MARIPOSA CREEK PARKWAY PHASE III AND TRAILHEAD PROJECT

DRAFT INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

FEBRUARY 2023

PREPARED FOR:

Mariposa County
5100 Bullion Street
Mariposa, CA 95338

PREPARED BY:

Provost & Pritchard Consulting Group

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ACRONYMS AND ABBREVIATIONS

AB ..... Assembly Bill
ADA ..... Americans with Disabilities Act
amsl ..... above mean sea level
ARD ..... Aquatic Resources Delineation
ATP ..... Active Transportation Program
BMP ..... Best Management Practices
CalEEMod ..... California Emissions Estimator Modeling (software)
CAL FIRE ..... California Department of Forestry and Fire Protection
CARB ..... California Air Resources Board
CCAA ..... California Clean Air Act
CCIC ..... Central California Information Center
CDFW ..... California Fish and Wildlife
CEQA ..... California Environmental Quality Act
CESA ..... California Endangered Species Act
CGP ..... Construction General Permit
CGS ..... California Geological Survey
CH_4 ..... Methane
CNDDB ..... California Natural Diversity Database
CNEL ..... Community Noise Equivalent Level
CNPS ..... California Native Plant Society
CO ..... Carbone Monoxide
CO_2 ..... Carbon dioxide
County ..... Mariposa
CRHR ..... California Register of Historical Resources
CWA ..... Clean Water Act
dBA ..... A-weighted decibels
DBH ..... diameter at breast height
DOC ..... Department of Conservation
DTSC ..... Department of Toxic Substances Control
EIR ..... Environmental Impact Report
FESA ..... Federal Endangered Species Act

FMBTA ..... Federal Migratory Bird Act
FMMP ..... Farmland Mapping and Monitoring Program
GHG ..... Greenhouse Gas
GIS ..... Geographic Information System
GWP ..... Global Warming Potential
HRMP ..... Habitat Restoration and Management Plan
IS ..... Initial Study
IS/MND ..... Initial Study/Mitigated Negative Declaration
km ..... kilometers
Ldn ..... day/night sound level
Lmax ..... maximum instantaneous noise level
LOA ..... Live Oak Associates, Inc.
MCAB ..... Mountain Counties Air Basin
MCAPCD ..... Mariposa County Air Pollution Control District
MMRP ..... Mitigation Monitoring and Reporting Program
MND ..... Mitigated Negative Declaration
MPUD ..... Mariposa Public Utility District
NAHC ..... Native American Heritage Commission
ND ..... Negative Declaration
NEPA ..... National Environmental Policy Act
NO_2 ..... Nitrogen Dioxide
NOx ..... Nitrogen Oxides
NPDES ..... National Pollutant Discharge Elimination System
NWPR ..... Navigable Waters Protection Rule
O_3 ..... Ozone
O&M ..... Operation and Maintenance
OPR ..... Governor's Office of Planning and Research
Pb ..... Lead
PG&E ..... Pacific Gas and Electric
PM_{10} ..... particulate matter 10 microns in size
$PM_{2.5}$ ..... particulate matter 2.5 microns in size
ppb ..... parts per billion
ppm ..... parts per million

PPV ..... Peak Particle Velocity

Project ..... Mariposa Creek Parkway Phase III and Trailhead Project

ROG ..... Reactive Organic Gases

RWQCB ..... Regional Water Quality Control Board

SB ..... Senate Bill

SO_2 ..... Sulfur Dioxide

sq, ft ..... square feet

SR ..... State Route

SRA ..... State Responsibility Area

SWPPP ..... Storm Water Pollution Prevention Plan

SWRCB ..... State Water Resources Control Board

TPA ..... Town Planning Area

USACE ..... United States Army Corps of Engineers

USC ..... United States Code

USDA ..... United States Department of Agriculture

USEPA ..... United States Environmental Protection Agency

USFWS ..... United States Fish and Wildlife Service

UST ..... Underground storage tanks

µg/m3 ..... micrograms per cubic meter

VMT ..... vehicle miles traveled

WDR ..... Waste Discharge Requirements

CHAPTER 1 INTRODUCTION

Provost & Pritchard Consulting Group (Provost & Pritchard) has prepared this Initial Study/Mitigated Negative Declaration (IS/MND) on behalf of Mariposa County (County) to address the environmental effects of the Mariposa Creek Parkway Phase III and Trailhead Project (Project). This document has been prepared in accordance with the California Environmental Quality Act (CEQA), Public Resources Code Section 21000 et seq. Mariposa County is the CEQA lead agency for this Project.

The site and the Project are described in detail in Chapter 2 Project Description.

1.1 REGULATORY INFORMATION

An Initial Study (IS) is a document prepared by a lead agency to determine whether a project may have a significant effect on the environment. In accordance with California Code of Regulations Title 14 (Chapter 3, Section 15000, *et seq.*)-- also known as the CEQA Guidelines--Section 15064 (a)(1) states that an environmental impact report (EIR) must be prepared if there is substantial evidence in light of the whole record that the project under review may have a significant effect on the environment and should be further analyzed to determine mitigation measures or project alternatives that might avoid or reduce project impacts to less than significant levels. A negative declaration (ND) may be prepared instead if the lead agency finds that there is no substantial evidence in light of the whole record that the project may have a significant effect on the environment. An ND is a written statement describing the reasons why a proposed Project, not otherwise exempt from CEQA, would not have a significant effect on the environment and, therefore, why it would not require the preparation of an EIR (CEQA Guidelines Section 15371). According to CEQA Guidelines Section 15070, a ND or *mitigated* ND shall be prepared for a project subject to CEQA when either:

a. The IS shows there is no substantial evidence, in light of the whole record before the agency, that the proposed Project may have a significant effect on the environment, or
b. The IS identified potentially significant effects, but:
    1. Revisions in the project plans or proposals made by or agreed to by the applicant before the proposed MND and IS is released for public review would avoid the effects or mitigate the effects to a point where clearly no significant effects would occur is prepared, and
    2. There is no substantial evidence, in light of the whole record before the agency, that the proposed Project as *revised* may have a significant effect on the environment.

1.2 DOCUMENT FORMAT

This IS/MND contains six chapters. Chapter 1 Introduction, provides an overview of the Project and the CEQA process. Chapter 2 Project Description, provides a detailed description of proposed Project components and objectives. Chapter 3 Determination, provides the Lead Agency's determination based upon this initial evaluation. Chapter 4 Environmental Impact Analysis, presents the CEQA checklist and environmental analysis for all impact areas, mandatory findings of significance, and feasible mitigation measures. If the Project does not have the potential to significantly impact a given issue area, the relevant section provides a brief discussion of the reasons why no impacts are expected. If the Project could have a potentially significant impact on a resource, the issue area discussion provides a description of potential impacts, and appropriate mitigation measures and/or permit requirements that would reduce those impacts to a less than significant level. Chapter 5 Mitigation, Monitoring, and Reporting Program (MMRP),

provides the proposed mitigation measures, implementation timelines, and the entity/agency responsible for ensuring implementation. Chapter 6 References, details the documents and reports this document relies upon to provide its analysis.

The California Emissions Estimator Modeling (software) (CalEEMod) Output Files, Biological Evaluation, Phase I Cultural Resources Survey, and the Aquatic Resources Delineation are provided as technical Appendix A, Appendix B, Appendix C, and Appendix D, respectively, at the end of this document.

CHAPTER 2 PROJECT DESCRIPTION

2.1 PROJECT BACKGROUND

2.1.1 Project Title

Mariposa Creek Parkway Phase III and Trailhead Project

2.1.2 Lead Agency Name and Address

County of Mariposa
4639 Ben Hur Road
Mariposa, CA 95338

2.1.3 Contact Person and Phone Number

Lead Agency Contact

Mikey Goralnik
Senior Community Design and Development Planner
(209) 742-1222

CEQA Consultant

Provost & Pritchard Consulting Group
Briza Sholars, Environmental Project Manager
(559) 449-2700

2.1.4 Project Location

The Project is located in within the unincorporated community of Mariposa in Mariposa County, California, approximately 110 miles southeast of Sacramento and 150 miles northwest of Bakersfield (see Figure 2-2 and Figure 2-3). The centroid of the Project site is 37° 29’ 14.40” N, 119° 58’ 11.91” W.

2.1.5 General Plan Land Use and Zoning Designation

The Project is located within Mariposa County. The General Plan Land Use Designation is: Planning Area, Mariposa – Town Planning Area Specific Plan. Table 2-1 below describes the Project APNs, their zoning designation, and the owner and ownership type.

Table 2-1: Description of Project Parcels

APN	Zoning	Owner	Ownership
012-143-004-000	SR-20	County of Mariposa	County
012-143-001-000	MFR	County of Mariposa	County
013-130-045-000	GC	County of Mariposa	County
013-130-006-000	GC	County of Mariposa	County
013-240-022-000	GC	Bridges Lester & Barbara Tr	Private

APN	Zoning	Owner	Ownership
013-130-077-000	GC	County of Mariposa	County
013-130-078-000	SPLIT	County of Mariposa	County
013-230-053-000	SFR-9K	County of Mariposa	County
013-230-046-000	SFR-9K	Shoor Brian & Jennifer	Private
013-230-054-000	SFR-9K	Clark Richard Tr	Private
013-230-021-000	SFR-9K	Jones Morris II	Private
013-230-047-000	P/Q-P	County of Mariposa	County
013-230-028-000	MFR	Act Holding Inc	Private
012-143-003-000	PO	Clark Richard Tr	Private

GC: General Commercial
MFR: Multi-Family Residential
P/Q-P: Public/Quasi-Public
PO: Professional Office

SFR 9,000: Single-Family Residential (9,000 sq. ft. lots)
SPLIT: Split Zoning
SR-20: Scenic Resource (20-acre lots)

See Figure 2-5 for the specific locations of the Project parcels. Figure 2-6 shows the Project's General Plan Land Use Designation and Figure 2-7 shows each parcel's zoning designations as described by the Planning Area, Mariposa - Town Planning Area Specific Plan.

2.1.6 Description of Project

Project Background and Purpose

The Mariposa Town Planning Area (TPA) Specific Plan identifies the Mariposa Creek Parkway as a priority project with multiple social, economic, and environmental benefits. The Mariposa TPA Specific Plan states the following:

"The Park will provide a pedestrian and bicyclist corridor...wide enough for two-way traffic...for walkers, joggers, or bicyclists...will tie together a number of tourist facilities and destinations...residents near the park will also use the creek trail."

Since it was first described in the Mariposa TPA Specific Plan, the Project has been further recommended and refined in a range of other collaborative planning and design processes, highlighted by the Mariposa Creek Parkway Master Plan. Funded by a grant from Caltrans, the County began work on the master plan in 2018. The master plan process relied on extensive community engagement-to develop a comprehensive vision for the creek corridor, and to define priority actions for implementing that vision. On January 28, 2020, the Mariposa Creek Parkway Master Plan was adopted.

Though the master plan looks at the entire creek corridor, the proposed Project focuses on the Phase III segment, which spans the length of Mariposa Creek between 8th Street and Joe Howard Street, approximately 0.5 miles long. The initial Phases I & II were existing at the time of the master plan preparation. The County is currently in the planning process to development a Phase IV Special Plan which will extend the parkway from Joe Howard Street to the County Jail, and a future Phase V would extend the parkway from the downstream end of Phase I to the County Fairgrounds. The timing and scope of Phase IV and V are both underdetermined at this time and not included in this Project. The planning process for the master plan revealed a preference among the County and stakeholders to focus on the Phase III area, which is contiguous with the current Parkway's terminus and is strategically located in the heart of the Town of

Mariposa. Accordingly, many of the master plan's recommendations prioritize implementing the Phase III segment.

A portion of the Project is being funded by Senate Bill 1 (SB1) Augmentation of the Cycle 5 Active Transportation Program (ATP) grant program administered through Caltrans Division of Local Assistance with oversight and additional administration from the California Transportation Commission. The grant was awarded to Mariposa County in 2020 to fund the active transportation elements of the Mariposa Creek Parkway Phase III implementation.

In Spring 2022, the County received a grant from the Economic Development Administration to plan and permit the Phase III Trailhead and Destination Park in this segment. The master planning process identified this area as an ideal location for both functional uses (such as parking and wayfinding) and recreational uses, including a nature play area, secondary soft paths, and public art that complement the Parkway's active transportation and mobility functions.

The conceptual design has been developed during the Mariposa Creek Parkway Master Planning process with a significant amount of community input and guidance on aesthetics and ecological performance.

Project Description

Mariposa County proposes to carry out Phase III of the Mariposa Creek Parkway Master Plan. The Project includes the development of a multi-use (bicycle and pedestrian) creek parkway trail and secondary (pedestrian only) trails and associated improvements that will interconnect existing segments of the Mariposa Creek Parkway with 8th Street, State Route (SR) 140/49 and the Joe Howard Bridge. Locally, it will extend the existing trail from the Mariposa County Arts Park to local businesses and a future transit center. Regionally, it will become part of several bicycle routes extending into the national forests and Yosemite National Park.

The Project will implement critical components of the Mariposa Creek Parkway Master Plan, 11th Street Paseo Graphic Enhancement Project, and the Trailhead Project. Specifically, it will construct Phase III of the Mariposa Creek Parkway, an approximately 0.5-mile-long parkway segment between 8th Street and Joe Howard Street; the 11th Street Paseo, an approximately 100-foot-long strategic active transportation linkage between SR 140/49 and Jessie Street; new pedestrian and bicycle facilities along Jessie Street to connect the aforementioned mobility resources and establish a safe bicycle and pedestrian network in this area of Mariposa; and the trailhead area and its associated amenities near Jessie Street and 8th Street.

Mariposa Creek Parkway Phase III Elements

Project elements for the Mariposa Creek Parkway Phase III are divided into three subcategories: Amenities, Trails/Street Improvements, and Vegetation, which are listed below:

Amenities

- Stepstone crossings
- Benches/Resting Nodes
- 11th Street Paseo including shade structures, seating, and a mural
- Wayfinding and interpretative signage
- Stormwater management facilities

Trails/Street Improvements (see Figure 2-1)

- Primary Parkway Trail Section
  - 14' multi-use pathway
    - 8' wide Paved path
    - 4' wide Decomposed Granite path adjacent to paved path
    - 2' minimum buffers on outside of prepared paths
- Secondary Trail Section
  - 4' – 6' wide earthen path
- Jessie Street Improvements
  - Section A-A: 8'painted pedestrian and bike path with 2' painted buffer on creek side on existing or reconstructed asphalt pavement
    - A physical (i.e., bollard) separation between path and Jessie Street vehicular drive lanes
  - Section B-B: 8' painted pedestrian and bike path with 2' painted buffer on creek side
    - A physical (i.e., bollard) separation between path and Jessie Street vehicular drive lane (converted to one-way traffic between 8th Street and 9th Street or 10th Street)
- Up to two (2) Pedestrian bridges across Mariposa Creek with preceding elevated walkway
- Five (5) parking spaces with one accessible space (as mentioned below under Trailhead Project)
- Painted crosswalk connecting to terminus of Phase II Creek Parkway

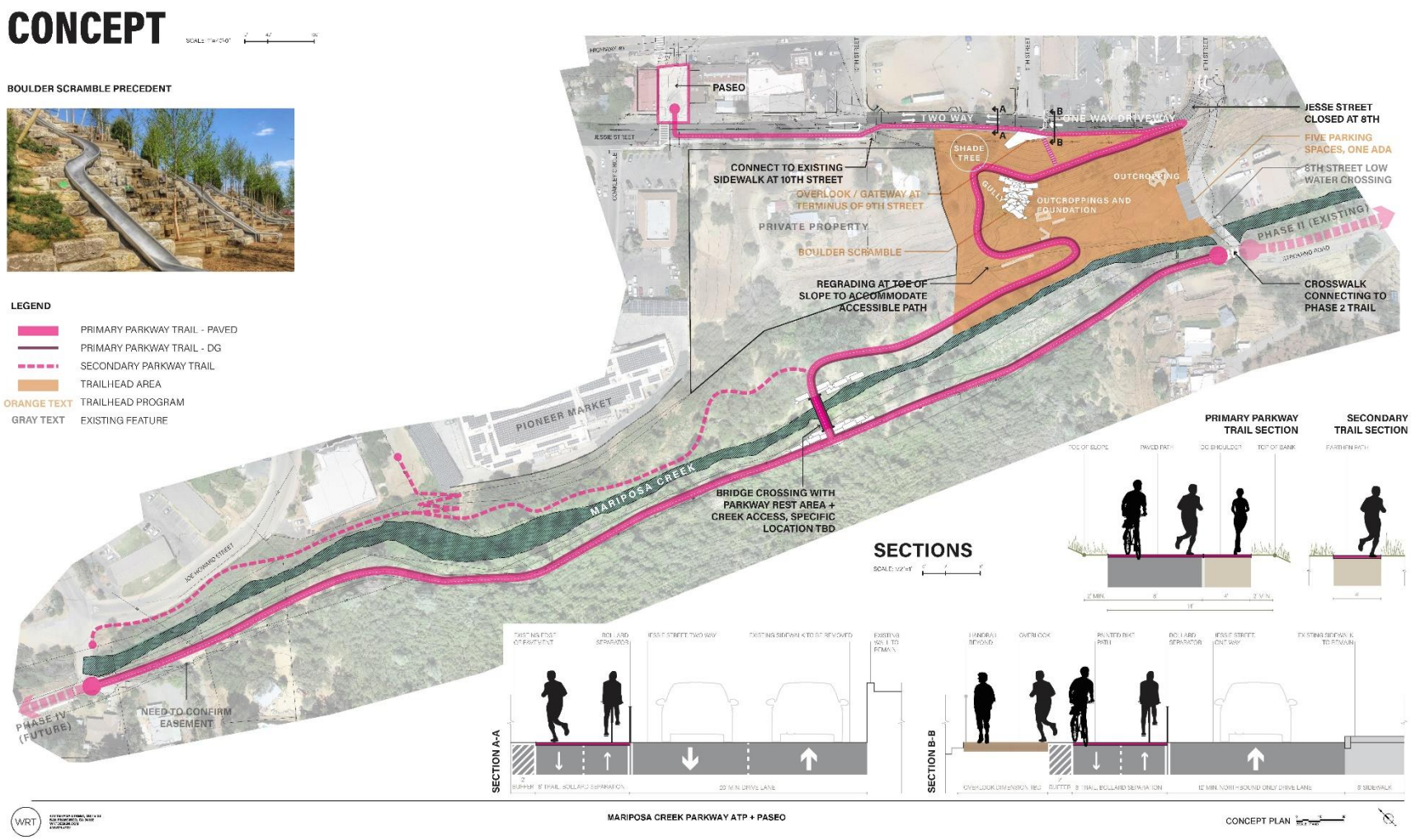

Figure 2-1: Conceptual Plan

Vegetation

The larger Mariposa Creek Parkway Master Plan views the Mariposa Creek corridor as an ecological, cultural, and recreational asset. As such, it includes elements designed to protect and enhance the corridor, including removal of invasive species, culturally-appropriate prescribed burning, and a large-scale native revegetation effort. These elements will primarily be implemented under the Mariposa Creek Traditional Ecological Restoration Project ("Restoration Project"), which is currently in progress and not part of the Project considered in this CEQA document. However, the current Project is designed to be self-mitigating to the maximum extent possible and will incorporate methods and approaches from the Restoration Project to this end. Specifically, the Project will implement the following conservation strategies:

