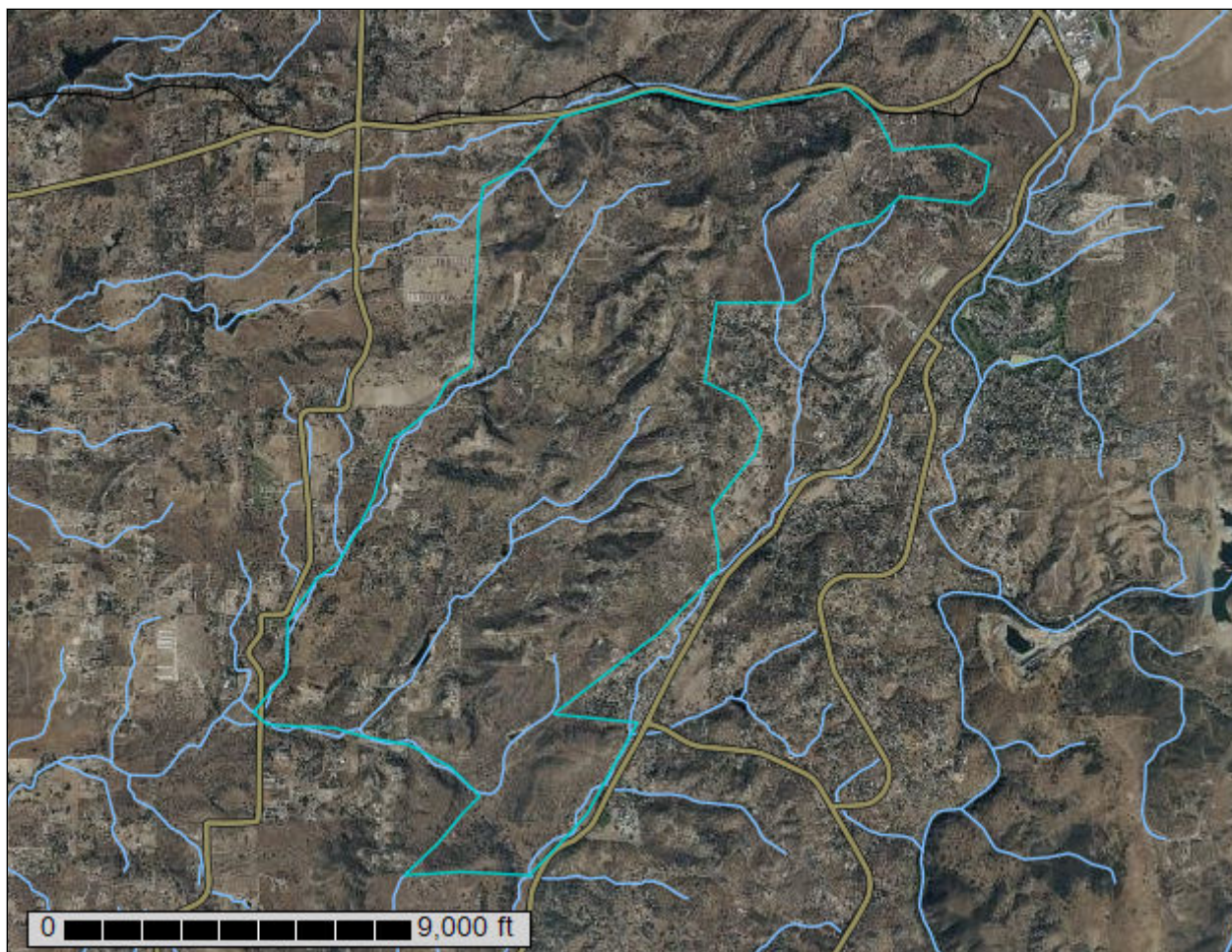
NRCS

Natural
Resources
Conservation
Service

A product of the National
Cooperative Soil Survey,
a joint effort of the United
States Department of
Agriculture and other
Federal agencies, State
agencies including the
Agricultural Experiment
Stations, and local
participants

Custom Soil Resource Report for Central Sierra Foothills Area, California, Parts of Calaveras and Tuolumne Counties