1. *Special Status Plant Conservation*. Any special status plants that are discovered on site will be treated as an asset and protected to the maximum extent feasible. If special status plants are discovered in areas of the site in which project design cannot be modified to avoid them, they will be salvaged on site. This conservation strategy will be accomplished by:
    a. Retaining a qualified biologist to conduct protocol-level surveys for the slender-stalked monkeyflower (Erythranthe gracilipes) and Madera leptosiphon (Leptosiphon serrulatus) following California Department of Fish and Wildlife's (CDFW) 2018 Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities, or most current agency guidance. Surveys will target all suitable habitats of the project site, and will be conducted during appropriate times of year, when local populations of the target species are in bloom and readily identifiable.
    b. Modifying project design, if at all feasible, to avoid any special status plant individuals or populations that are identified in proposed impact areas. A qualified biologist will identify an appropriate buffer around the plants, and no developments or other project-related activities will be permitted within.
    c. Salvaging any special status plant individuals or populations that cannot be avoided. Salvage methods may include seed collection and dispersal, direct transplantation, or other techniques, depending on the ecology of the species in question. The planting area(s) will be located in portions of the site that support suitable habitat and soils for the affected species. Plantings will be protected with fencing and/or interpretive signage and will be maintained and monitored following methods described and depicted in the Habitat Restoration and Management Plan (HRMP) and Mariposa Creek Phase II and III Planting Restoration ("planting plan") for the Restoration Project.

2. *Monarch Butterfly Conservation.* The potential for construction-related mortality of the monarch butterfly (Danaus plexippus), a candidate for listing under the federal Endangered Species Act, will be minimized to the extent feasible, and steps will be taken to ensure there is no net loss of milkweed (Asclepias sp.), the obligatory breeding habitat of this species. This will be accomplished by:
    a. Retaining a qualified biologist to survey all proposed work areas for milkweed plants. The survey will take place during the milkweed growing season when it is readily identifiable, approximately April through October. The objective of the survey will be to tally and map all milkweed plants that could potentially be impacted by project activities.
    b. Avoiding milkweed removal during the period when monarchs are most likely to breed in the project vicinity, April to August.

c. Compensating for project-related loss of milkweed plants at a 3:1 ratio. Plantings will be installed, maintained, and monitored following methods described and depicted in the HRMP and planting plan for the Restoration Project.

3. *Riparian Habitat Conservation.* The project site's mixed riparian woodland habitat will be conserved to the maximum extent feasible, and steps will be taken to ensure there is no net loss of trees or shrubs associated with this habitat type. This will be accomplished by:
    a. Retaining a qualified biologist to survey all portions of the riparian woodland habitat that are proposed for direct impact. All trees and shrubs within these areas will be identified to species and mapped, and their diameter at breast height (DBH) will be recorded. At the end of construction, the survey will be repeated to determine if any trees or shrubs were removed.
    b. Compensating for project-related loss of riparian trees or shrubs with a DBH of 4 inches or greater. Plantings will be installed at a ratio of 3:1 for impacted trees/shrubs with a DBH between 4 and 24 inches, and at a ratio of 10:1 for impacted trees with a DBH greater than 24 inches. Plantings will be installed, maintained, and monitored following methods described and depicted in the HRMP and planting plan for the Restoration Project.

4. *Irrigation.* The Project would require water for temporary irrigation of the revegetated native plants. According to the Habitat Restoration and Management Plan for the Mariposa Creek Parkway Riparian Restoration Project, planted areas would be seasonally watered (typically April through November depending on soil type, aspect, annual precipitation, and temperature). During the first year, the interval between irrigations will be two days per week for two hours, using a two gallon/hour emitter. During the second year the interval between irrigations will be two days per week for one hour, and during the third-year, irrigations will last one hour every other week based on observed need for irrigation during regular inspections. If the plantings appear to be well established after the third year, and all success criteria have been met, the plant protection measures will cease. The plantings will be monitored at least once a week throughout the irrigation months of the three-year establishment period to ensure that the interval between irrigations is suitable for keeping the plantings alive. More frequent irrigation periods and duration may be necessary, particularly in hot weather or low precipitation years. Irrigation will be maintained as needed to repair leaks, cracks or any other impacts to the system. Repairs will be conducted at time of finding or when materials are available.

Phase III Trailhead and Destination Park Area Elements

In addition to the Mariposa Creek Parkway Phase III elements, the Project proposes to construct the trailhead area as mentioned in the Mariposa Creek Parkway Master Plan. The Trailhead and Destination Park area includes the development of the trailhead, and its associated amenities, generally between the creek and Jessie Street, from 8th Street to Joe Howard Street bridge. The Trailhead and Destination Park includes the following elements:

- Creekside nature play area
- Trailhead pavilion (1,200 – 2,400 sq/ft)
    - Beacon, Anchor, Destination
    - Shelter from weather (sun and rain)
    - Restrooms
    - Storage
    - Trail/Parkway information

    - Picnic space/small gathering space under roof
- Five (5) parking spaces with one accessible space
- Rock Outcropping Performance Space & Outdoor Classroom
- Downtown connection path
- Creek viewing platforms/Jessie St. overlook
    - Approximately 800 - 1,200 square feet wood & metal structure cantilevered out over slope with staircase for pedestrian access connection to parkway and trailhead site
- Boulder scramble area
- Secondary (pedestrian only) trails between the creek and the town
- Locations and opportunities for public art installations
- Native American interpretive elements
- Creek access points & shade structures
- Fitness stations
- Trail information kiosk (at Joe Howard Street)

For the purposes of this this CEQA document, the area of potential effect and Project area is approximately 11.1 acres

Easements

The Project could require public access easements at the upstream end of the parkway near the Joe Howard Street bridge. The intent is to acquire public access easements from associated property owners over the parcels that are coincident with the existing dirt access road and MPUD sewer easement. If these rights of way are not acquired, the Project would not progress beyond the upstream limit of the county-owned right of way, and a new creek crossing and connection to Joe Howard Street would occur at this location. All project impacts associated with these scenarios have been evaluated in this document.

Zone Amendment

The Project would also require a zone amendment for the Project parcels that are currently not zoned Public Quasi-Public. See Figure 2-6 for the existing zoning for the Project parcels.

Construction Schedule

Construction of the Phase III parkway elements is anticipated to generally occur between June 2025 and September 2026. The time frame for the trailhead and destination park elements is unknown at this time. Generally, work along the creek and within riparian areas will be limited to late spring to early fall with considerations for critical periods of sensitive species. The work along Jesse Street and connections to SR 140/49 and local streets has less restrictions and will generally occur outside of the colder fall and winter months.

Operation and Maintenance

Operation and Maintenance (O&M) of the Project would be handled by the Mariposa County Public Works Department, Road and/or Parks and Recreation Divisions. O&M would include the following:

- Mowing – Mowing each side of trail where applicable.
- Pruning - Prune woody limbs and shrubs near sides of trail.
- Removal of Trees/Limbs - Evaluation/removal of unhealthy or dead trees and limbs. Fallen trees may remain as access control and to minimize disturbance.

- Signage - Maintain directional and informational signs.
- Trail Surface – Restore, regrade, clean and/or resurface when necessary.
- Drainage Structures - Clean inlets, keep swales clear of debris.
- Litter Pick Up - Trailside-litter pickup. Access area litter pickup. Encourage continued user "carry-in, carry-out" policy.
- Trash Collection - Removal of trash from receptacles at access areas.
- Bridge and structure Inspection - Maintenance of bridge, overlook and trailhead structures to ensure structural integrity and public safety.
- Lighting – maintain functional safety lighting (replace luminaires, repair outages)
- Restriping and Bollard Repairs – as necessary when pavement markings have faded or bollards are damaged.

2.1.7 Other Public Agencies Whose Approval May Be Required

- California Department of Fish and Wildlife
- California Department of Water Resources
- California Regional Water Quality Control Board
- California State Water Resources Control Board
- California Department of Transportation
- Mariposa Public Utilities District
- United States Army Corps of Engineers

2.1.8 Consultation with California Native American Tribes

Public Resources Code Section 21080.3.1, *et seq. (codification of Assembly Bill (AB) 52, 2013-14)*) requires that a lead agency, within 14 days of determining that it will undertake a project, must notify in writing any California Native American Tribe traditionally and culturally affiliated with the geographic area of the project if that Tribe has previously requested notification about projects in that geographic area. The notice must briefly describe the project and inquire whether the Tribe wishes to initiate request formal consultation. Tribes have 30 days from receipt of notification to request formal consultation. The lead agency then has 30 days to initiate the consultation, which then continues until the parties come to an agreement regarding necessary mitigation or agree that no mitigation is needed, or one or both parties determine that negotiation occurred in good faith, but no agreement will be made.

The County sent consultation letters, pursuant to AB 52, to the list of tribes provided by the Native American Heritage Commission with the Sacred Land File Search results. For this Project, the County sent out AB 52 Tribal consultation letters to 13 tribes. No responses have been received to date. A full list of tribes and further discussion can be found below in Section 4.18.