NW Calaveras FB Soils



Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

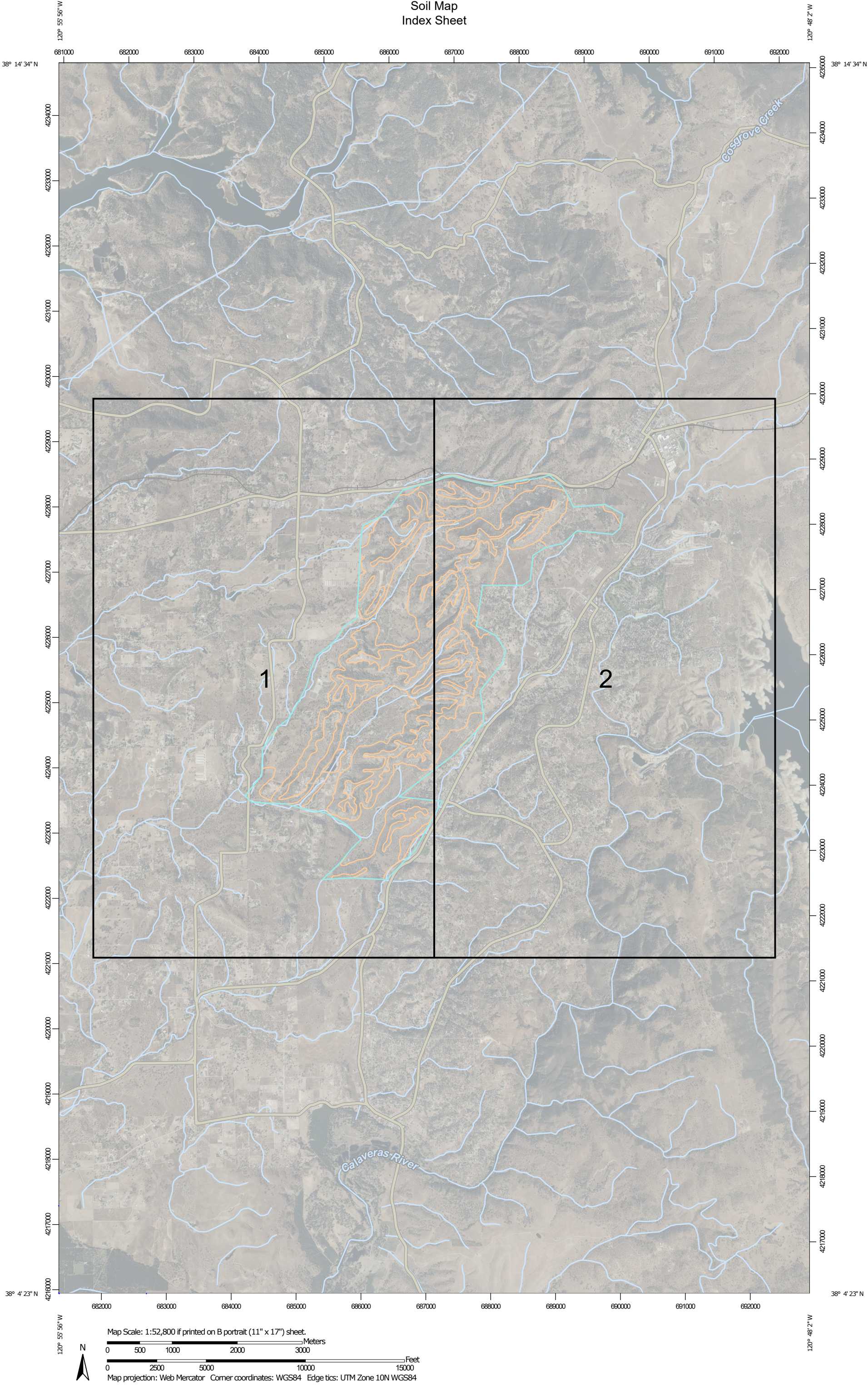
Custom Soil Resource Report

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

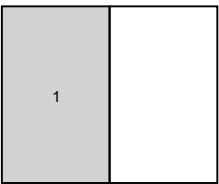
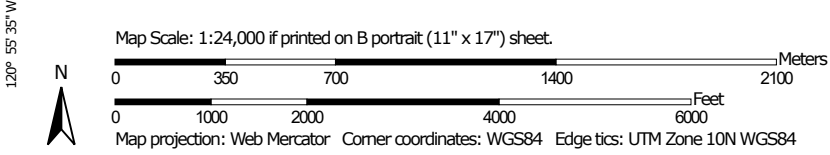
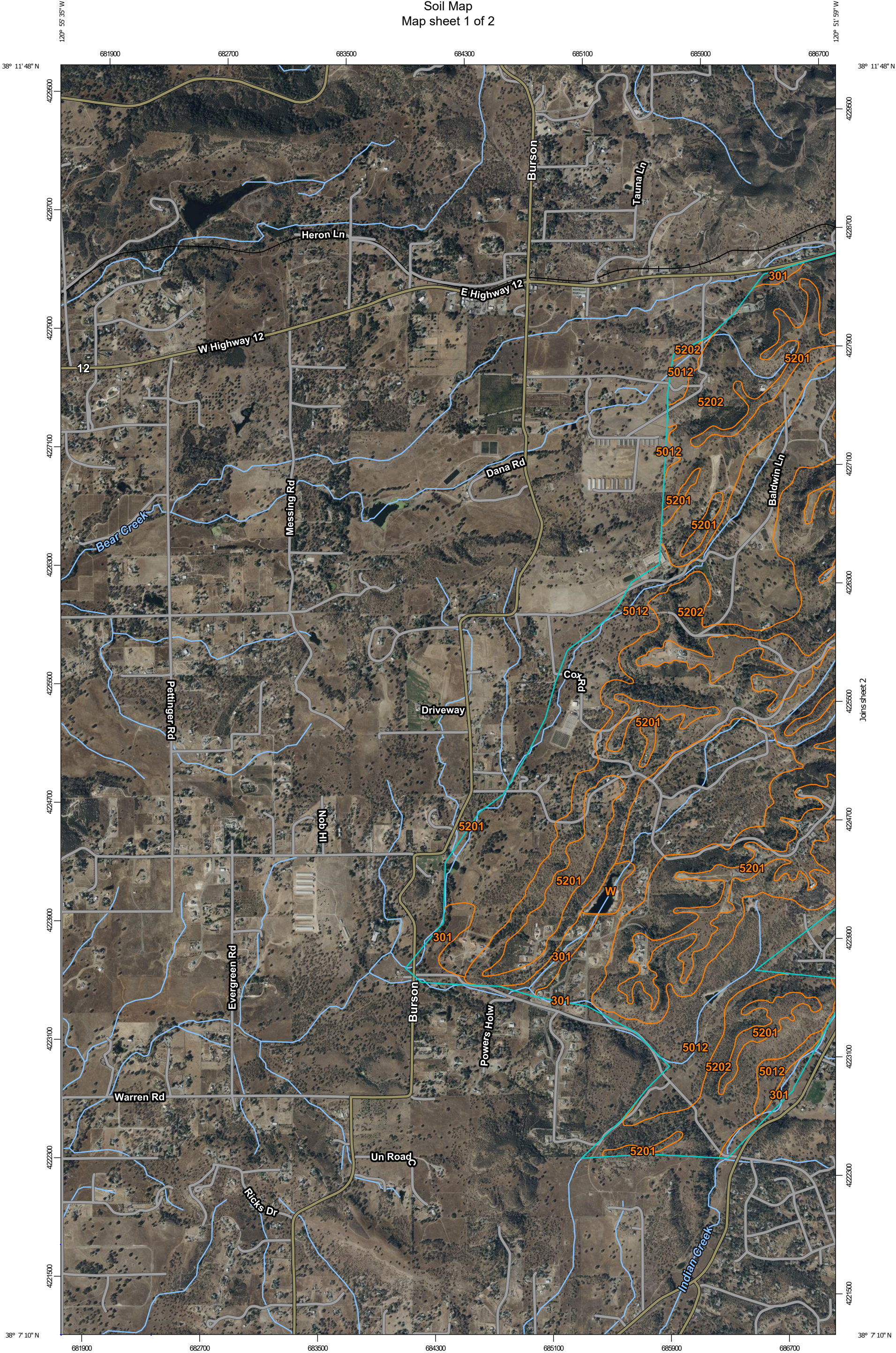
Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map
Index Sheet

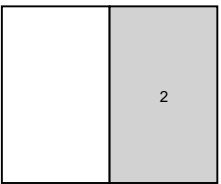
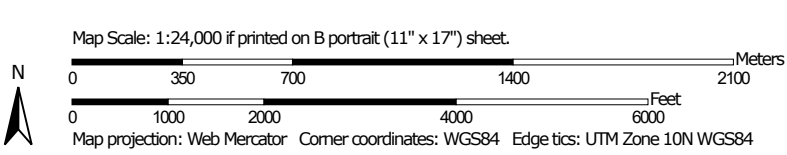
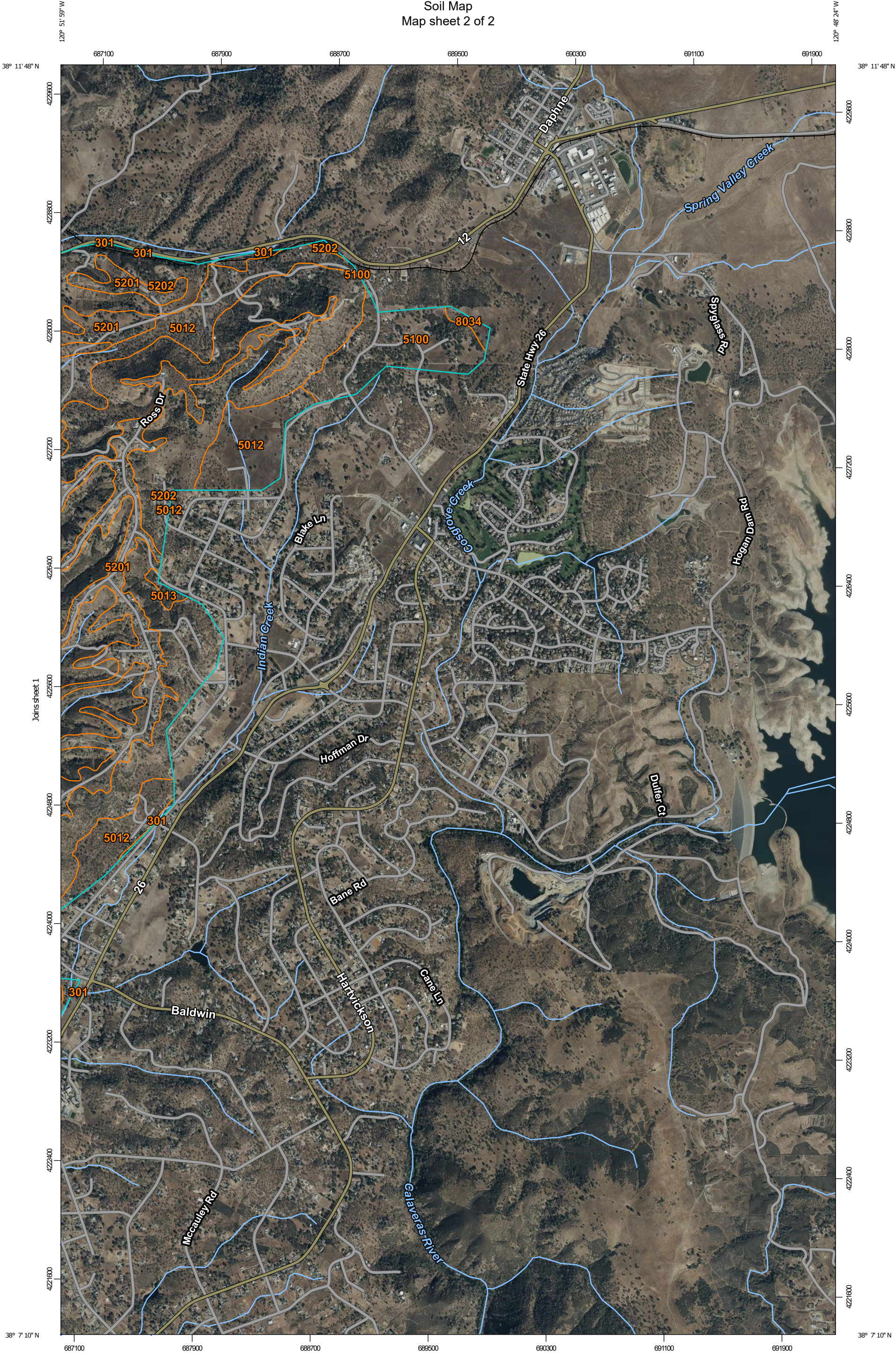