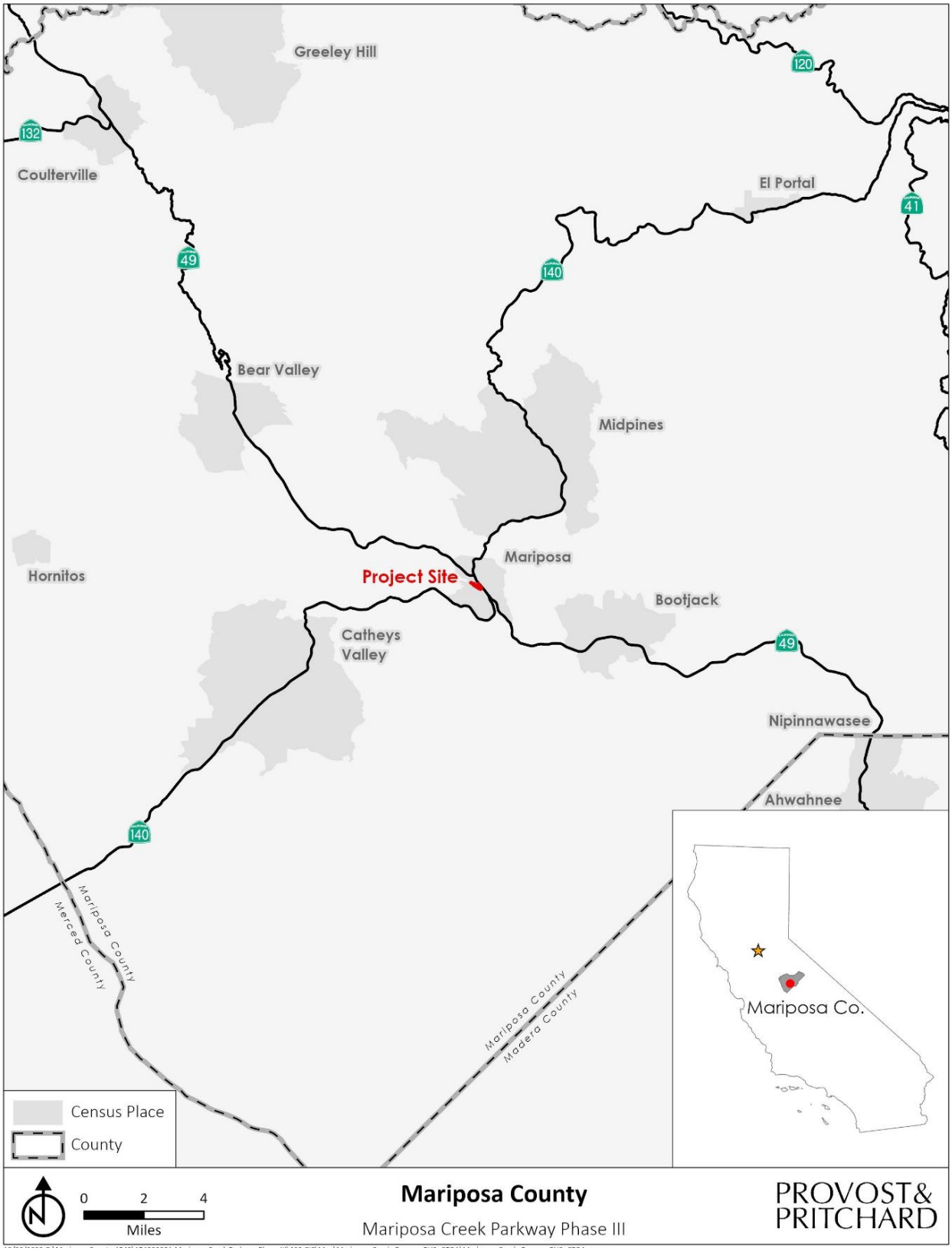

Figure 2-2: Regional Location Map

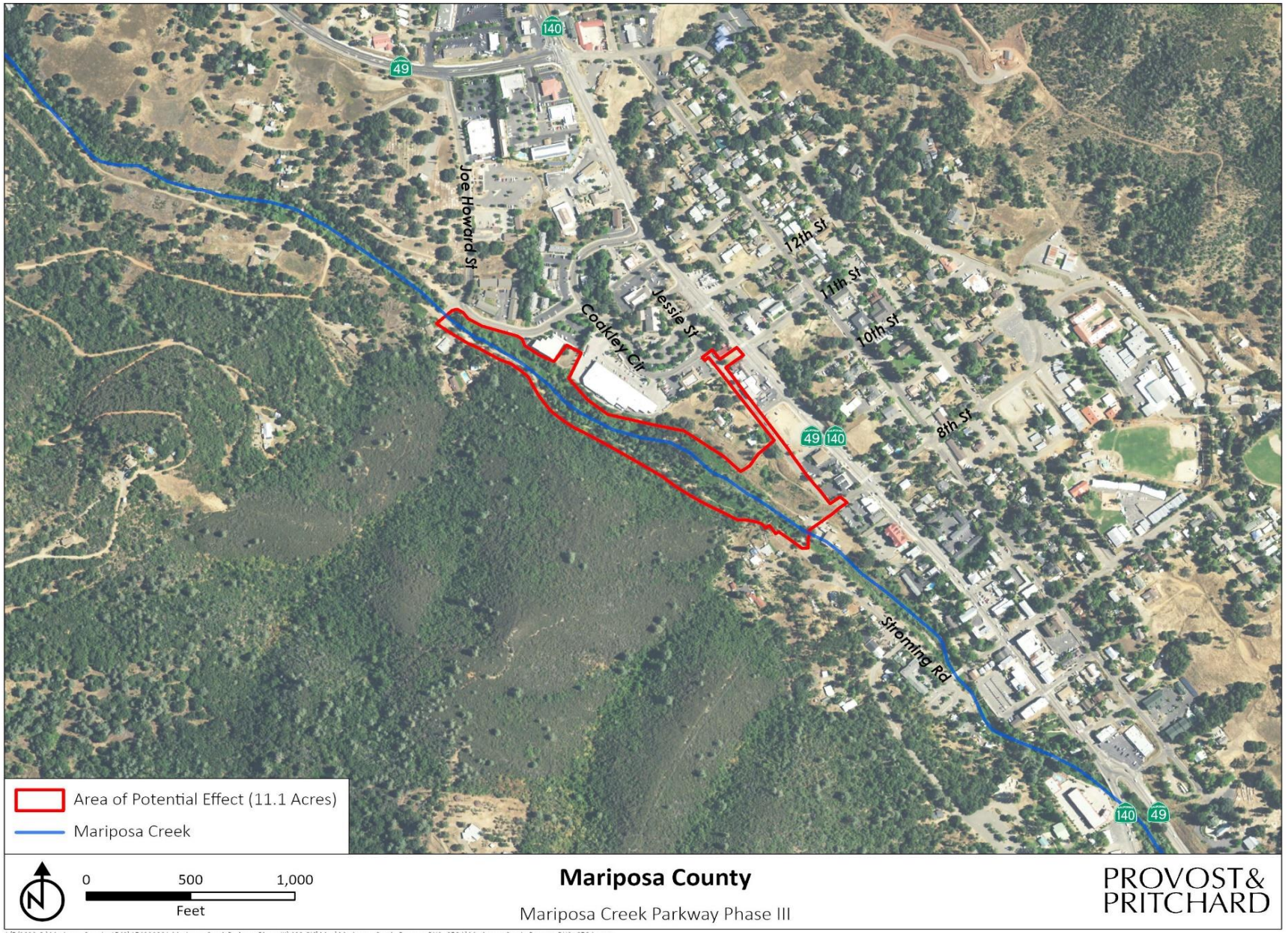

Figure 2-3: Area of Potential Effect Map

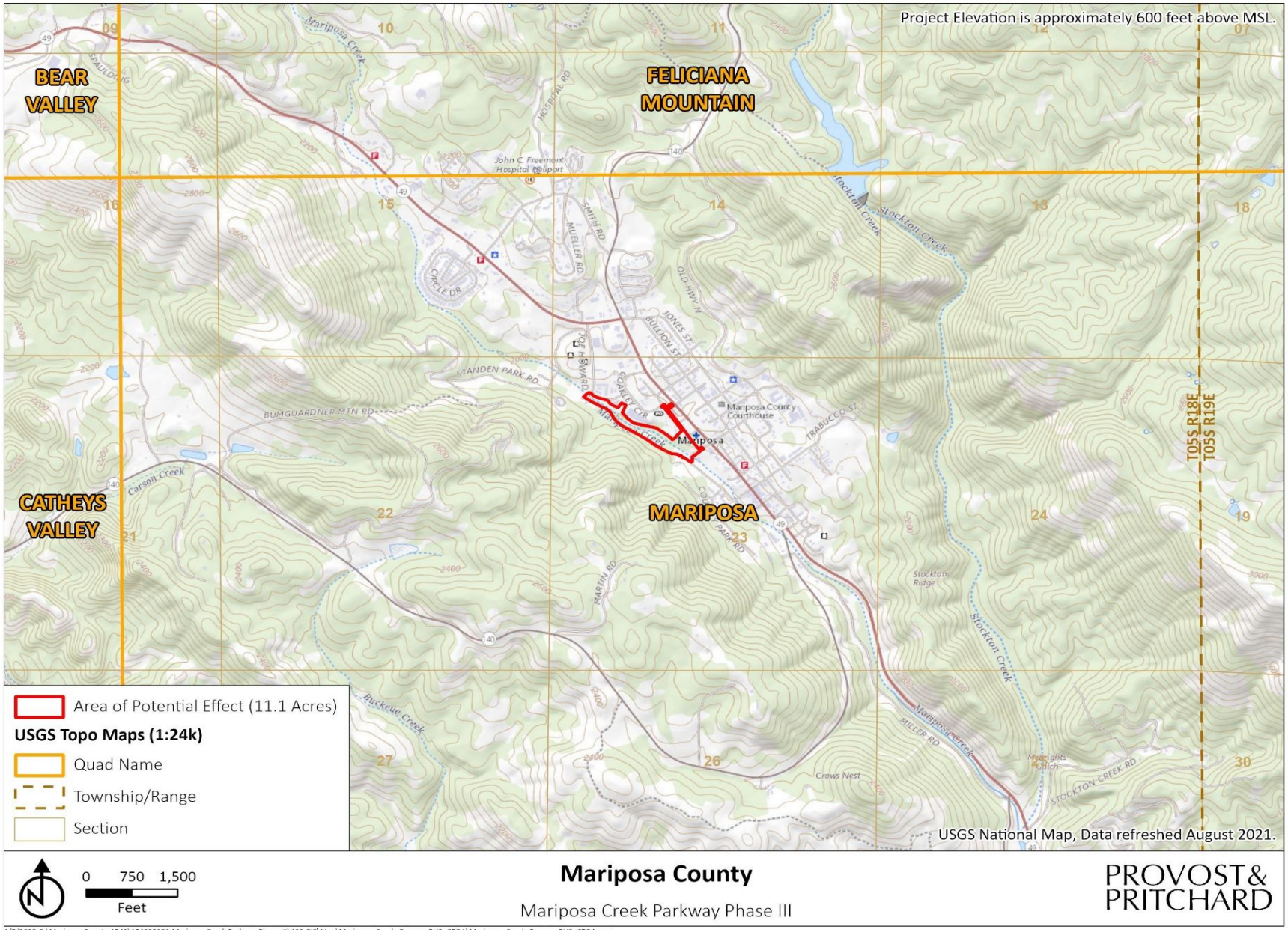

Figure 2-4: Topographic Quadrangle Map

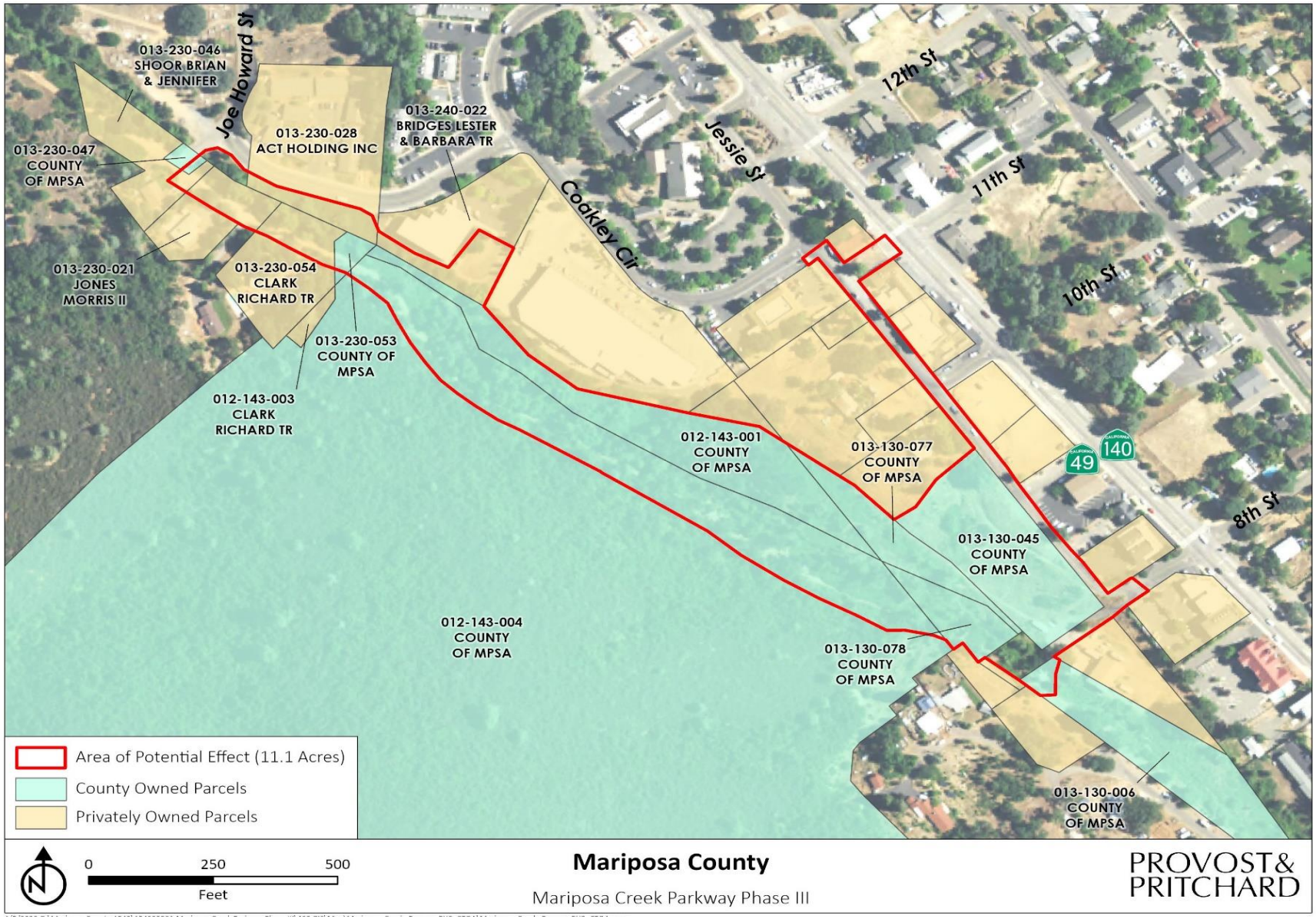

Figure 2-5: APN Map

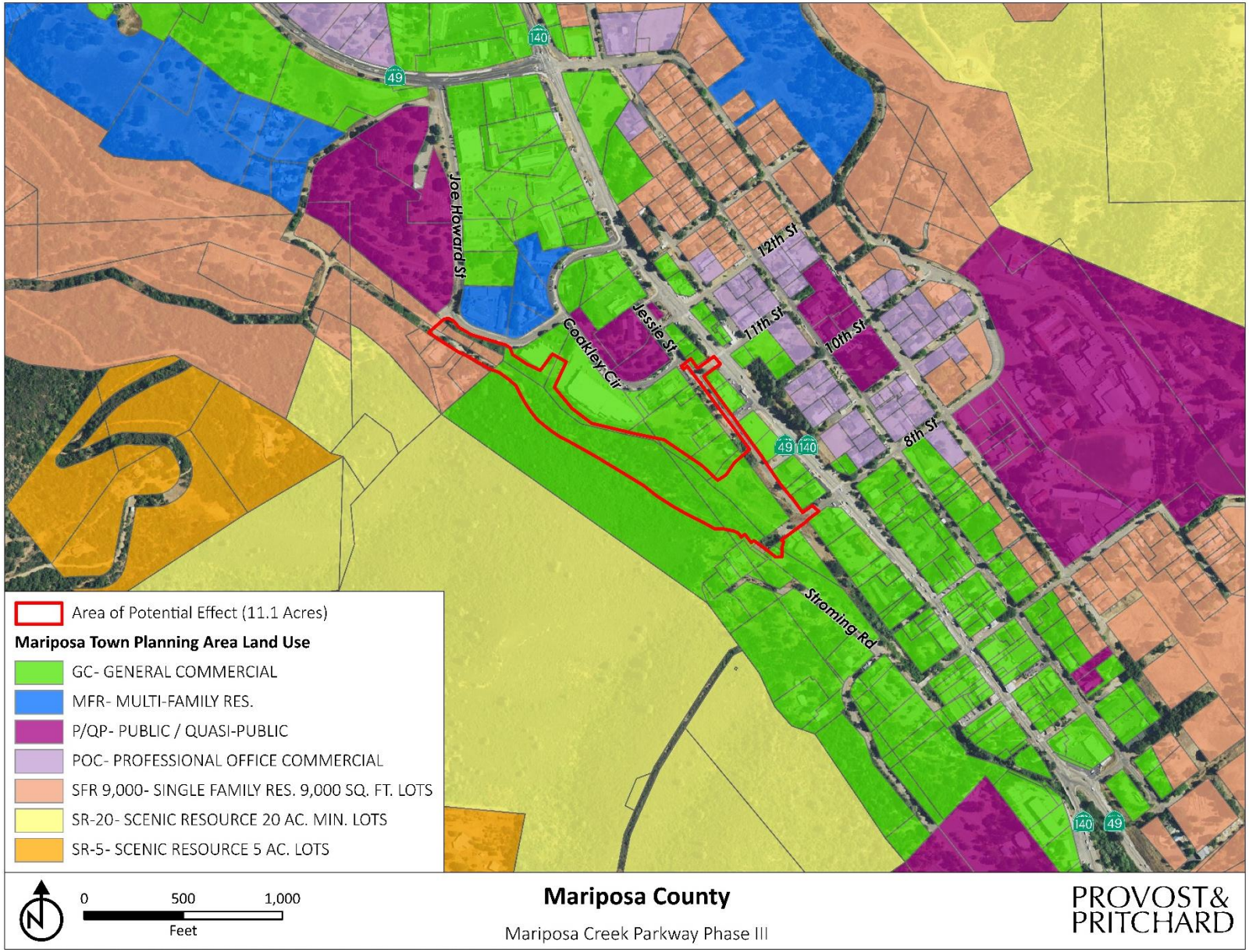

Figure 2-6: Mariposa Town Planning Area Land Use Map

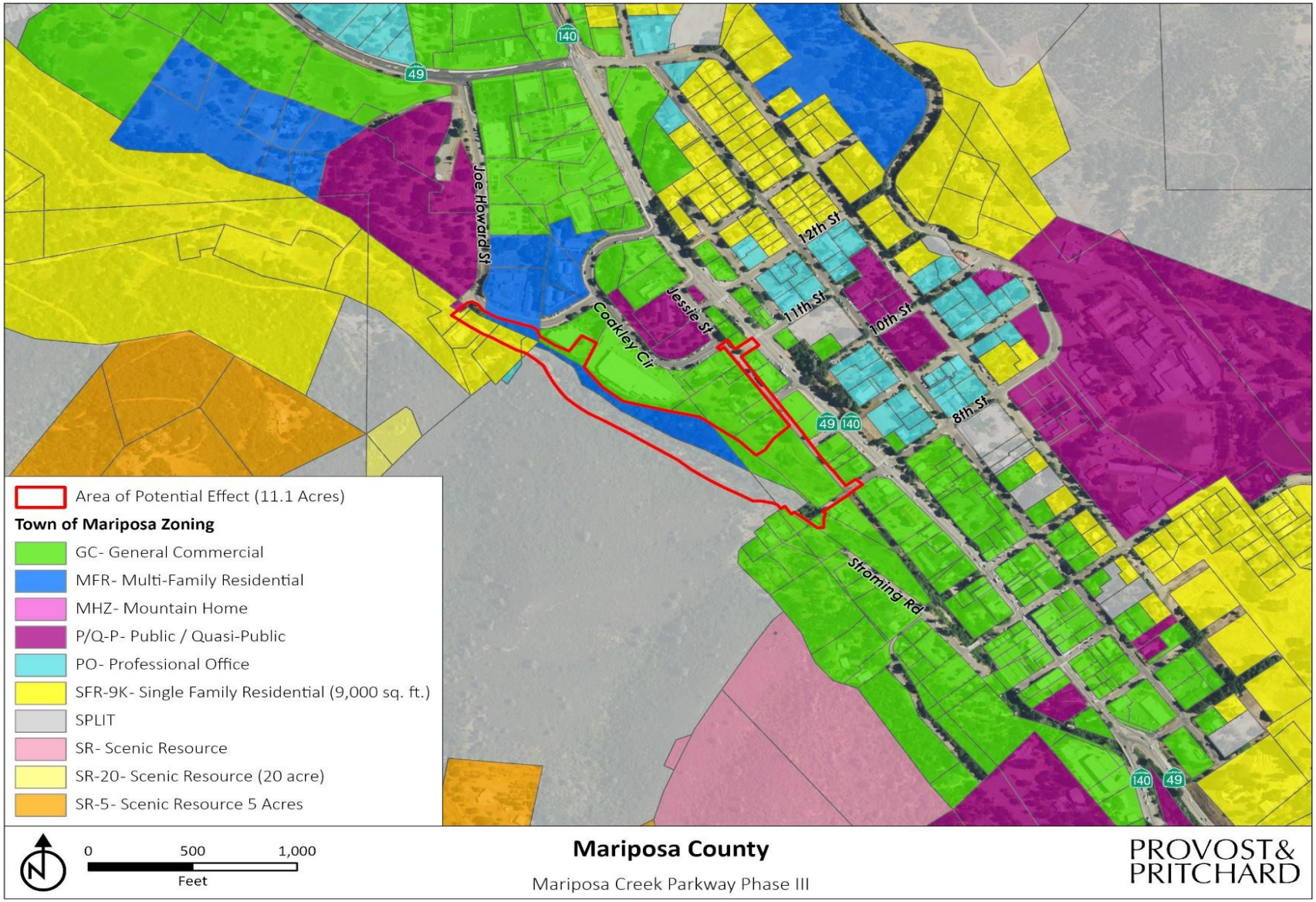

Figure 2-7: Zoning Map

CHAPTER 3 DETERMINATION

3.1 POTENTIAL ENVIRONMENTAL IMPACTS

As indicated by the discussions of existing and baseline conditions, and impact analyses that follow in this Chapter, environmental factors not checked below would have no impacts or less than significant impacts resulting from the project. Environmental factors that are checked below would have potentially significant impacts resulting from the project. Mitigation measures are recommended for each of the potentially significant impacts that would reduce the impact to less than significant.

☒ Aesthetics	☐ Agriculture and Forestry Resources	☐ Air Quality
☒ Biological Resources	☒ Cultural Resources	☐ Energy
☒ Geology/Soils	☐ Greenhouse Gas Emissions	☐ Hazards and Hazardous Materials
☐ Hydrology / Water Quality	☐ Land Use/Planning	☐ Mineral Resources
☐ Noise	☐ Population/Housing	☐ Public Services
☐ Recreation	☐ Transportation	☒ Tribal Cultural Resources
☐ Utilities and Service Systems	☒ Wildfire	☐ Mandatory Findings of Significance

The analyses of environmental impacts in Chapter 4 Impact Analysis result in an impact statement, which shall have the following meanings.

Potentially Significant Impact. This category is applicable if there is substantial evidence that an effect may be significant, and no feasible mitigation measures can be identified to reduce impacts to a less than significant level. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

Less than Significant with Mitigation Incorporated. This category applies where the incorporation of mitigation measures would reduce an effect from a "Potentially Significant Impact" to a "Less than Significant Impact." The lead agency must describe the mitigation measure(s), and briefly explain how they would reduce the effect to a less than significant level (mitigation measures from earlier analyses may be cross-referenced).

Less than Significant Impact. This category is identified when the proposed Project would result in impacts below the threshold of significance, and no mitigation measures are required.