Custom Soil Resource Report
Soil Map
Map sheet 1 of 2



Map Sheet Location

Custom Soil Resource Report
Soil Map
Map sheet 2 of 2



Map Sheet Location

Custom Soil Resource Report

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features

 Blowout

 Borrow Pit

 Clay Spot

 Closed Depression

 Gravel Pit

 Gravelly Spot

 Landfill

 Lava Flow

 Marsh or swamp

 Mine or Quarry

 Miscellaneous Water

 Perennial Water

 Rock Outcrop

 Saline Spot

 Sandy Spot

 Severely Eroded Spot

 Sinkhole

 Slide or Slip

 Sodic Spot

 Spoil Area

 Stony Spot

 Very Stony Spot

 Wet Spot

 Other

 Special Line Features

Water Features

 Streams and Canals

Transportation

 Rails

 Interstate Highways

 US Routes

 Major Roads

 Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service

Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Central Sierra Foothills Area, California, Parts

of Calaveras and Tuolumne Counties

Survey Area Data: Version 8, Aug 31, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Oct 3, 2022—Oct 6, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
301	Archerdale-Hicksville association, 0 to 2 percent slopes	76.4	2.1%
5012	Amador sandy loam, 2 to 15 percent slopes	1,124.6	30.5%
5013	Miltonhills-Amador complex, 15 to 45 percent slopes	6.1	0.2%
5100	Ultic Haploxeralfs-Typic Palexerults-Aquultic haploxeralfs complex, 1 to 12 percent slopes	108.8	2.9%
5201	Pardee cobbly loam, 2 to 15 percent slopes	584.3	15.8%
5202	Pardee-Amador complex, 15 to 40 percent slopes	1,766.7	47.9%
8034	Copperopolis-Whiterock complex, 3 to 15 percent slopes, rocky	7.0	0.2%
W	Water	14.9	0.4%
Totals for Area of Interest		3,688.7	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They

generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Central Sierra Foothills Area, California, Parts of Calaveras and Tuolumne Counties

301—Archerdale-Hicksville association, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2x8ld
Elevation: 200 to 740 feet
Mean annual precipitation: 17 to 24 inches
Mean annual air temperature: 63 degrees F
Frost-free period: 320 to 350 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Archerdale, clay loam, and similar soils: 65 percent
Hicksville, gravelly loam, and similar soils: 20 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Archerdale, Clay Loam

Setting

Landform: Stream terraces
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Mixed alluvium

Typical profile

Ap - 0 to 10 inches: clay loam
A - 10 to 30 inches: clay
Bw - 30 to 60 inches: clay

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: Rare
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 9.5 inches)

Interpretive groups

Land capability classification (irrigated): 3s
Land capability classification (nonirrigated): 3s
Hydrologic Soil Group: C
Ecological site: F018XI208CA - Deep Low Rolling Hills and Terraces
Hydric soil rating: No

Description of Hicksville, Gravelly Loam

Setting

Landform: Stream terraces
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Mixed alluvium

Typical profile

A - 0 to 10 inches: gravelly loam
Bt - 10 to 45 inches: gravelly sandy clay loam
2Bt - 45 to 60 inches: very gravelly sandy clay loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 9.2 inches)

Interpretive groups

Land capability classification (irrigated): 2s
Land capability classification (nonirrigated): 3s
Hydrologic Soil Group: C
Ecological site: F018X1208CA - Deep Low Rolling Hills and Terraces
Hydric soil rating: No

Minor Components

Hollenbeck, silty clay

Percent of map unit: 7 percent
Landform: Swales, backswamps on flood plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Concave, linear
Hydric soil rating: No

Ultic haploxerolls, sandy loam

Percent of map unit: 5 percent
Landform: Meander scars on stream terraces
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Nord, loam

Percent of map unit: 1 percent
Landform: Fan remnants
Landform position (three-dimensional): Tread
Down-slope shape: Linear

Across-slope shape: Linear

Hydric soil rating: No

Finrod, clay

Percent of map unit: 1 percent

Landform: Alluvial fans

Landform position (three-dimensional): Tread

Down-slope shape: Linear

Across-slope shape: Linear

Hydric soil rating: No

Capay, clay

Percent of map unit: 1 percent

Landform: Basin floors

Landform position (three-dimensional): Tread

Down-slope shape: Linear

Across-slope shape: Concave

Hydric soil rating: No

5012—Amador sandy loam, 2 to 15 percent slopes

Map Unit Setting

National map unit symbol: 2rx24

Elevation: 210 to 480 feet

Mean annual precipitation: 17 to 21 inches

Mean annual air temperature: 63 degrees F

Frost-free period: 325 to 350 days

Farmland classification: Not prime farmland

Map Unit Composition

Amador and similar soils: 76 percent

Minor components: 24 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Amador

Setting

Landform: Low hills

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Side slope

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Residuum weathered from acidic tuff

Typical profile

A - 0 to 2 inches: sandy loam

Bw - 2 to 15 inches: sandy loam

Cr - 15 to 25 inches: bedrock

Properties and qualities

Slope: 2 to 15 percent
Depth to restrictive feature: 10 to 20 inches to paralithic bedrock
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Very low (about 1.8 inches)

Interpretive groups

Land capability classification (irrigated): 7e
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: D
Ecological site: R018XI107CA - Shallow, Undulating Volcanic Hills
Hydric soil rating: No

Minor Components

Gillender

Percent of map unit: 9 percent
Landform: Swales, low hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Concave
Ecological site: R018XI163CA - Thermic Low Rolling Hills
Hydric soil rating: No

Miltonhills

Percent of map unit: 5 percent
Landform: Hills
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Linear
Ecological site: F018XI207CA - Deep Volcanic Plateaus and Hills
Hydric soil rating: No

Pardee

Percent of map unit: 5 percent
Landform: Ridges on eroded fan remnants
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Crest
Down-slope shape: Convex
Across-slope shape: Convex
Ecological site: R018XI107CA - Shallow, Undulating Volcanic Hills
Hydric soil rating: No

Redding

Percent of map unit: 2 percent
Landform: Eroded fan remnants
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Tread

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Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: F018XI200CA - Low Elevation Foothills
Hydric soil rating: No

Mined land

Percent of map unit: 2 percent
Landform: Low hills
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Rock outcrop, acidic tuff

Percent of map unit: 1 percent
Landform: Low hills
Hydric soil rating: No

5013—Miltonhills-Amador complex, 15 to 45 percent slopes

Map Unit Setting

National map unit symbol: 2rx18
Elevation: 250 to 670 feet
Mean annual precipitation: 17 to 22 inches
Mean annual air temperature: 63 degrees F
Frost-free period: 325 to 350 days
Farmland classification: Not prime farmland

Map Unit Composition

Miltonhills and similar soils: 50 percent
Amador and similar soils: 30 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Miltonhills

Setting

Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Colluvium over residuum derived from acidic tuff

Typical profile

A - 0 to 10 inches: fine sandy loam
Bw - 10 to 16 inches: fine sandy loam
C - 16 to 24 inches: gravelly fine sandy loam
Cr - 24 to 33 inches: bedrock

Properties and qualities

Slope: 15 to 45 percent

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Depth to restrictive feature: 20 to 39 inches to paralithic bedrock
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 3.3 inches)

Interpretive groups

Land capability classification (irrigated): 6e
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: C
Ecological site: F018X1207CA - Deep Volcanic Plateaus and Hills
Hydric soil rating: No

Description of Amador

Setting

Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Concave
Parent material: Residuum weathered from acidic tuff

Typical profile

A - 0 to 3 inches: loam
Bw - 3 to 12 inches: fine sandy loam
Cr - 12 to 22 inches: bedrock

Properties and qualities

Slope: 15 to 45 percent
Depth to restrictive feature: 10 to 20 inches to paralithic bedrock
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Very low (about 1.8 inches)

Interpretive groups

Land capability classification (irrigated): 7e
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: D
Ecological site: R018X1107CA - Shallow, Undulating Volcanic Hills
Hydric soil rating: No

Minor Components

Ultic argixerolls

Percent of map unit: 10 percent
Landform: Hills
Landform position (two-dimensional): Backslope, footslope

Custom Soil Resource Report

Landform position (three-dimensional): Side slope
Down-slope shape: Concave
Across-slope shape: Linear
Ecological site: F018X1207CA - Deep Volcanic Plateaus and Hills
Hydric soil rating: No

Rock outcrop, acidic tuff

Percent of map unit: 5 percent
Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Concave
Hydric soil rating: No

Pardee

Percent of map unit: 5 percent
Landform: Hills
Landform position (two-dimensional): Shoulder, backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Convex
Ecological site: R018X1107CA - Shallow, Undulating Volcanic Hills
Hydric soil rating: No

5100—Ultic Haploxeralfs-Typic Palexerults-Aquultic haploxeralfs complex, 1 to 12 percent slopes