No Impact. This category applies when a project would not create an impact in the specific environmental issue area. "No Impact" answers do not require a detailed explanation if they are adequately supported by the information sources cited by the lead agency, which show that the impact does not apply to the specific project (e.g. the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g. the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

3.2 DETERMINATION

On the basis of this initial evaluation (to be completed by the Lead Agency):

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

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

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

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

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

Matt Hespenheide — Signature

2/1/23 — Date

Matt Hespenheide County Engineer — Printed Name/Position

CHAPTER 4 ENVIRONMENTAL IMPACT ANALYSIS

4.1 AESTHETICS

Table 4-1: Aesthetics Impacts

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 substantial adverse effect on a scenic vista?	☐	☐	☐	f☒
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☐	☒
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☒	☐	☐

4.1.1 Baseline Conditions

The visual quality of Mariposa County is defined by its natural and constructed scenery, with an overall rural character. The Project area itself is located within the town of Mariposa along the Mariposa Creek. Mariposa is a mountain community surrounded by a mix of chaparral and woodland habitats. The Project area spans the distance of Mariposa Creek between 8th Street and Joe Howard Street. Flow levels in Mariposa Creek fluctuate on a seasonal basis and during storms. During large rain events, the creek can flood, and during dryer times, typically towards the end of summer, the creek tends to be significantly lower. At 8th Street, Mariposa Creek is diverted into a culvert, which is multipurposed to act as a bridge crossing for trail users utilizing the existing segment of the Mariposa Creek Parkway. Various vegetation types, native and non-native, lie along the creek bed in the Project area. East of the Project lies several commercial establishments. These businesses front SR 140/49 on the non-creek side. There are several smaller local roadways that connect these businesses to the highway. To the west of the Project area is primarily woodland and riparian habitat along Mariposa Creek, with the exception of a few scattered residences. The Project area does not include any designated scenic vistas.

There is one designated State Scenic Highway (SR 140 from Mariposa to Yosemite National Park), one designated National Scenic Byway (SR 120 in Yosemite National Park), and two State highway segments that are eligible for designation as State Scenic Highways under Caltrans guidelines (SR 49 through the

County and SR 41 from Yosemite National Park to Oakhurst where only a short portion of the latter route is located in Mariposa County).

4.1.2 Impact Analysis

a) Have substantial adverse effect on a scenic vista?

No Impact. Although the Project area, including most of the County, is considered visually pleasing and scenic, it does not contain a County-designated scenic vista. The natural landscape of Mariposa Creek and its natural surroundings is mostly intact despite the commercial and residential developments in the Project vicinity (see Figure 4-1). In addition to the provision of recreational amenities for residents and tourists, the Project would facilitate existing and future development to tie to the aesthetic nature of Mariposa Creek. Development such as hotels, motels, and restaurants could harness the creek's aesthetic character by providing an intentional connection to development, allowing tourists to enjoy the natural landscape and get a unique experience which plays a role in encapsulating the historic and natural character and identity that is Mariposa.

The Project would incorporate restoration of the riparian corridor by removing non-native plants and replacing them with native species.

"This approach is intended to increase the resilience of the Mariposa Creek riparian corridor through strengthening overall ecosystem capacity, ultimately leading to enhanced watershed function, wildlife habitat, improved connectivity, and a substantial increase in native biodiversity. It is also intended to encourage Mariposans, including Indigenous peoples from the Southern Sierra Miwuk Nation, to connect with a restored riparian landscape that holds cultural value important to the Tribe and the community at large".[1]

Improving the riparian habitat would enhance the Project area and Mariposa Creek, in general. This would allow the Project area landscape to return to its natural form.

In addition to the creek parkway trails, the Project would include trailway amenities such as benches, shade structures, and creek access elements to provide users additional features to utilize in order to take advantage of Mariposa's scenery and natural amenities. Overall, the Project would not result in a substantial adverse effect on a scenic vista but would rather improve and complement the scenic qualities that already exist. Therefore, there would be no impact.

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

No Impact. The Project would not damage scenic resources within a State Scenic Highway. The nearest State Scenic Highway is SR 140, which is located adjacent to the nearest portion of the Project area, the proposed paseo at 11th Street. Although a State Scenic Highway is located within proximity to the Project, no feature of the Project, or the Project as a whole, would damage a scenic resource. The paseo would provide pedestrian access to the parkway trail by connecting SR 140 to Jessie Street, and then from Jessie Street to the trail head near 8th Street. There would be no substantial impact to a scenic resource through implementation of the Project during construction or operation. As mentioned in Impact Analysis "a" above, the Project would complement the scenic qualities in the Project area by providing an extension

[1] (Sierra Foothill Conservancy 2021).

of the creek parkway trail, various amenities, and revegetation to the riparian corridor. There would be no impact.

c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

No Impact. The Project would enhance the visual character of the area. The Project would restore the riparian habitat by removing non-native species and replacing them with native ones. The Project would also clear any debris and trash from the area, helping combat any degradation that currently exists on-site. New landscaping, pavement, and amenities listed in Chapter 2 Project Description would complement the natural character of the Project area. The Project would highlight Mariposa Creek, which has been a significant natural landmark for the town of Mariposa since its establishment during the gold rush. There would be no impact.

d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Less than Significant Impact with Mitigation Incorporated. The Project would provide new sources of light and glare by installing trail lighting fixtures. These lighting fixtures are proposed to illuminate the trail and the surrounding environment during low light times. The Conservation and Open Space Element of the Mariposa County General Plan contains a policy and implementation measure relating to limiting light and glare impacts from new development. It states:

> *Policy 11-1d: Ensure that light sources in new development are compatible with rural character and that the light sources do not produce glare that interferes with vision.*

In order to implement Policy 11-1d, AES-1 will be incorporated in order to reduce light and glare impacts to a less than significant level.

Note about Dark Sky goals: night-pollinator species kept away from light fixtures (WRT)

4.1.3 Mitigation

AES-1 All outdoor lighting shall adhere to International Dark Sky Association standards, including the requirement that all outdoor lighting shall be hooded or screened as to direct the source of light downward and focus onto the property from which it originates and shall not negatively impact adjacent properties or directly reflect upon any adjacent properties.

Figure 4-1: Project Site Photos

4.2 AGRICULTURE AND FORESTRY RESOURCES

Table 4-2: Agriculture and Forest Impacts

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 non-agricultural 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?	☐	☐	☒	☐

4.2.1 Baseline Conditions

The Project area is designated Multi-Family Residential and General Commercial by the Mariposa County-adopted Mariposa TPA Specific Plan. The Project area contains both developed and ruderal land and natural land. The surrounding areas are also designated for residential and commercial uses.

Farmland Mapping and Monitoring Program (FMMP): The FMMP produces maps and statistical data used for analyzing impacts to California's agricultural resources. Agricultural land is rated according to soil quality and irrigation status; the best quality land is called Prime Farmland. The maps are updated every two years with the use of a computer mapping system, aerial imagery, public review, and field reconnaissance. The California Department of Conservation's (DOC) 2018 FMMP is a non-regulatory program that produces "Important Farmland" maps and statistical data used for analyzing impacts on California's agricultural resources. The Important Farmland maps identify eight land use categories, five of which are agriculture related: prime farmland, farmland of statewide importance, unique farmland, farmland of local importance, and grazing land — rated according to soil quality and irrigation status. Each is summarized below:

- PRIME FARMLAND (P): Farmland with the best combination of physical and chemical features able to sustain long term agricultural production. This land has the soil quality, growing season, and

moisture supply needed to produce sustained high yields. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.

- FARMLAND OF STATEWIDE IMPORTANCE (S): Farmland similar to Prime Farmland but with minor shortcomings, such as greater slopes or less ability to store soil moisture. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.
- UNIQUE FARMLAND (U): Farmland of lesser quality soils used for the production of the state's leading agricultural crops. This land is usually irrigated but may include non- irrigated orchards or vineyards as found in some climatic zones in California. Land must have been cropped at some time during the four years prior to the mapping date.
- FARMLAND OF LOCAL IMPORTANCE (L): Land of importance to the local agricultural economy as determined by each county's board of supervisors and a local advisory committee.
- GRAZING LAND (G): Land on which the existing vegetation is suited to the grazing of livestock. The minimum mapping unit for Grazing Land is 40 acres.
- URBAN AND BUILT-UP LAND (D): Land occupied by structures with a building density of at least 1 unit to 1.5 acres, or approximately 6 structures to a 10-acre parcel. This land is used for residential, industrial, commercial, institutional, public administrative purposes, railroad and other transportation yards, cemeteries, airports, golf courses, sanitary landfills, sewage treatment, water control structures, and other developed purposes.
- OTHER LAND (X): Land not included in any other mapping category. Common examples include low density rural developments; brush, timber, wetland, and riparian areas not suitable for livestock grazing; confined livestock, poultry, or aquaculture facilities; strip mines, borrow pits; and water bodies smaller than 40 acres. Vacant and nonagricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as Other Land.
- WATER (W): Perennial water bodies with an extent of at least 40 acres.

As demonstrated in Figure 4-2, the FMMP for Mariposa County designates the Project site as Grazing Land and Urban and Built-Up Land.[2]

4.2.2 Impact Analysis

a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

No Impact. The Project area is designated Grazing Land and Urban and Built-Up Land. There are no lands within the Project area determined to be Prime Farmland, Unique Farmland, or Farmland of Statewide Importance; therefore, there would be no impact.

b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?

No Impact. The Project area is not designated, zoned, or used for agricultural related purposes, nor are the Project lands subject to a Williamson Act contract. Therefore, there would be no impact.

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))?

[2] (California Department of Conservation 2016)

No Impact. There are no lands zoned for forest or timberland use in the Project area. Therefore, the Project would not conflict with existing zoning for, or cause rezoning of, forest land, timberland, or timberland zoned - timberland production. There would be no impact.

d) Result in the loss of forest land or conversion of forest land to non-forest use?

Less than Significant Impact. Mariposa County is full of forested lands. The Project area itself consists primarily of mixed riparian woodland habitat (see Figure 4-3). Some riparian trees and shrubs will likely need to be removed to accommodate project design. Although a few trees may be removed, numerous similar trees and vegetation will remain available along the Mariposa Creek corridor and elsewhere in the project vicinity. In addition, Project plantings would be installed at a ratio of 3:1 for impacted trees with a DBH between four and 24 inches and at a ratio of 10:1 for impacted trees with DBH greater than 24 inches. Provided trees at a higher rate of removal would ensure that impacts to forest land would be less than significant.

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?

Less than Significant Impact. The Project does not contain any land designated for farmland. As mentioned above in Impact analysis “d”, the Project would ensure that any removal of trees would be replace with more at a higher rate. The Project does not include any element that would 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. Impacts would be less than significant.

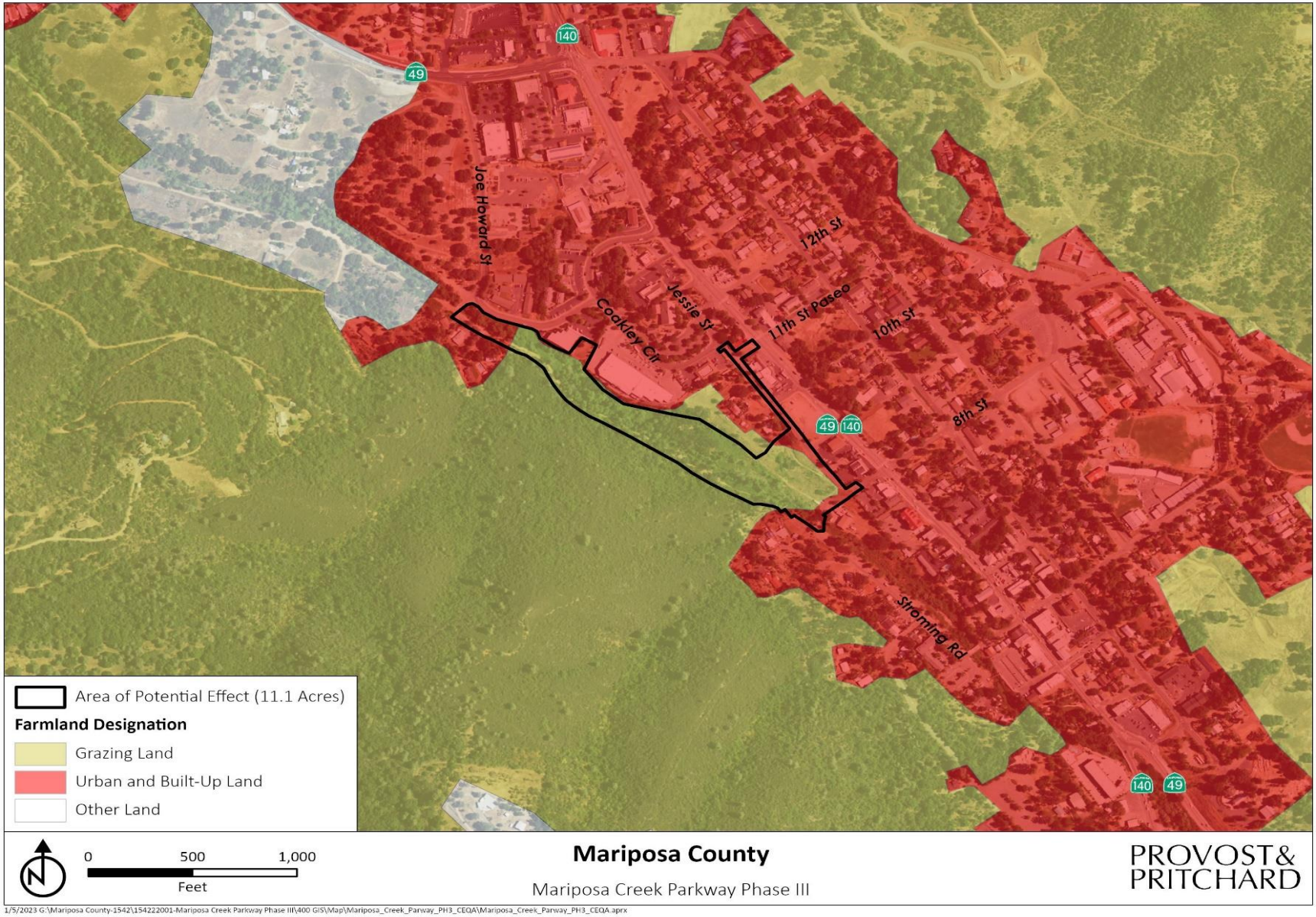

Figure 4-2: Farmland Map

Figure 4-3. Project Site Photos

4.3 AIR QUALITY

Table 4-3: Air Quality Impacts

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?	☐	☐	☒	☐
c) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐

4.3.1 Baseline Conditions

The Project would be located in unincorporated community of Mariposa within the boundaries of the Mariposa County Air Pollution Control District (MCAPCD) and the Mountain Counties Air Basin (MCAB). The MCAB boundaries align with those of Mariposa County. Mariposa County is bounded by Madera County to the east and south, Merced County and Stanislaus County to the west, and Tuolumne County to the north. The western portion of the county contains foothills which lead into the San Joaquin Valley while the central and northeastern portions of the county include the Sierra Nevada Mountain Range and Yosemite National Park.

Regulatory Attainment Designations

Under the California Clean Air Act (CCAA), the California Air Resources Board (CARB) is required to designate areas of the State as attainment, nonattainment, or unclassified with respect to applicable standards. An "attainment" designation for an area signifies that pollutant concentrations did not violate the applicable standard in that area. A "nonattainment" designation indicates that a pollutant concentration violated the applicable standard at least once, excluding those occasions when a violation was caused by an exceptional event, as defined in the criteria. Depending on the frequency and severity of pollutants exceeding applicable standards, the nonattainment designation can be further classified as serious nonattainment, severe nonattainment, or extreme nonattainment, with extreme nonattainment being the most severe of the classifications. An "unclassified" designation signifies that the data does not support either an attainment or nonattainment designation. The CCAA divides districts into moderate, serious, and severe air pollution categories, with increasingly stringent control requirements mandated for each category.

The United States Environmental Protection Agency (USEPA) designates areas for ozone, CO, and NO_2 as "does not meet the primary standards," "cannot be classified," or "better than national standards." For SO_2, areas are designated as "does not meet the primary standards," "does not meet the secondary standards," "cannot be classified," or "better than national standards." However, the CARB terminology of attainment, nonattainment, and unclassified is more frequently used. The USEPA uses the same sub-categories for nonattainment status: serious, severe, and extreme. In 1991, USEPA assigned new

nonattainment designations to areas that had previously been classified as Group I, II, or III for PM_{10} based on the likelihood that they would violate national PM_{10} standards. All other areas are designated "unclassified."

According to the USEPA MCAPCD was not in non-attainment for two pollutant concentrations, with 8-hour Ozone (2008) classified as moderate non-attainment and 8-hour Ozone (2015) classified as marginal non-attainment as of October 31st, 2022.[3]

Construction-Generated Emissions

Construction of the Project is assumed to be completed over approximately 18 months within the model. Emissions associated with the Project were calculated using CalEEMod Air Quality Model, Version 2020.4.0. The emissions modeling includes emissions generated by off-road equipment, haul trucks, and worker commute trips. Emissions were quantified based on anticipated construction schedules and the default parameters contained in the model. Localized air quality impacts associated with the Project would be minor and were qualitatively assessed. Modeling assumptions and output files are included in Appendix A.

Thresholds of Significance

To assist local jurisdictions in the evaluation of air quality impacts, the MCAPCD has published the *Mariposa County Air Pollution Control District Rules and Regulations*.[4] This document includes thresholds of significance to be used for the evaluation of short-term construction, long-term operational, odor, toxic air contaminant, and cumulative air quality impacts. Accordingly, these thresholds of significance are used to determine whether implementation of the Project would result in a significant air quality impact. Projects that exceed these recommended thresholds would be considered to have a potentially significant impact to human health and welfare. The threshold for any criteria air contaminant or precursor is 100 tons per year. Odor impacts associated with the Project would be considered significant if the Project has the potential to frequently expose members of the public to objectionable odors.

Impact Assessment

Short-Term Construction-Generated Emissions

Estimated construction-generated emissions and operational emissions are summarized in Table 4-4, and Table 4-5, respectively.

Table 4-4: Unmitigated Short Term Construction Related Emissions of Criteria Air Pollutants*

	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Project Construction Emissions (2023)	0.3197	2.4758	2.5874	5.9200e-003	0.4862	0.2323
Project Construction Emissions (2024)	0.3040	1.9478	2.3749	5.5800e-003	0.2566	0.1104
Maximum Annual Project Construction Emissions	0.3197	2.4758	2.5874	5.9200e-003	0.4862	0.2323
MCAPCD Threshold	*100*	*100*	*100*	*100*	*100*	*100*
Threshold Exceeded?	No	No	No	No	No	No

[3] (United States Environmental Protection Agency 2022)
[4] (Mariposa County 2021)

Table 4-5: Unmitigated Long Term Operational Emissions of Criteria Air Pollutants*

	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Project Operational Emissions (Max/Year)	0.0298	0.0204	0.1056	1.3000e-004	0.0112	3.1600e-003
MCAPCD Threshold	*100*	*100*	*100*	*100*	*100*	*100*
Threshold Exceeded?	No	No	No	No	No	No

4.3.2 Impact Analysis

a) Would the project conflict with or obstruct implementation of the applicable air quality plan?

No Impact. The Project would not conflict with or obstruct implementation of the applicable air quality plan. The Project would align with the standards and guidelines set by the MCAPCD. Therefore, there would be no impacts.

b) Would the project 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?

Less than Significant Impact. The Project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or State ambient air quality standard. As shown in Table 4-4, and Table 4-5, the Project would not be in exceedance of an emission threshold for any pollutant identified by the MCAPCD. However, cumulative impacts could result if the Project's incremental effect combined with impacts of other past, present, and reasonably foreseeable future projects exceeds the MCAPCD's thresholds. Cumulative impacts from the Project when considered with other nearby, reasonably foreseeable projects have been deemed less than significant in nature because no other projects are known to be occurring in the vicinity of the Project that would cause potential cumulative impacts. Therefore, impacts would be less than significant.

c) Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Less than Significant Impact. Implementation of the Project would not result in significant long-term operational emissions as shown in Table 4-5. Short-term construction activities however could result in temporary increases in pollutant concentrations that could impact nearby sensitive receptors such as the residential dwellings near the Project site. Pollutants of primary concern commonly associated with construction-related activities include toxic air contaminants (i.e., diesel particulate matter), asbestos, and fugitive dust. The potential impact to sensitive receptors diminishes as distance from the source increases. Given that construction would occur over a large area and construction activities would not remain in one place, the potential impact of the pollutants mentioned above would be less than significant in nature. Therefore, impacts would be less than significant.

d) Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Less than Significant Impact. During construction activities, construction equipment exhaust and application of asphalt, structural coating and other construction applications would temporarily emit odors. Construction would be completed within the community of Mariposa and would have an effect on some residences that would be located near the construction area of the Project. Construction of the Project would be temporary, and odors would not remain after Project completion. Therefore, impacts would be less than significant.

4.4 BIOLOGICAL RESOURCES

Table 4-6: Biological Resources Impacts

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 Wildlife 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?	☐	☐	☐	☒

4.4.1 Baseline Conditions

The Project site is located within the mountain community of Mariposa in the western foothills of the Sierra Nevada. The surrounding landscape is extremely rugged and characterized by a mix of chaparral and woodland habitats. The site is adjoined to the south by a steep, undeveloped hillside and, beyond that, rural residential uses. It is adjoined on all other sides by commercial and municipal uses associated with the town of Mariposa.

Average annual precipitation in the general vicinity is approximately 30 inches, 85% of which falls between the months of October and March. Stormwater readily infiltrates into the soils, but when field capacity has been reached or bedrock is encountered, stormwater runs off into drainages.

The primary drainage in the Project vicinity is Mariposa Creek, which flows in a southeasterly direction through the site. Mariposa Creek originates approximately four miles northwest of the site at an elevation of 3,000 feet above sea level. Downstream of the site, it flows generally south and west, ultimately entering the Central Valley, where it feeds a network of sloughs. It was historically, and is presumably still, tributary to the San Joaquin River.

Soils

The Project site contains three soil mapping units: Riverwash and tailings; Loafercreek and Bonanza complex, 3 to 15 percent slopes; and Gardellones, Gopheridge, Motherlode complex, 30 to 60 percent slopes. One of these mapping units, Riverwash and tailings, is classified as hydric, meaning it has the propensity to pond water and support the growth of wetland vegetation.

Land Uses/Biotic Habitats

Three biotic habitats / land uses were identified within the project site: mixed riparian woodland, riverine, and ruderal/developed.

4.4.2 Methodology

Reconnaissance-level field surveys of the Project site were conducted by Live Oak Associates, Inc. (LOA) ecologists on March 11, 2019 and July 28, 2022. The 2019 survey was conducted in support of an earlier stage of Project design and did not include the 11th Street Paseo or Jessie Street improvement areas. The 2022 survey encompassed all areas proposed for impact under current Project design. Both surveys consisted of walking and driving through the Project site while identifying its principal land uses, biotic habitats, flora, and fauna, and assessing its potential to support special status species and other sensitive resources.

LOA conducted an analysis of potential Project impacts based on the known and potential biotic resources of the Project site. Sources of information used in the preparation of this analysis included: (1) the California Natural Diversity Data Base (CNDDB), (2) the Online Inventory of Rare and Endangered Vascular Plants of California, and (3) manuals, reports, and references related to plants and animals of the Project vicinity.[5]

LOA also conducted a field investigation of the site's aquatic resources and prepared an associated Aquatic Resources Delineation (ARD) report (see Appendix D). This investigation built upon an earlier ARD conducted by LOA for a riparian restoration project along the Mariposa Creek Parkway. The earlier ARD included the Phase III project segment, but not the 11th Street Paseo or Jessie Street improvements. Accordingly, LOA inspected the latter two improvement areas for tributary waters, features meeting the technical criteria of wetlands, and other aquatic resources potentially subject to the jurisdiction of the U.S. Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), and/or the CDFW. This inspection was conducted by LOA ecologist in conjunction with the July 28, 2022 reconnaissance-level survey.

The CNDDB was queried for special status species occurrences in the nine United States Geological Survey 7.5-minute quadrangles containing and immediately surrounding the Project site (Mariposa, Ben Hur, Buckingham Mtn., Feliciana Mountain., Stumpfield Mountain., Horsecamp Mountain, Catheys Valley, Illinois Hill, and Bear Valley).[6] These species, and their potential to occur on site, are listed in Table 4-7.

[5] (California Department of Fish and Wildlife 2022); (California Native Plant Society, Rare Plant Program 2022)
[6] (California Department of Fish and Wildlife 2022)

Table 4-7 also includes several special status species not returned in the CNDDB query but known by LOA to occur in the general vicinity of the Project site.

Table 4-7. List of Special Status Animals with Potential to Occur Onsite and/or in the Vicinity

Species	Status	Habitat	Occurrence on Project SIte
Monarch Butterfly (*Danaus plexippus*)	FC	Overwinters in coastal California and Baja California and breeds throughout California in the spring and summer along its annual migration north and east. The adult monarch lays its eggs on obligate milkweed (*Asclepias* spp.) host plants, which the resultant larvae feed on before pupating and emerging as adults. In addition to milkweed, this species requires abundant nectar resources to nourish migrating adults, and trees for roosting during migratory stopovers.	**Possible.** Narrow-leaf milkweed was observed on one of the project site's vacant lots, and may occur elsewhere on site. Monarchs may reproduce on site, and the site may also support foraging and roosting by migratory adults.
Valley Elderberry Longhorn Beetle (VELB) (*Desmocerus californicus dimorphus*)	FT	Found in mature elderberry shrubs of the Central Valley from Shasta County to Madera County. Historic occurrence records south of Madera County and in the foothills above 500 feet in elevation are now believed to be associated with the closely-related California elderberry longhorn beetle (*D. c. californicus*) (USFWS 2019).	**Absent.** The project site is located well above this species' elevational distribution, based on current scientific understanding (USFWS 2019).
California Tiger Salamander (*Ambystoma californiense*)	FT, CT	Found primarily in annual grasslands; requires vernal pools for breeding and rodent burrows for aestivation.	**Absent.** Suitable habitat is absent from the project site and surrounding lands, and the site is located outside of this species' range.
Limestone Salamander (*Hydromantes brunus*)	CT, CFP	Found in the chaparral belt of the lower Merced River Canyon. Inhabits mossy limestone crevices, typically on steep slopes. Breeds terrestrially.	**Absent.** Suitable habitat is absent from the project site, and the site is located outside of this species' limited range.
Foothill Yellow-legged Frog (*Rana boylii*)	CE	Found in or near rocky streams in a variety of habitats. Uses submerged rocks and debris for cover. Requires gravel or rocks in moving water near stream margins for reproduction.	**Unlikely.** A historical (1899) collection of this species was made in Mariposa, presumably from Mariposa Creek. However, this species is nearly extinct in the Sierra Nevada south of Interstate 80, and the presence of bullfrogs and introduced fish in Mariposa Creek further limits their potential to occur here.
Sierra Nevada Yellow-legged Frog (*Rana sierrae*)	FE, CT	Found in cold mountain lakes and streams, generally from 5,000 to 12,000 feet in elevation. Breeding and egg laying occur after snowmelt from June to August.	**Absent.** The site is below the elevational range of the species.
Bald Eagle (*Haliaeetus leucocephalus*)	CE	Nests and winters on ocean shores, lake margins and rivers. Uses old-growth snags. Mostly forages over water and along shores.	**Unlikely**. This species is associated with large bodies of water, which are absent from the project site and surrounding lands.
Hardhead (*Mylopharodon conocephalus*)	CSC	Found in large, low- to mid-elevation undisturbed streams and reservoirs, in clear, deep pools with sand-gravel-boulder substrates and slow water velocity.	**Unlikely.** The on-site reach of Mariposa Creek is at the upper limits of this stream's perennial flows, and does not appear to offer suitable

Species	Status	Habitat	Occurrence on Project SIte
			microhabitat conditions for this species.
Western Spadefoot (*Spea hammondii*)	CSC	Occurs in grasslands of the San Joaquin Valley, where it breeds in vernal pools or other seasonal wetlands and aestivates in underground refugia such as rodent burrows.	**Absent.** Suitable habitat is absent from the project site and surrounding lands, and the site is located outside of this species' range.
Western Pond Turtle (*Actinemys marmorata*)	CSC	Found in open, slow-moving water or ponds with rocks and logs for basking. Nesting occurs in open areas, on a variety of soil types, and up to ¼ mile away from water.	**Possible.** Suitable habitat occurs on the site in and immediately surrounding Mariposa Creek. Outside of the site's riparian corridor, upland habitats are highly disturbed and unlikely to be used by this species.
Pallid Bat (*Antrozous pallidus*)	CSC	Roosts in rocky outcrops, cliffs, and crevices with access to open habitats for foraging. May also roost in caves, mines, hollow trees, and buildings. This opportunistic forager gleans a variety of arthropod prey from surfaces, and may also take insects in flight.	**Possible.** The pallid bat could potentially roost in the site's mature trees and snags, and forage on or over the site.
Townsend's Big-eared Bat (*Corynorhinus townsendii*)	CSC	Primarily a cave-dwelling bat that may also roost in buildings, rock crevices, and hollow trees. Forages in edge habitats along streams and within and adjacent to various types of forest and woodland.	**Possible.** The Townsend's big-eared bat could potentially roost in the site's mature trees and snags, and forage on or over the site.
Spotted Bat (*Euderma maculatum*)	CSC	Occurs in a variety of habitats. Roost sites are cracks, crevices, and caves, usually high in fractured rock cliffs.	**Possible.** Spotted bats may forage over the project site from time to time, but roosting habitat is absent.
Western Red Bat (*Lasiurus blossevillii*)	CSC	This mostly solitary bat roosts primarily in trees, 2-40 feet above ground, from sea level up through mixed conifer forests. Prefers habitat edges and mosaics with trees that are protected from above and open below with open areas for foraging.	**Possible.** The western red bat could potentially roost in the site's trees, and forage on or over the site.
Ringtail (*Bassariscus astutus*)	CFP	Found in a variety of habitats including chaparral, rocky hillsides, and riparian areas. This species dens in rock crevices, boulder piles, underground cavities, and hollow trees.	**Unlikely.** High levels of anthropogenic disturbance would likely preclude this species from occurring on or around the project site.

Table 4-8. List of Special Status Plants with Potential to Occur Onsite and/or in the Vicinity

Species	Status	Habitat	Occurrence on Project SIte
Mariposa Pussypaws (*Calytridium pulchellum*)	FT, CNPS 1B	Known from fewer than ten populations in Mariposa, Madera, and Fresno Counties, where it can be found on granite domes and other exposed sites between 1,320 and 4,000 feet in elevation. Blooms April-August.	**Absent.** Suitable habitat for this species is absent from the project site.
Mariposa Lupine (*Lupinas citrinus var. deflexus*)	CT, CNPS 1B	Known from fewer than ten occurrences in chaparral and woodland habitats near Mariposa Creek, elevations 1,300 to 2,000 feet.	**Unlikely.** Although portions of the site may have once been suitable for the Mariposa lupine, any habitats once present have been eliminated by

Species	Status	Habitat	Occurrence on Project SIte
		Preferred microhabitat is granitic sand on hilltops and hillsides, mostly with southern exposure. Blooms April-May.	urban development and other forms of anthropogenic disturbance.
Yosemite Onion (*Allium yosemitense*)	CNPS 1B	Occurs in pockets of wet soil, in wet cracks of metamorphic rock, and on slopes and walls within chaparral, woodland, and forest habitats. Elevations between 1,740 and 6,650 feet. Blooms April-June	**Absent.** Suitable habitat is absent from the project site.
Big-scale Balsamroot (*Balsamorhiza macrolepis*)	CNPS 1B	Found in dry, open areas in chaparral, grassland, and woodland habitats, sometimes in serpentine soils. Elevations up to 5,000 feet; blooms March-June.	**Absent.** Suitable habitat is absent from the project site.
Mariposa Clarkia (*Clarkia biloba* ssp. *australis*)	CNPS 1B	Found in chaparral and woodland habitats in serpentine soils. Several occurrences known from the foothill woodland / riparian ecotone. Elevations between 1,000 and 4,800 feet. Blooms April-July.	**Absent.** Serpentine soils are absent from the project site.
Beaked Clarkia (*Clarkia rostrata*)	CNPS 1B	Occurs in oak or pine woodlands, often on north-facing slopes; blooms May-July; elevations 560-3,445 feet.	**Unlikely.** Although portions of the site may have once been suitable for the beaked clarkia, any habitats once present have been eliminated by urban development and other forms of anthropogenic disturbance.
Pleasant Valley Mariposa-lily (*Calochortus clavatus* var. *avius*)	CNPS 1B	Occurs in lower montane coniferous forest in Josephine silt loam or volcanic soils, often in rocky areas; blooms May-July; elevations 1,000-5,900 feet.	**Absent.** Suitable habitat is absent from the project site.
Mariposa Cryptantha (*Cryptantha mariposae*)	CNPS 1B	Occurs in rocky chaparral habitats; serpentine soils; blooms April-May; elevations 660-2,130 ft.	**Absent.** Suitable habitat and soils are absent from the project site.
Recurved Larkspur (*Delphinium recurvatum*)	CNPS 1B	Occurs in poorly drained, fine, alkaline soils in grassland and Atriplex scrub; blooms March-June; alkaline soils; elevations below 2,500 ft.	**Absent.** Suitable habitat is absent from the project site.
Yellow-lipped Pansy Monkeyflower (*Diplacus pulchellus*)	CNPS 1B	Found in vernally wet or mesic sites in lower montane coniferous forest or meadow habitats; elevations 2,000-6,500 feet. Blooms April-July.	**Absent.** Suitable habitat is absent from the project site, and the site is situated at the lower extent of this species' elevation range.
Koch's Cord Moss (*Entosthodon kochii*)	CNPS 1B	This moss is known from only four occurrences statewide. It grows on the soil in woodland habitats, often on river banks. Elevations between 600 and 3,300 feet.	**Unlikely.** Although portions of the site may have once been suitable for this rare species, any habitats once present have been eliminated by urban development and other forms of anthropogenic disturbance.
Congdon's Woolly Sunflower (*Eriophyllum congdonii*)	CNPS 1B	Occurs in cracks in rock outcroppings and on talus, in chaparral, woodland, lower montane coniferous forest, and grassland habitats. Elevations between 1,590 and 6,000 feet. Blooms April – June.	**Absent.** Suitable habitat is absent from the project site.
Slender-stemmed Monkeyflower (*Erythranthe filicaulis*)	CNPS 1B	Occurs on vernally mesic granitic sand and meadow edges within woodland and coniferous forest	**Absent.** Suitable habitat is absent from the project site, and the site is

Species	Status	Habitat	Occurrence on Project SIte
		habitats between 2,035 and 5,525 feet in elevation. Blooms April – August.	situated at the lower extent of this species' elevation range.
Slender-stalked Monkeyflower (*Erythranthe gracilipes*)	CNPS 1B	Occurs within disturbed places such as burns and railroad grades; also on thin granitic soil in cracks in large granite rocks. Associated with chaparral, woodland, and lower montane coniferous forest between 1,640 and 4,265 feet. Blooms April – June.	**Possible.** Portions of the project site may offer suitable habitat for this species. There is a historical (1897) occurrence of the slender-stalked monkeyflower in the Mariposa area, generally mapped to Mormon Bar, approximately 1.5 miles southeast of the site
Parry's Horkelia (*Horkelia parryi*)	CNPS 1B	Found in openings in chaparral and woodland habitats at elevations between 260 and 3,500 feet. Especially known from the Ione Formation in Amador County. Blooms April-September.	**Absent.** Suitable habitat is absent from the project site.
Madera Leptosiphon (*Leptosiphon serrulatus*)	CNPS 1B	Occurs in woodlands and lower montane coniferous forests between 100 and 4,200 ft. in elevation. Prefers dry slopes often on decomposed granite in woodlands. Blooms April-May.	**Possible.** A historical (1896) occurrence of the Madera leptosiphon is generally mapped to the town of Mariposa. Urban development and other anthropogenic disturbances since this time have degraded the quality of the site's habitats and limited its potential to support this species. Nevertheless, the Madera leptosiphon's occurrence on site cannot be conclusively ruled out.
Congdon's Lomatium (*Lomatium congdonii*)	CNPS 1B	Found in chaparral and woodland habitats in serpentine soils. Associated species include the gray pine and various chaparral plants. Elevations between 1,000 and 6,900 feet. Blooms March-June.	**Absent.** A historical (1903) occurrence of the Congdon's lomatium is generally mapped to the town of Mariposa. Serpentine soils are absent from the project site itself, and this species does not have the potential to occur on site.
Shaggyhair Lupine (*Lupinus spectabilis*)	CNPS 1B	Found in serpentine chaparral habitats on open, rocky slopes; elevations between 900 and 2,700 feet. Often surrounded by gray pine woodland. Blooms April-May.	**Absent.** Suitable habitat and soils are absent from the project site.