Map Unit Setting

National map unit symbol: 2lp7l
Elevation: 250 to 750 feet
Mean annual precipitation: 17 to 24 inches
Mean annual air temperature: 63 degrees F
Frost-free period: 320 to 355 days
Farmland classification: Not prime farmland

Map Unit Composition

Ultic haploxeralfs and similar soils: 50 percent
Typic palexerults, very deep, and similar soils: 30 percent
Aquultic haploxeralfs and similar soils: 15 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Ultic Haploxeralfs

Setting

Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope

Custom Soil Resource Report

Down-slope shape: Linear

Across-slope shape: Convex

Parent material: Colluvium over residuum derived from fanglomerate

Typical profile

A - 0 to 3 inches: sandy loam

Bt1 - 3 to 12 inches: gravelly sandy loam

Bt2 - 12 to 17 inches: clay

Cd - 17 to 26 inches: very paragravelly coarse sandy loam

Properties and qualities

Slope: 1 to 12 percent

Depth to restrictive feature: 10 to 39 inches to densic material

Drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high
(0.06 to 2.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Available water supply, 0 to 60 inches: Very low (about 1.7 inches)

Interpretive groups

Land capability classification (irrigated): 6s

Land capability classification (nonirrigated): 6e

Hydrologic Soil Group: D

Ecological site: F018X1208CA - Deep Low Rolling Hills and Terraces

Hydric soil rating: No

Description of Typic Palexerults, Very Deep

Setting

Landform: Hills

Landform position (two-dimensional): Footslope

Landform position (three-dimensional): Base slope

Down-slope shape: Convex

Across-slope shape: Linear

Parent material: Colluvium over residuum derived from fanglomerate

Typical profile

Oi - 0 to 0 inches: slightly decomposed plant material

A - 0 to 2 inches: gravelly silt loam

Bt1 - 2 to 10 inches: very cobbly loam

Bt2 - 10 to 18 inches: gravelly clay loam

2BCt - 18 to 22 inches: silty clay loam

2C1 - 22 to 41 inches: silty clay loam

2C2 - 41 to 59 inches: clay

Properties and qualities

Slope: 1 to 12 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to
moderately high (0.06 to 0.20 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Custom Soil Resource Report

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Available water supply, 0 to 60 inches: Moderate (about 8.8 inches)

Interpretive groups

Land capability classification (irrigated): 3e

Land capability classification (nonirrigated): 3e

Hydrologic Soil Group: C

Ecological site: F018X1208CA - Deep Low Rolling Hills and Terraces

Hydric soil rating: No

Description of Aquultic Haploxeralfs

Setting

Landform: Hills

Landform position (two-dimensional): Footslope

Landform position (three-dimensional): Base slope

Down-slope shape: Concave

Across-slope shape: Linear

Parent material: Slope alluvium over residuum derived from fanglomerate

Typical profile

Oi - 0 to 1 inches: slightly decomposed plant material

A - 1 to 2 inches: silt loam

Bc - 2 to 9 inches: silt loam

2Bt1 - 9 to 13 inches: very gravelly silty clay loam

2Bt2 - 13 to 19 inches: silty clay

2Cr - 19 to 29 inches: bedrock

Properties and qualities

Slope: 1 to 5 percent

Depth to restrictive feature: 10 to 39 inches to paralithic bedrock

Drainage class: Somewhat poorly drained

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 0.60 in/hr)

Depth to water table: About 0 inches

Frequency of flooding: None

Frequency of ponding: Occasional

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Available water supply, 0 to 60 inches: Low (about 3.2 inches)

Interpretive groups

Land capability classification (irrigated): 5e

Land capability classification (nonirrigated): 5e

Hydrologic Soil Group: D

Ecological site: R018X1164CA - Clayey Dissected Swales

Hydric soil rating: Yes

Minor Components

Red bluff

Percent of map unit: 5 percent

Landform: Paleoterraces on hills

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Interfluvium, side slope

Down-slope shape: Convex

Across-slope shape: Convex

Ecological site: F018X1208CA - Deep Low Rolling Hills and Terraces

Hydric soil rating: No

5201—Pardee cobbly loam, 2 to 15 percent slopes

Map Unit Setting

National map unit symbol: 2rx20

Elevation: 300 to 900 feet

Mean annual precipitation: 18 to 24 inches

Mean annual air temperature: 63 degrees F

Frost-free period: 330 to 350 days

Farmland classification: Not prime farmland

Map Unit Composition

Pardee and similar soils: 76 percent

Minor components: 24 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Pardee

Setting

Landform: Eroded fan remnants

Landform position (two-dimensional): Summit, shoulder

Landform position (three-dimensional): Crest

Down-slope shape: Convex

Across-slope shape: Convex

Parent material: Mixed alluvium over residuum weathered from conglomerate or tuff

Typical profile

A - 0 to 9 inches: cobbly loam

Bt1 - 9 to 17 inches: very cobbly loam

2Bt2 - 17 to 18 inches: very cobbly clay

2R - 18 to 79 inches: bedrock

Properties and qualities

Slope: 2 to 15 percent

Depth to restrictive feature: 10 to 20 inches to lithic bedrock

Drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Very low to low (0.00 to 0.01 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Available water supply, 0 to 60 inches: Very low (about 2.0 inches)

Interpretive groups

Land capability classification (irrigated): 6e

Custom Soil Resource Report

Land capability classification (nonirrigated): 6e

Hydrologic Soil Group: D

Ecological site: R018XI107CA - Shallow, Undulating Volcanic Hills

Hydric soil rating: No

Minor Components

Amador

Percent of map unit: 10 percent

Landform: Eroded fan remnants

Landform position (two-dimensional): Summit, shoulder

Landform position (three-dimensional): Crest

Down-slope shape: Convex

Across-slope shape: Linear

Ecological site: R018XI107CA - Shallow, Undulating Volcanic Hills

Hydric soil rating: No

Redding

Percent of map unit: 5 percent

Landform: Eroded fan remnants

Landform position (two-dimensional): Summit

Landform position (three-dimensional): Tread

Down-slope shape: Linear

Across-slope shape: Linear

Ecological site: F018XI200CA - Low Elevation Foothills

Hydric soil rating: No

Miltonhills

Percent of map unit: 5 percent

Landform: Eroded fan remnant sideslopes

Landform position (two-dimensional): Shoulder

Landform position (three-dimensional): Side slope

Down-slope shape: Convex

Across-slope shape: Linear

Ecological site: F018XI207CA - Deep Volcanic Plateaus and Hills

Hydric soil rating: No

Rock outcrop

Percent of map unit: 2 percent

Landform: Eroded fan remnants

Hydric soil rating: No

Mined land

Percent of map unit: 2 percent

Landform: Low hills

Down-slope shape: Concave, convex

Across-slope shape: Linear, convex

Hydric soil rating: No

5202—Pardee-Amador complex, 15 to 40 percent slopes

Map Unit Setting

National map unit symbol: 2rx21
Elevation: 260 to 870 feet
Mean annual precipitation: 18 to 23 inches
Mean annual air temperature: 63 degrees F
Frost-free period: 330 to 350 days
Farmland classification: Not prime farmland

Map Unit Composition

Pardee and similar soils: 50 percent
Amador and similar soils: 40 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Pardee

Setting

Landform: Eroded fan remnant sideslopes
Landform position (two-dimensional): Shoulder, backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Mixed alluvium over residuum weathered from conglomerate tuff

Typical profile

A - 0 to 4 inches: gravelly sandy loam
BA - 4 to 10 inches: very cobbly sandy loam
Bt - 10 to 18 inches: very cobbly sandy clay loam
2R - 18 to 79 inches: bedrock

Properties and qualities

Slope: 15 to 40 percent
Depth to restrictive feature: 10 to 20 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to low (0.00 to 0.01 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Very low (about 1.6 inches)

Interpretive groups

Land capability classification (irrigated): 7e
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: D
Ecological site: R018XI107CA - Shallow, Undulating Volcanic Hills
Hydric soil rating: No

Description of Amador

Setting

Landform: Eroded fan remnant sideslopes
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Residuum weathered from acidic tuff

Typical profile

A - 0 to 3 inches: silt loam
Bw - 3 to 16 inches: gravelly silt loam
Cr - 16 to 26 inches: bedrock

Properties and qualities

Slope: 15 to 40 percent
Depth to restrictive feature: 10 to 20 inches to paralithic bedrock
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Very low (about 2.9 inches)

Interpretive groups

Land capability classification (irrigated): 7e
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: D
Ecological site: R018XI107CA - Shallow, Undulating Volcanic Hills
Hydric soil rating: No

Minor Components

Rock outcrop

Percent of map unit: 5 percent
Landform: Eroded fan remnant sideslopes
Hydric soil rating: No

Miltonhills

Percent of map unit: 5 percent
Landform: Eroded fan remnant sideslopes
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Side slope
Down-slope shape: Concave
Across-slope shape: Linear
Ecological site: F018XI207CA - Deep Volcanic Plateaus and Hills
Hydric soil rating: No

8034—Copperopolis-Whiterock complex, 3 to 15 percent slopes, rocky

Map Unit Setting

National map unit symbol: 20mn9
Elevation: 570 to 1,280 feet
Mean annual precipitation: 19 to 29 inches
Mean annual air temperature: 61 to 63 degrees F
Frost-free period: 270 to 330 days
Farmland classification: Not prime farmland

Map Unit Composition

Copperopolis and similar soils: 50 percent
Whiterock and similar soils: 25 percent
Minor components: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Copperopolis

Setting

Landform: Low hills
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Residuum weathered from slate

Typical profile

A - 0 to 3 inches: channery loam
Bw - 3 to 13 inches: very channery loam
BC - 13 to 14 inches: extremely gravelly loam
R - 14 to 79 inches: bedrock

Properties and qualities

Slope: 3 to 15 percent
Depth to restrictive feature: 10 to 20 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Low to high (0.01 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Very low (about 1.9 inches)

Interpretive groups

Land capability classification (irrigated): 7e
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: D
Ecological site: F018X1200CA - Low Elevation Foothills

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Hydric soil rating: No

Description of Whiterock

Setting

Landform: Low hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Nose slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Residuum weathered from slate