OCCURRENCE DESIGNATIONS AND STATUS CODES

Present: Species observed on the site at time of field surveys or during recent past.
Likely: Species not observed on the site, but it may reasonably be expected to occur there on a regular basis.
Possible: Species not observed on the site, but it could occur there from time to time.
Unlikely: Species not observed on the site, and would not be expected to occur there except, perhaps, as a transient.
Absent: Species not observed on the site and precluded from occurring there because habitat requirements not met.

STATUS CODES

FE	Federally Endangered	CE	California Endangered
FT	Federally Threatened	CT	California Threatened
FC	Federal Candidate	CFP	California Fully Protected
		CSC	California Species of Special Concern

CNPS LISTING

1A	Plants Presumed Extinct in California	2	Plants Rare, Threatened, or Endangered in California, but more common elsewhere
1B	Plants Rare, Threatened, or Endangered in California and elsewhere		

4.4.3 Thresholds

Threatened and Endangered Species

In California, imperiled plants and animals may be afforded special legal protections under the California Endangered Species Act (CESA) and/or Federal Endangered Species Act (FESA). Species may be listed as "threatened" or "endangered" under one or both Acts, and/or as "rare" under CESA. Under both Acts, "endangered" means a species is in danger of extinction throughout all or a significant portion of its range, and "threatened" means a species is likely to become endangered within the foreseeable future. Under CESA, "rare" means a species may become endangered if their present environment worsens. Both Acts prohibit "take" of listed species, defined under CESA as "to hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture or kill" (California Fish and Game Code, Section 86), and more broadly defined under FESA to include "harm" (16 United States Code (USC), Section 1532(19), 50 CFR, Section 17.3). The United States Fish and Wildlife Service (USFWS) commonly interprets "take" to include the loss of habitat utilized by a listed species.

When state and federally listed species have the potential to be impacted by a project, the USFWS and CDFW must be included in the CEQA process. These agencies review the environmental document to determine the adequacy of its treatment of endangered species issues and to make project-specific recommendations for the protection of listed species. Projects that may result in the "take" of listed species must generally enter into consultation with the USFWS and/or CDFW pursuant to FESA and CESA, respectively. In some cases, incidental take authorization(s) from these agencies may be required before the project can be implemented.

Designated Critical Habitat

The USFWS often designates areas of "critical habitat" when it lists species as threatened or endangered. Critical habitat is a specific geographic area(s) that contains features essential for the conservation of a threatened or endangered species and that may require special management and protection.

Designated critical habitat is absent from the Project vicinity. The nearest unit of critical habitat is located some 16 miles to the west of the Project site, in the grassland / vernal pool complexes of the lower foothills. It is designated for the protection of a variety of listed vernal pool plant and animal species.

Migratory Birds

The Federal Migratory Bird Treaty Act (FMBTA: 16 USC 703-712) prohibits killing, possessing, or trading in any bird species covered in one of four international conventions to which the United States is a party, except in accordance with regulations prescribed by the Secretary of the Interior. The name of the act is misleading, as it actually covers almost all birds native to the United States, even those that are non-migratory. The FMBTA encompasses whole birds, parts of birds, and bird nests and eggs.

Native birds are also protected under California state law. The California Fish and Game Code makes it unlawful to take or possess any non-game bird covered by the FMBTA (Section 3513), as well as any other native non-game bird (Section 3800), even if incidental to lawful activities. Moreover, the California Migratory Bird Protection Act, enacted in September 2019, clarifies native bird protection and increases protections where California law previously deferred to federal law.

Birds of Prey

Birds of prey are also protected in California under provisions of the State Fish and Game Code, Section 3503.5, 1992), which states that it is "unlawful to take, possess, or destroy any birds in the order

Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto." Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered "taking" by the CDFW.

Nesting Birds

In California, protection is afforded to the nests and eggs of all birds. California Fish and Game Code (Section 3503) states that it is "unlawful to take, possess, or needlessly destroy the nest or eggs of any bird except as otherwise provided by this code or any regulation adopted pursuant thereto." Breeding-season disturbance that causes nest abandonment and/or loss of reproductive effort is considered a form of "take" by the CDFW.

Habitat Conservation Plans and Natural Community Conservation Plans

Section 10 of the federal Endangered Species Act establishes a process by which non-federal projects can obtain authorization to incidentally take listed species, provided take is minimized and thoroughly mitigated. A Habitat Conservation Plan (HCP), developed by the project applicant in collaboration with the USFWS and/or NMFS, ensures that such minimization and mitigation will occur, and is a prerequisite to the issuance of a federal incidental take permit. Similarly, a Natural Community Conservation Plan developed by the project applicant in collaboration with CDFW, provides for the conservation of biodiversity within a project area, and permits limited incidental take of state-listed species.

Wetlands and Other Jurisdictional Waters

Section 404 of the federal Clean Water Act (CWA) regulates the discharge of dredged or fill material into "navigable waters" (33 USC §1344), defined in the CWA as "the waters of the United States, including the territorial seas" (33 USC §1362(7)). The CWA does not supply a definition for waters of the U.S., and that has been the subject of considerable debate since the CWA's passage in 1972. A variety of regulatory definitions have been promulgated by the two federal agencies responsible for implementing the CWA, the USEPA and USACE. These definitions have been interpreted, and in some cases, invalidated, by federal courts.

Most recently, waters of the U.S. were defined by the Navigable Waters Protection Rule (NWPR). The new rule was published in the Federal Register on April 21, 2020 and took effect on June 22, 2020. However, on August 30, 2021, in the case of Pascua Yaqui Tribe v. U.S. Environmental Protection Agency, the U.S. District Court for the District of Arizona vacated and remanded the NWPR. In light of this order, the USEPA and USACE have halted implementation of the NWPR and, until further notice, are interpreting "waters of the United States" consistent with the pre-2015 regulatory regime.

The interpretation of waters of the U.S. prior to 2015 generally included:

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

- Tributaries of waters identified in the bulleted items above.

As determined by the United States Supreme Court in its 2001 Solid Waste Agency of Northern Cook County v. USACE decision, channels and wetlands isolated from other jurisdictional waters cannot be considered jurisdictional on the basis of their use, hypothetical or observed, by migratory birds. Similarly, in its 2006 consolidated Carabell/Rapanos decision, the U.S. Supreme Court ruled that a significant nexus between a wetland and other navigable waters must exist for the wetland itself to be considered a jurisdictional water.

All activities that involve the discharge of dredge or fill material into waters of the U.S. are subject to the permit requirements of the USACE. Such permits are typically issued on the condition that the applicant agrees to provide mitigation that result in no net loss of wetland functions or values. No permit can be issued until the RWQCB issues a Section 401 Water Quality Certification (or waiver of such certification) verifying that the proposed activity will meet state water quality standards.

Under the Porter-Cologne Water Quality Control Act of 1969, the State Water Resources Control Board has regulatory authority to protect the water quality of all surface water and groundwater in the State of California ("waters of the State"). Nine RWQCBs oversee water quality at the local and regional level. The RWQCB for a given region regulates discharges of fill or pollutants into waters of the State through the issuance of various permits and orders. Discharges into waters of the State that are also waters of the U.S. require a Section 401 Water Quality Certification from the RWQCB as a prerequisite to obtaining certain federal permits, such as a Section 404 Clean Water Act permit. Discharges into all waters of the State, even those that are not also waters of the U.S., require Waste Discharge Requirements (WDRs), or waivers of WDRs, from the RWQCB. The RWQCB also administers the Construction Storm Water Program and the federal National Pollution Discharge Elimination System (NPDES) program. Projects that disturb one or more acres of soil must obtain a Construction General Permit under the Construction Storm Water Program. A prerequisite for this permit is the development of a Storm Water Pollution Prevention Plan (SWPPP) by a certified Qualified SWPPP Developer. Projects that discharge wastewater, storm water, or other pollutants into a water of the U.S. may require a NPDES permit.

CDFW has jurisdiction over the bed and bank of natural drainages and lakes according to provisions of Section 1601 and 1602 of the California Fish and Game Code. Activities that may substantially modify such waters through the diversion or obstruction of their natural flow, change or use of any material from their bed or bank, or the deposition of debris require a Notification of Lake or Streambed Alteration. If CDFW determines that the activity may adversely affect fish and wildlife resources, a Lake or Streambed Alteration Agreement will be prepared. Such an agreement typically stipulates that certain measures will be implemented to protect the habitat values of the lake or drainage in question.

4.4.4 Impact Analysis

a) Would the project 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 Wildlife or U.S. Fish and Wildlife Service?

Less than Significant Impact with Mitigation Incorporated.

Potential Project Impacts to the Western Pond Turtle.

The Project site contains potential aquatic and upland habitat for the western pond turtle. While Project buildout would not result in a significant loss of habitat for this species, construction activities could harm

individual turtles resulting in a significant impact. Implementation of Mitigation Measures **BIO-1A** (Pre-construction Survey), **BIO-1B** (Relocation), and **BIO-1C** (Avoidance) will reduce impacts to the western pond turtle to a less than significant.

Potential Project Impacts to Nesting Migratory Birds and Raptors.

The Project site contains suitable nesting habitat for a number of avian species protected under the federal Migratory Bird Treaty Act and related state laws. Any birds or raptors that are nesting within or near work areas at the time of construction would have the potential to be injured or killed by project activities. In addition to direct "take" of nesting birds, project activities could disturb birds nesting within or adjacent to work areas such that they would abandon their nests. Project-related injury or mortality of nesting birds and raptors would violate state and federal laws and is considered a potentially significant impact.

Implementation of Mitigation Measures **BIO-2A** (Avoidance), **BIO-2B** (Pre-construction Survey), and **BIO-2C** (Construction-Free Buffers) will reduce potential Project impacts to nesting migratory birds and raptors to a less than significant level under CEQA and will ensure compliance with state and federal laws protecting these species.

Potential Project Impacts to the Pallid Bat, Townsend's Big-eared Bat, Western Red Bat, and other Roosting Bats.

A few native bat species have the potential to breed and rear their young on the Project site. These include the Yuma myotis (Myotis yumanensis) and little brown myotis (Myotis lucifugus), both of which were observed on site during emergence and foraging surveys conducted in 2021, the pallid bat (Antrozous pallidus), Townsend's big-eared bat (Corynorhinus townsendii), and western red bat (Lasiurus blossevillii); the latter three are California Species of Special Concern.[7] During the maternity season, typically April 15 to August 31, these species may roost, sometimes in large numbers, within the site's trees and snags. Removal of trees and snags that contain maternity colonies could lead to the mortality of many bats, which would be considered a significant impact under CEQA.

The Project would not result in a significant loss of roosting or foraging habitat for the pallid bat, Townsend's big-eared bat, and western red bat. Although a few potential roost trees may be removed, numerous similar trees and snags would remain available along the Mariposa Creek corridor and elsewhere in the project vicinity. The project site's foraging value for special status bats will remain virtually unchanged. Any bats that presently forage on site would be expected to continue to do so following Project development.

Implementation of Mitigation Measures **BIO-3A** (Avoidance), **BIO-3B** (Pre-construction Survey), and **BIO-3C** (Construction-Free Buffers) will reduce potential construction-related impacts to maternity roosting bats, including the pallid bat, Townsend's big-eared bat, and western red bat, to a less than significant level under CEQA.

Potential Project Impacts to Special Status Plants.

Eighteen special status plants are known from the Project vicinity. Of these, two species, the slender-stalked monkeyflower and Madera leptosiphon, have some potential to occur in the site's riparian

[7] (Sierra Foothill Conservancy 2021)

woodland habitat. This habitat is an asset and focal point of the Mariposa Creek Parkway and will be conserved to the maximum extent feasible. Moreover, the Project includes a conservation strategy for special status plants that ensures that, if found on site, the slender-stalked monkeyflower and Madera leptosiphon will be protected in place as a preferred option or salvaged on site if avoidance is not feasible. For these reasons, Project impacts to the slender-stalked monkeyflower and Madera leptosiphon are considered less than significant under CEQA.

The remaining 16 special status plant species are considered absent from or unlikely to occur on the Project site due to an absence of suitable habitat and/or soils, the site's being situated outside of the species' distribution, or a combination thereof. The Project is not expected to adversely affect these species, either directly or indirectly, and impacts are considered less than significant under CEQA. Mitigation measures are not warranted.

Potential Project Impacts to the Monarch Butterfly.

The Project site is located in an area where monarch butterflies are known to occur and provides suitable habitat for this species. Narrow-leaf milkweed, a host plant for monarch reproduction, was observed on one of the site's vacant lots during LOA's July 2022 survey and may occur elsewhere on site. Migrating adults may use the site's trees for roosting and its understory vegetation as a source of nectar. The project is unlikely to result in construction-related injury or mortality of adult monarchs because individuals of this volant life stage would presumably be able to avoid construction disturbance. The Project is also unlikely to adversely affect this species through the loss of foraging or roosting habitat because project-related vegetation removal will be localized and small-scale, and considerable such habitat will remain available to monarchs following project implementation, both on- and off-site. The Project includes a conservation strategy that is geared toward the protection of monarch eggs, larvae, and pupae, which are inherently vulnerable to construction-related mortality due to their non-volant nature. The conservation strategy also ensures there will be no net loss of milkweed plants on the Project site. For these reasons, project impacts to the monarch butterfly are considered less than significant under CEQA. Mitigation measures are not warranted.

Project Impacts to Special Status Animal Species Absent from or Unlikely to Occur on the Project Site.

Fifteen special status animals have been documented in the general vicinity of the Project site or are known to occur regionally. Of these, nine are considered absent or unlikely to occur on the site due to the absence of suitable habitat and/or the site's being situated outside of the species' known distribution. These species are the valley elderberry longhorn beetle (Desmocerus californicus occidentalis), California tiger salamander (Ambystoma californiense), limestone salamander (Hydromantes brunus), foothill yellow-legged frog (Rana boylii), Sierra Nevada yellow-legged frog (Rana sierrae), bald eagle (Haliaeetus leucocephalus), hardhead (Mylopharodon conocephalus), western spadefoot (Spea hammondii), and ringtail (Bassariscus astutus). Because these species have no appreciable potential to occur on site, they are not expected to be affected by the Project, directly or indirectly. Project impacts are considered less than significant under CEQA. Mitigation measures are not warranted.

Project-Related Mortality of Special Status Animal Species that May Occur on the Project Site as Occasional or Regular Foragers but Breed Elsewhere.

One special status animal, the spotted bat (Euderma maculatum), has the potential to forage on the site from time to time but would not breed on site or close enough to the site to be vulnerable to Project-related disturbance at roosting locations. Individuals of this species are unlikely to be injured or killed by

construction activities because they are highly mobile foragers and would be expected to simply avoid active work areas. Mitigation measures are not warranted.

b) Would the project 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?

Less than Significant Impact. The Project site contains one sensitive natural community as classified by the VegCAMP system, the mixed riparian woodland habitat associated with Mariposa Creek.[8] This woodland is an asset and focal point of the Mariposa Creek Parkway and will be conserved to the maximum extent feasible. Moreover, the Project includes a conservation strategy that would ensure that there is no net loss of riparian trees or shrubs of 4 inches DBH or greater. For these reasons, Project impacts to riparian woodland habitat are considered less than significant under CEQA.

The Project site does not contain or adjoin habitat designated for the protection of federally listed species. There will be no impacts to designated critical habitat. Overall, impacts would be less than significant.

c) Would the project 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?

Less than Significant Impact. Certain Project elements may impact portions of Mariposa Creek that fall under the jurisdiction of the USACE, RWQCB, and/or CDFW. These impacts are expected to be localized and largely temporary, and in some cases may yield ecosystem benefits, as would be expected for planned restoration and native riparian planting activities. Although small areas of the creek may be modified by excavation, placement of "fill," and other activities, the Project is not expected to affect the function and value of this aquatic resource, and project impacts to jurisdictional waters are considered less than significant under CEQA. However, proposed activities in the creek must be conducted in accordance with Clean Water Act Sections 404 and 401 and California Fish and Game Code Section 1602. The Project applicant would acquire permits from the USACE, RWQCB, and CDFW well in advance of any work in the channel. With acquisition of the required permits noted above, any impacts would be less than significant.

d) Would the project 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?

Less than Significant Impact. Mariposa Creek is likely to function as an important movement corridor for aquatic and terrestrial wildlife. Construction activities along or near the creek may produce noise, vibration, and other stimuli that may temporarily disturb wildlife using this corridor. Terrestrial wildlife may shift their movements away from work areas; however, the creek's riparian woodland habitat is wide and well-developed, with opportunities for movement on either side of the channel, and it is expected that these species will continue to use the corridor during construction. Similarly, because no water diversions or other major disruptions of the creek's flow are planned, the wetted channel should continue to support the movements of aquatic wildlife while construction is occurring. Any impacts to this movement corridor would be temporary; after construction, both terrestrial and aquatic wildlife would

[8] (California Department of Fish and Wildlife 2021)

be expected to continue to use the corridor as they do under pre-Project conditions. For these reasons, potential project impacts to wildlife movement corridors are considered less than significant.

e) Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

No Impact. The Project appears consistent with those goals and policies of the Mariposa TPA Specific Plan that pertain to biological resources. There would be no impact.

f) Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

No Impact. There are no known habitat conservation plans or a Natural Community Conservation Plans in the Project area. There would be no impact.