Typical profile

A1 - 0 to 2 inches: loam
A2 - 2 to 8 inches: loam
R - 8 to 79 inches: bedrock

Properties and qualities

Slope: 3 to 15 percent
Depth to restrictive feature: 6 to 10 inches to lithic bedrock
Drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): Low to high (0.01 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Very low (about 1.5 inches)

Interpretive groups

Land capability classification (irrigated): 7s
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: D
Ecological site: F018XI200CA - Low Elevation Foothills
Hydric soil rating: No

Minor Components

Donpedro

Percent of map unit: 10 percent
Landform: Low hills
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Ecological site: F018XI200CA - Low Elevation Foothills
Hydric soil rating: No

Rock outcrop, slate

Percent of map unit: 8 percent
Landform: Low hills
Hydric soil rating: No

Moccasinhill

Percent of map unit: 5 percent
Landform: Low hills
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Nose slope

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Down-slope shape: Convex
Across-slope shape: Convex
Ecological site: F018XI201CA - Moderately Deep Thermic Foothills
Hydric soil rating: No

Mined land

Percent of map unit: 2 percent
Landform: Hills
Down-slope shape: Convex, concave
Across-slope shape: Convex, linear
Hydric soil rating: No

W—Water

Map Unit Composition

Water: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

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Appendix C – Air Quality and GHG Emissions Worksheets

PROJECT NAME:	NW Calaveras Fuel Reduction Project
Location (address or intersection):	Valley Springs, CA
Project Start Date:	10/1/2025
Estimated days equipment will be used on the project (start to finish, not contract days):	78
Acres of the Project:	391
On-site Contact Person:	TBD
Phone #:	TBD
Email address:	TBD

A1. Construction Equipment Input Data

Current Calendar Year: 2025

LINE	Contractor (Company)	Equipment Mfgt. (Example: CAT)	Equipment Model No. (Example: 320L)	Type of Equipment (Example: Excavators)	CARB DOORS Equipment ID#	Contractor Equipment ID#	Engine Model Year	Engine Horsepower	Estimated Total Hours of Operation for the Project	Engine Type or Fuel Use	Weekly Visual Inspection Date for this month (Yes or No)	If "Yes" Selected in Column M, Please Provide Inspection Date for this month	Tier Level	Input Status & Notes
1	TBD	TBD	TBD	Excavators	TBD	TBD	2020	326	780	ULSD	No		Tier 4 (Final)	Input completed
2	TBD	TBD	TBD	Excavators	TBD	TBD	2020	326	780	ULSD	No		Tier 4 (Final)	Input completed
3	TBD	TBD	TBD	Skid Steer Loaders	TBD	TBD	2020	70	780	ULSD	No		Tier 4 (Final)	Input completed
4	TBD	TBD	TBD	Excavators	TBD	TBD	2020	70	780	ULSD	No		Tier 4 (Final)	Input completed
5														

SMAQMD Construction Mitigation Program - Results

Version 10.0

5/1/2025 9:18

Project Name: NW Calaveras Fuel Reduction Project

Overall Life-Of-Project (LOP) Emissions

Project Start Date: 10/01/2025

Comparison of your project fleet's emissions with the statewide average for construction equipment								
	NOx	ROG	PM10	PM2.5	CO2	CH4	N2O	CO2e
Project fleet and statewide average construction equipment emission rates (g/bhp-hr)								
Your fleet's emission factors based on data entered >>								
Calculator estimated statewide average emission factors >>								
Project Fleet	0.59	0.12	0.01	0.01	541.34	0.0025	0.0013	541.76
Statewide Average	2.02	0.44	0.14	0.13	522.19	0.0028	0.0016	522.72
Absolute Reduction	1.43	0.32	0.13	0.12	-19.15	0.0003	0.0004	-19.04
Percent Reduction	71%	72%	93%	93%	-4%	10%	23%	-4%
Project fleet construction equipment average daily emissions (lbs/day)								
Your fleet's average daily emissions based on data entered >>								
Calculator estimated average daily fleet emissions using statewide average emission factors >>								
Project Fleet	3.88	0.80	0.07	0.07	3,583	0.0167	0.0083	3,585.49
Statewide Average	13.28	2.89	0.95	0.93	3,456	0.0186	0.0109	3,459.50
Project haul truck(s) daily emissions								
	NOx	ROG	PM10	PM2.5	CO2	CH4	N2O	CO2e
Project haul truck(s) average daily emissions (lbs/day)								
Project Fleet	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Project construction equipment and haul truck total emissions								
	NOx	ROG	PM10	PM2.5	CO2	CH4	N2O	CO2e
Project total construction equipment and haul truck average daily emissions (lbs/day)								
Days Equipment will be Used on the Project: 78								
Days of Hauling:								
Construction Equipment	3.88	0.80	0.07	0.07	3582.74	0.0167	0.0083	3585.49
Haul Truck(s)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	3.88	0.80	0.07	0.07	3582.74	0.02	0.01	3585.49

Percent of diesel off-road vehicles by tier level						
Percentage	Tier 0	Tier 1	Tier 2	Tier 3	Tier 4 (Interim)	Tier 4 (Final)
	0%	0%	0%	0%	0%	100%

NOTE: No haul truck VMT information provided.

GWP values sources from IPCC 6th Assessment Report accessed here: <https://ercc.energy/erccipccsixthassessment/>