4.4.5 Mitigation

BIO-1A (Pre-construction Survey): A pre-construction survey for western pond turtles will be conducted no more than 24 hours prior to the start of work in Mariposa Creek and the adjoining mixed riparian woodland habitat.

BIO-1B (Relocation): A qualified biologist will capture and relocate any turtles found within areas planned for direct impact. Turtles will be relocated to suitable alternative habitat within the Mariposa Creek corridor, outside of project boundaries.

BIO-1C (Avoidance): If any turtles are observed on site while work is occurring, work in the immediate area will cease and turtles will be allowed to leave the construction zone of their own volition, if feasible. If necessary, a qualified biologist will capture and relocate such turtles as described above under Mitigation Measure BIO-2b.

BIO-2A (Avoidance): To avoid impacts to nesting birds and raptors, construction will occur, where possible, outside the February 1-August 31 nesting season.

BIO-2B (Pre-construction Survey): If construction must occur during the February 1-August 31 nesting season, a qualified biologist will conduct pre-construction surveys for active bird and raptor nests within 10 days of the onset of these activities. Nest surveys will encompass the work area and surrounding lands within 250 feet. Nest surveys will be repeated whenever there is a lapse in construction of 10 days or more during the nesting season.

BIO-2C (Construction-Free Buffers): Should any active nests be discovered in or near proposed construction zones, a qualified biologist will identify suitable construction-free buffers around the nests. The buffers will be identified on the ground with flagging or fencing and will be maintained until the biologist has determined that the young have fledged and are no longer reliant on the nest or parental care for their survival.

BIO-3A (Avoidance): To avoid potential impacts to maternity bat roosts, removal of mature trees and snags shall occur outside of the period between April 15 and August 31, the time frame within which colony-nesting bats in the vicinity generally assemble, give birth, nurse their young, and ultimately disperse.

BIO-3B **(Pre-construction Survey):** If removal of mature trees and/or snags is to occur between April 15 and August 31, then within 10 days prior to their removal, a qualified biologist will survey them for the presence of bats. The biologist will look for individuals, guano, and staining, and will listen for bat vocalizations. If necessary, the biologist will wait for nighttime emergence of bats from roost sites.

BIO-3C **(Construction-Free Buffers):** Should any active maternity bat roosts be discovered in trees or snags to be impacted the biologist will identify a suitable construction-free buffer around the maternity roost. The buffer will be identified on the ground with flagging or fencing and will be maintained until the biologist has determined that the nursery is no longer active.

4.5 CULTURAL RESOURCES

Table 4-9: Cultural Resources Impacts

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 in § 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 dedicated cemeteries?	☐	☒	☐	☐

4.5.1 Baseline Conditions

Mariposa was originally founded as a mining camp on Agua Fría Creek approximately 6-mi west of present-day Mariposa. The town was moved to its current location in 1850 due to dwindling gold returns in Agua Fría Creek and frequent fires and flooding. The Frémont adobe, built as Frémont's office in 1850, was one of the first permanent structures in the new town that would become the county seat of Mariposa County the following year. The Mariposa courthouse was constructed in 1854 and is still in operation (Durham 1998). The town has many additional structures, a few of which are the Mariposa Meat Market (1859), the Bogan Building (1850s), the International Order of Oddfellow's Hall (1855), and the Capitol Saloon (1867). The Masonic Hall was constructed in 1851 and after fires in 1858 and 1866, the hall was rebuilt again in 1917. It has been recently renovated. The present-day Mariposa Hotel was originally Gallison's Hotel housed in the Stolder Building from 1877 until it burned in 1887. It was rebuilt in 1901 (See Appendix C).

While tourism has played a part in the economy of Mariposa since the 1870s, it wasn't until the route now known as Highway 140 was completed in 1926 that it really took off. For the first time, Yosemite travelers were passing through the heart of Mariposa. At the same time, the increasing affordability of automobiles meant that more people than ever were able to travel at their leisure. Tourism still plays a major role in Mariposa's economy, with over 50 percent of the population employed in tourism related industries (See Appendix C).

Records Search -

In order to determine whether the study area had been previously surveyed for cultural resources, and/or whether any such resources were known to exist on any of them, an archival records search was conducted by ASM Affiliates staff of the Central California Information Center (CCIC) on June 14, 2022. The records search was completed to determine: (i) if prehistoric or historical archaeological sites had previously been recorded within the study areas; (ii) if the project area had been systematically surveyed by archaeologists prior to the initiation of this field study; and/or (iii) whether the region of the field project was known to contain archaeological sites and to thereby be archaeologically sensitive. Records examined included archaeological site files and maps, the National Register of Historic Places, Historic Property Data File, California Inventory of Historic Resources, and the California Points of Historic Interest.

According to the CCIC record search, three previous surveys have been conducted within the study area. An additional 13 studies have been completed within a 0.25-mi radius of the study area, resulting in the

recording of forty-eight cultural resources within that radius. Details of these studies and recorded resources can be found in Appendix C. Details of the resources (previously recorded and newly recorded) identified during the cultural survey for this Project, can be found below in Table 4-10 and Table 4-11 below.

Table 4-10: Previously Recorded Cultural Resources within Project Area

Primary No.	Description
P-22-001393	milling station
P-22-002016	historic district
P-22-002068	mining features and refuse

Native American Outreach

The Native American Heritage Commission (NAHC) in Sacramento was contacted in July 2022. They were provided with a brief description of the Project and a map showing its location and requested that the NAHC perform a search of the Sacred Lands File to determine if any Native American resources have been recorded in the immediate Project area. The NAHC identifies, catalogs, and protects Native American cultural resources -- ancient places of special religious or social significance to Native Americans and known ancient graves and cemeteries of Native Americans on private and public lands in California. The NAHC is also charged with ensuring California Native American tribes' accessibility to ancient Native American cultural resources on public lands, overseeing the treatment and disposition of inadvertently discovered Native American human remains and burial items, and administering the California Native American Graves Protection and Repatriation Act, among many other powers and duties. NAHC provided a current list of Native American Tribal contacts in the Project area to notify of the proposed project.

The results of the search indicated that no known sacred sites or tribal cultural resources were located within the Project area. Mariposa County sent outreach letters by certified mail to all the tribes listed on the NAHC contact list. Details of those outreach letter can be found below Section 4.18. No responses have been received to date.

Phase I Pedestrian Cultural Resources Survey

An intensive Phase I Cultural Resourced survey of the Project area was conducted by ASM Associate Archaeologist in September and October of 2022. The field methods employed included intensive pedestrian examination of the ground surface for evidence of archaeological sites in the form of artifacts, surface features (such as bedrock mortars, historical mining equipment), and archaeological indicators (e.g., organically enriched midden soil, burnt animal bone); the identification and location of any discovered sites, should they be present; tabulation and recording of surface diagnostic artifacts; site sketch mapping; preliminary evaluation of site integrity; and site recording, following the California Office of Historic Preservation Instructions for Recording Historic Resources (See Appendix C).

The Phase I survey fieldwork conducted in September and October 2022 employing parallel transects spaced at 15-meter intervals walked across the approximately 11.1-ac survey area. The survey area includes approximately 0.4-miles of Mariposa Creek and a 0.2-miles connecting corridor of existing rights-of-way along Highway 49. Figure 4-4 and Figure 4-5 were taken during the survey efforts. This survey resulting in the identification and recordation of two new cultural resources. Table 4-11 below provides a summary and a brief description of those resources. Full details can be found in Appendix C.

Figure 4-4: Project study area, looking south.

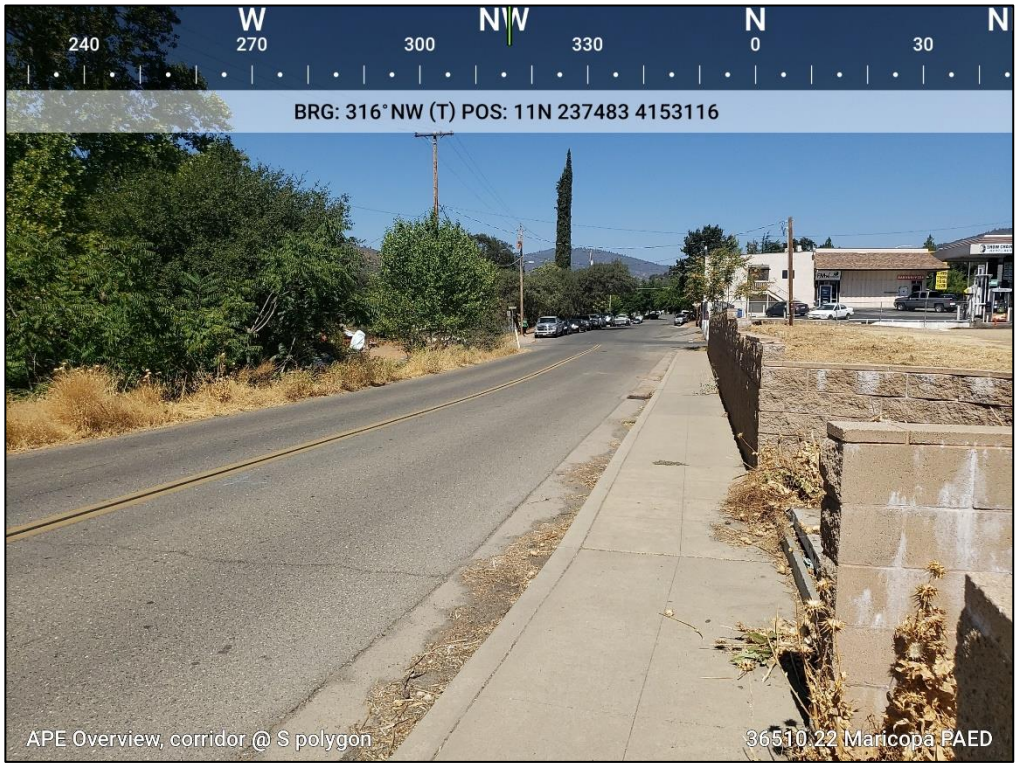

Figure 4-5: Project study area, looking northwest.

Table 4-11: Newly Recorded Cultural Resources Identified within Project Area during survey

Temporary Site Designation	Description
MARIPOSA-SITE-1	The resource consists of bedrock milling site with a petroglyph panel situated along Mariposa Creek.
MARIPOSA-SITE-2	The resource consists of water conveyance and possible mining features situated along Mariposa Creek and within the City of Mariposa. The site measures 97-ft (northwest-southeast) by 62-ft (northeast-southwest) and is situated at an elevation of 1,952-ft amsl. The site is in good condition.

4.5.2 Impact Analysis

a) Would the project cause a substantial adverse change in the significance of a historical resource pursuant to in § 15064.5?

b) Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?

a and b) Less than Significant Impact with Mitigation Incorporated. An archival records search was performed at the CCIC and the results indicated that three previous resources were known to exist within the Project area: P-22-001393 (milling station), P-22-002016 (historic district), and P-22-002068 (mining features and refuse). A list of the resources and a brief description can be found above in Table 4-10.

Of the three previously recorded resources, P-22-001393 was inaccessible at the time of the survey due to overgrowth; no elements of P-22-002016 were identified within the survey area, and the portion of P-22-002068 within the survey area was found to have been destroyed (See Appendix C).

In addition, two new resources were identified during the Phase I survey and given the temporary field designations MARIPOSA-SITE-1 and MARIPOSA-SITE-2. These two new resources and a brief description can be found above in Table 4-11. Site MARIPOSA-SITE-2 specifically is recommended as not eligible for inclusion in the California Register of Historical Resources (CRHR) due to a lack of integrity and research potential. Any development or use of the site locations will not have an adverse impact on significant or unique historical resources.

With the implementation of **CUL-3** for previously recorded resource P-22-001393 and newly recorded resource MARIPOSA-SITE-1, any impacts would be reduced to less than significant in nature.

It is further recommended that, in the unlikely event that any unanticipated cultural resources are encountered during any construction or use of the Project area, implementation of mitigation measure **CUL-1** outlined below to reduce any impacts to unanticipated discovery to less than significant.

c) Would the project disturb any human remains, including those interred outside of dedicated cemeteries?

Less than Significant Impact with Mitigation Incorporated. There is no evidence or record that the Project has the potential to be an unknown burial site or the site of buried human remains. In the unlikely event of such a discovery, mitigation shall be implemented. With incorporation of mitigation measure **CUL-2** outlined below, impacts resulting from the discovery of remains interred on the Project site would be less than significant.

4.5.3 Mitigation

CUL-1 (Archaeological Remains): Should archaeological remains or artifacts be unearthed during any stage of project activities, work in the area of discovery shall cease until the area is evaluated by a qualified archaeologist. If mitigation is warranted, the project proponent shall abide by recommendations of the archaeologist.

CUL-2 (Human Remains): In the event human remains, artifacts, or potentially significant cultural resources are discovered during ground disturbance on the project site, a Native American monitor shall be on-site for the duration of ground disturbance. During any construction activity that involves ground disturbance, if any signs of prehistoric, historic, archaeological, paleontological resources are evident, all work activity within fifty feet of the find shall stop and the Mariposa County Planning Department shall be notified immediately. No work shall be done within fifty feet of the find until Planning has identified appropriate measures to protect the find and those measures have been implemented by the project proponent. Protection measures for the site may include, but not be limited to, requiring the project proponent to hire a qualified archaeologist who shall conduct necessary inspections and research, and who may supervise all further ground disturbance activities and make any such recommendations as necessary to ensure compliance with applicable regulations. In addition to the Planning Department, the Mariposa County Coroner and the Native American Heritage Commission shall be notified should human remains be discovered. If the remains are determined by the Native American Heritage Commission to be Native American, the NAHC guidelines shall be adhered to in treatment and disposition of the remains. Representatives of the Most Likely Descendant shall be requested to be on-site during disturbance and/or removal of human remains.

CUL-3 (Avoidance/Preservation): Since the location of site P-22-001393 could not be accessed due to vegetation overgrowth to confirm its presence or absence, the recorded site location shall be avoided and preserved in place. If avoidance is not possible, a qualified archaeologist shall monitor vegetation clearing in the area and update the site if it is identified. If the site is relocated and cannot be avoided, the site shall be subject to a formal evaluation for eligibility to the CRHR.

The MARIPOSA-SITE-1 shall be avoided and preserved in place. To ensure the site is avoided, project activities shall not occur within 10 meters (33 feet) of the site boundary if possible. If avoidance by project design is not possible, the site shall be subject to a formal evaluation for eligibility to the California Register of Historical Resources (CRHR).

4.6 ENERGY

Table 4-12: Energy Impacts

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?	☐	☐	☐	☒

4.6.1 Baseline Conditions

California's major sources of energy are petroleum products (i.e., gasoline, diesel, and oil), electricity, and natural gas.

Pacific Gas and Electric (PG&E) supplies electricity to the Project area. PG&E obtains its power through hydroelectric, thermal (natural gas), wind, and solar generation of purchases. PG&E continually produces new electric generation and natural gas sources and implements continuous improvements to gas lines throughout its service areas to ensure the provision of services to residents. New construction would be subject to Titles 20 and 24 of the California Code of Regulations which each serve to reduce demand for electrical energy by implementing energy-efficient standards for residential, as well as non-residential buildings.

4.6.2 Impact Analysis

a) Would the project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

Less than Significant Impact. Implementation of the Project would require the temporary use of energy resources for removal of existing features and construction of new trail features. This energy use would primarily be in the form of petroleum products and electricity used to operate construction equipment and consumed during vehicle trips associated with material delivery/debris hauling and commuting workers. Indirect energy use would also occur and include the extraction, production, and transportation of goods and materials needed for construction. While construction activities would result in the temporary consumption of energy resources in the form of vehicle and equipment fuels (gasoline and diesel fuel) and electricity (directly or indirectly), such consumption would be incidental and temporary and would not result in wasteful, inefficient, or unnecessary consumption of energy resources. Maintenance of these structures would require minimal energy use, similar to existing County infrastructure maintenance activities. These activities would occur on an as-needed basis. Additionally, the Project does not involve constructing habitable structures; therefore, no energy efficiency policies apply. For these reasons, energy impacts during Project construction, maintenance, and operation would be less than significant.

b) Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

No Impact. The Project would not conflict with or obstruct a plan for renewable energy or energy efficiency. The Project, by improving the active transportation network, would result in an overall reduction in motor vehicle trips and an improvement in energy efficiency. The Project would follow any applicable State or local plan regarding renewable energy or energy efficiency. There would be no impact.

4.7 GEOLOGY AND SOILS

Table 4-13: Geology and Soils Impacts

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 direct or indirect risks to life or property?	☐	☐	☐	☒
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒
f) Directly or indirectly destroy a unique paleontological resource or site or unique geological feature?	☐	☒	☐	☐

4.7.1 Baseline Conditions

Geology and Soils

Mariposa is situated in the western foothills of the central section of the Sierra Nevada mountain range. The Sierra Nevada mountain range is a granitic batholith formed by the uplifting of metamorphic and igneous rocks. The Mariposa TPA, including the Project area, is primarily underlain by metamorphic rocks.[9] The soils onsite consist of extremely gravelly sandy and loam (see Figure 4-6).

[9] (County of Mariposa n.d.)

Faults and Seismicity

The Foothills Fault System traverses Mariposa County. This fault system has a total length of more than 200 miles, located primarily along the western front of the Sierra Nevada foothills and consists of two major parallel fault and fracture zones that run northwest-southeast across Mariposa County: the Bear Mountains Fault Zone and the Melones Fault Zone. The Bear Mountains Fault Zone crosses the northern Mariposa County line at Highway 132 near the northwest corner of Lake McClure. It runs south-southeast over the lake near New Exchequer Dam, but does not to continue more than a few miles to the southeast beyond the lake. The Melones Fault Zone also runs southeast across the County closely following SR 49 from the area of Jamestown through Bear Valley to the town of Mariposa. Although, the Foothills Fault System is considered active (since the 1975 Oroville Earthquake, the majority of the County, including the Project area falls within the low-risk category for seismic activity.[10]

Liquefaction

The potential for liquefaction, which is the loss of soil strength due to seismic forces, is dependent on soil types and density, the groundwater table, and the duration and intensity of ground shaking. Soil conditions are key factors in selecting locations for direct groundwater recharge projects. Using the United States Department of Agriculture Natural Resources Conservation Service soil survey of Mariposa County, an analysis of the soils onsite was performed. The Mariposa County General Plan deems the dangers of liquefaction in the County as minimal.[11]

Subsidence

Subsidence occurs when a large land area settles due to over-saturation or extensive withdrawal of ground water, oil, or natural gas. These areas are typically composed of open-textured soils that become saturated. These areas are high in silt or clay content. The soils onsite, listed above have a low to moderate risk of subsidence.

Dam and Levee Failure

The Project area is outside of the Stockton Creek Dam Failure Inundation Boundary.[12]

4.7.2 Impact Analysis

a) Would the project 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.

No Impact. According to the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist, the Project area is not located within an Alquist-Priolo Earthquake Fault Zone and no known faults cut through the local soil at the site.[13] There would be no impact.

[10] (Mariposa County n.d.)
[11] Ibid.
[12] (California Department of Water Resources n.d.)
[13] (California Department of Conservation 2021)

ii. Strong seismic ground shaking?

No Impact. The Project area is not likely to be impacted by strong seismic ground shaking. Therefore, there would be no impact.

iii. Seismic-related ground failure, including liquefaction?

No Impact. The Project is not located in or near a fault zone and the underlying soil is not susceptible to liquefaction.[14] There would be no impact.

iv. Landslides?

Less than Significant Impact. Landslides occur when masses of rock, earth, or debris move down a slope, including rock falls, deep failure of slopes, and shallow debris flows. Often, they accompany other natural hazards such as floods and earthquakes. The Mariposa Creek channel is sloped along the banks, but the Project is not affected by a known active fault that could increase the risk for landslides Therefore, impacts would be less than significant.

b) Would the project result in substantial soil erosion or the loss of topsoil?

Less than Significant Impact with Mitigation Incorporated. Project activities such as grading and removal of plant species along the riparian corridor has the potential to loosen surface soils and make them susceptible to erosion. This could cause the potential for sediment to make its way into Mariposa Creek. However, all construction activity would be subject to the erosion control requirements set forth by the NPDES Storm Water Construction General Permit (CGP) (Order No. 2009-0009-DWQ). In addition, the Mariposa TPA Specific Plan Draft Environmental Impact Report (DEIR) includes mitigation measures **GEO-1**, **GEO-2**, and **GEO-3** to reduce any impacts due to Project grading. Compliance with existing regulations and said mitigation measures, impacts in regard to soil erosion or loss of topsoil would be reduced to a less than significant level.

c) Would the project 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?

Less than Significant Impact. As discussed above, the Project is not subject to a substantial risk of landslides. The Project would not introduce habitable structures that are vulnerable to seismic-related ground failure. Therefore, the Project would not increase the existing risk of liquefaction and lateral spreading along Mariposa Creek. The proposed parkway trail extension and recreational features also would not involve major excavation or grading that could increase the instability of underlying geologic units or soil. Therefore, the Project would have a less than significant impact related to geologic or soil instability.

d) Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?

No Impact. The Project is not located on expansive soil, as defined in Table 18-1-8 of the Uniform Building Code (1994). There would be no impact.

e) Would the project 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?

[14] Ibid.

No Impact. The Project would not include permanent work or living facilities and thus would not require the use of septic tanks or alternative wastewater disposal systems. There would be no impact.

f) Would the project directly or indirectly destroy a unique paleontological resource or site or unique geological feature?

Less than Significant Impact with Mitigation Incorporated. No known paleontological resources have been identified at the Project area. However, if a paleontological resource is found, then construction can result in a significant impact unless mitigated properly. GEO-4 will be implemented in the unlikely event that paleontological resources are encountered during Project construction.

4.7.3 Mitigation

GEO-1 An engineered grading plan, erosion control plan, and stormwater drainage plan prepared and approved in accordance with applicable provisions of County Code shall be required for all grading, including road work, on slopes 15% or greater.

GEO-2 A sedimentation control plan prepared and approved in accordance with applicable provisions of County Code shall be required for all grading requiring a grading permit and conducted between the November 1 and April 1.

GEO-3 All exposed and/or disturbed soils for grading which requires a grading permit shall be watered down or suppressed in other manners during grading operations to reduce the generation of fugitive dust. During non-grading periods, all stockpiles of debris, soil, sand, or other materials shall be protected from wind erosion.

GEO-4 Should paleontological resources be encountered on the Project site, all ground disturbing activities in the area shall stop. A qualified paleontologist shall be contacted to assess the discovery. Mitigation may include monitoring, recording the fossil locality, data recovery and analysis, a final report. Public educational outreach may also be appropriate. Upon completion of the assessment, a report documenting methods, findings, and recommendations shall be prepared and submitted to Mariposa County for review, and (if paleontological materials are recovered) a paleontological repository, such as the University of California Museum of Paleontology.

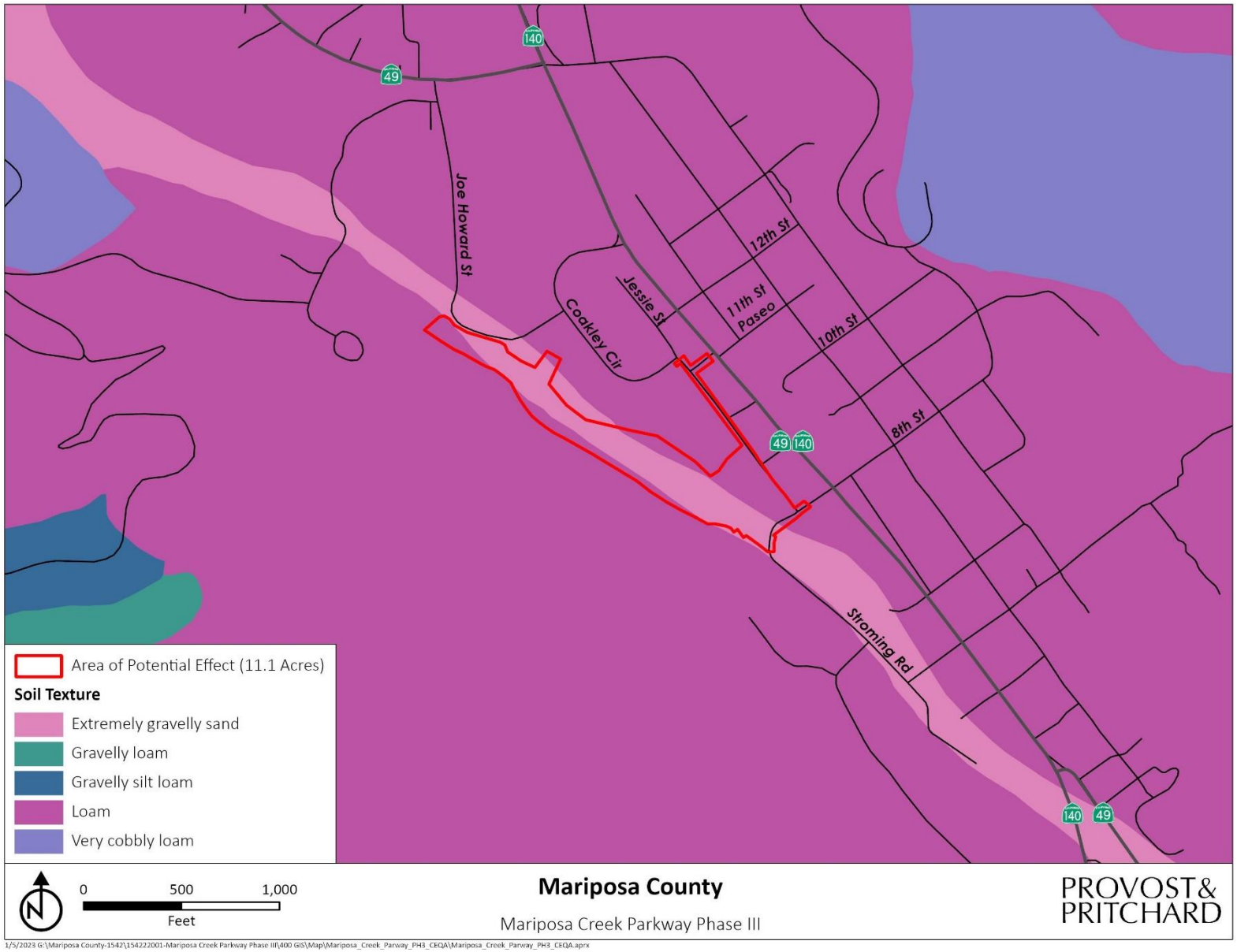

Figure 4-6: On-site Soils Map

4.8 GREENHOUSE GAS EMISSIONS

Table 4-14: Greenhouse Gas Emissions Impacts

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?	☐	☐	☐	☒

4.8.1 Baseline Conditions

Commonly identified Green House Gas (GHG) emissions and sources include the following:

Carbon dioxide (CO_2) is an odorless, colorless natural greenhouse gas. CO_2 is emitted from natural and anthropogenic sources. Natural sources include the following: decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungus; evaporation from oceans; and volcanic out gassing. Anthropogenic sources include the burning of coal, oil, natural gas, and wood.

Methane (CH_4) is a flammable greenhouse gas. A natural source of methane is the anaerobic decay of organic matter. Geological deposits, known as natural gas fields, also contain methane, which is extracted for fuel. Other sources are from landfills, fermentation of manure, and ruminants such as cattle.

Nitrous oxide (N_2O), also known as laughing gas, is a colorless greenhouse gas. Nitrous oxide is produced by microbial processes in soil and water, including those reactions that occur in fertilizer containing nitrogen. In addition to agricultural sources, some industrial processes (fossil fuel-fired power plants, nylon production, nitric acid production, and vehicle emissions) also contribute to its atmospheric load.

Water vapor is the most abundant, and variable greenhouse gas. It is not considered a pollutant; in the atmosphere, it maintains a climate necessary for life.

Ozone (O_3) is known as a photochemical pollutant and is a greenhouse gas; however, unlike other greenhouse gases, ozone in the troposphere is relatively short-lived and, therefore, is not global in nature. O_3 is not emitted directly into the atmosphere but is formed by a complex series of chemical reactions between volatile organic compounds, nitrogen oxides, and sunlight.

Aerosols are suspensions of particulate matter in a gas emitted into the air through burning biomass (plant material) and fossil fuels. Aerosols can warm the atmosphere by absorbing and emitting heat and can cool the atmosphere by reflecting light.

Chlorofluorocarbons (CFCs) are nontoxic, nonflammable, insoluble, and chemically unreactive in the troposphere (the level of air at the earth's surface). CFCs were first synthesized in 1928 for use as refrigerants, aerosol propellants, and cleaning solvents. CFCs destroy stratospheric ozone; therefore, their production was stopped as required by the Montreal Protocol in 1987.

Hydrofluorocarbons (HFCs) are synthetic chemicals that are used as a substitute for CFCs. Of all the greenhouse gases, HFCs are one of three groups (the other two are perfluorocarbons and sulfur hexafluoride) with the highest global warming potential. HFCs are human-made for applications such as air conditioners and refrigerants.

Perfluorocarbons (PFCs) have stable molecular structures and do not break down through the chemical processes in the lower atmosphere; therefore, PFCs have long atmospheric lifetimes, between 10,000 and 50,000 years. The two main sources of PFCs are primary aluminum production and semiconductor manufacture.

Sulfur hexafluoride (SF_6) is an inorganic, odorless, colorless, nontoxic, nonflammable gas. It has the highest global warming potential of any gas evaluated. Sulfur hexafluoride is used for insulation in electric power transmission and distribution equipment, in the magnesium industry, in semiconductor manufacturing, and as a tracer gas for leak detection.

There are uncertainties as to exactly what the climate changes will be in various local areas of the earth, and what the effects of clouds will be in determining the rate at which the mean temperature will increase. There are also uncertainties associated with the magnitude and timing of other consequences of a warmer planet: sea level rise, spread of certain diseases out of their usual geographic range, the effect on agricultural production, water supply, sustainability of ecosystems, increased strength and frequency of storms, extreme heat events, air pollution episodes, and the consequence of these effects on the economy.

Emissions of GHGs contributing to global climate change are largely attributable to human activities associated with the industrial/manufacturing, utility, transportation, residential, and agricultural sectors. About three-quarters of human emissions of CO_2 to the global atmosphere during the past 20 years are due to fossil fuel burning. Atmospheric concentrations of CO_2, CH_4, and N_2O have increased by at least 40 percent, 150 percent, and 20 percent respectively since the year 1750.[15] GHG emissions are typically expressed in carbon dioxide-equivalents (CO_2e), based on the GHG's Global Warming Potential (GWP). The GWP is dependent on the lifetime, or persistence, of the gas molecule in the atmosphere. For example, one ton of CH_4 has the same contribution to the greenhouse effect as approximately 25 tons of CO_2. Therefore, CH_4 is a much more potent GHG than CO_2.In accordance with MCAPCD's the *County of Mariposa General Plan – Volume IV Environmental Impact Report*[16], proposed projects would be required to meet a CO2 emissions threshold of 500 tons per year. Projects exceeding this threshold would be deemed to have a significant impact on the environment.

Construction-Generated Emissions

Emissions associated with the Project were calculated using CalEEMod Air Quality Model, Version 2020.4.0. The emissions modeling includes emissions generated by off-road equipment, haul trucks, and worker commute trips. Emissions were quantified based on an anticipated construction schedule of approximately 18 months. All remaining assumptions were based on the default parameters contained in the model. Localized air quality impacts associated with the Project would be minor and were qualitatively assessed. Modeling assumptions and output files are included in Appendix A.

[15] (California Air Resources Board 2014)
[16] (Mariposa County n.d.)

Impact Assessment

Short-Term Construction-Generated Emissions

Short-term construction emissions associated with the Project were calculated using CalEEMod, Version 2020.4.0. Emissions' modeling was assumed to occur over an approximate 18-month period. Remaining assumptions were based on the default parameters contained in the model. Modeling assumptions and output files are included in Appendix A. Estimated construction-generated emissions are summarized in Table 4-15. GHGs impact the environment over time as they increase and contribute to climate change. The maximum annual short-term construction related emissions have been amortized over 30 years, showing that the Project would not have an impact on the environment over the long-term duration of the project.

Table 4-15: Short Term Construction Generated GHG Emissions

	Emissions (MT CO2e)
Maximum Annual Construction CO2e Emissions	540.7806
Maximum Annual Construction C02e Emissions Amortized over 30 years	*18.0260*
MCAPCD (tons per year)	*500*
Threshold Exceeded?	No

Long-Term Operational Emissions

Long-term construction emissions associated with the Project were calculated using CalEEMod, Version 2020.4.0. Long-term emissions of the Project are considered and take into account expected emission levels the Project would emit after construction is completed. Modeling assumptions and output files are included in Appendix A. Estimated long-term operational emissions are summarized in

Table 4-16.

Table 4-16: Long Term Operational GHG Emissions

	Emissions (MT CO2e)
Estimated Annual Operational CO2e Emissions	17.6158
MCAPCD (tons per year)	*500*
Threshold Exceeded?	No

4.8.2 Impact Analysis

a) Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Less than Significant Impact. The Project would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment. As shown in Table 4-15 and

Table 4-16, the Project is not expected to result in the generation of GHG emissions that would exceed the MCAPCD threshold of 500 MT CO_2e annually during both construction and operational activities. Therefore, impacts would be less than significant.

b) Would the project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

No Impact. The Project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. The Project would be in compliance with all MCAPCD policies and regulations and would not exceed an applicable threshold for GHG emissions. Therefore, there would be no impacts.

4.9 HAZARDS AND HAZARDOUS MATERIALS

Table 4-17: Hazards and Hazardous Materials Impacts

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 or excessive noise 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, either directly or indirectly to a significant risk of loss, injury or death involving wildland fires?	☐	☒	☐	☐

4.9.1 Baseline Conditions

Hazardous Materials

The Hazardous Waste and Substances Sites (Cortese) List is a planning document used by the State, local agencies, and developers to comply with CEQA requirements in providing information about the location of hazardous materials release sites. Government Code Section 65962.5 requires the California Environmental Protection Agency to develop at least annually an updated Cortese List. The Department of Toxic Substances Control (DTSC) is responsible for a portion of the information contained in the Cortese List. Other State and local government agencies are required to provide additional hazardous material release information for the Cortese List. DTSC's EnviroStor database provides DTSC's component of Cortese List data (DTSC, 2010). In addition to the EnviroStor database, the State Water Resources Control Board (SWRCB) Geotracker database provides information on regulated hazardous waste facilities in California,

including underground storage tank (UST) cases and non-UST cleanup programs, including Spills-Leaks-Investigations-Cleanups (SLIC) sites, Department of Defense sites, and Land Disposal program. A search of the DTSC EnviroStor database and the SWRCB Geotracker performed on June 21, 2022 determined that there are no known active hazardous waste generators or hazardous material spill sites within the Project area or immediate surrounding vicinity.[17] The nearest historical hazardous material spill site was located near Jessie Street and 10th Street. The case was resolved and has been closed since April 3, 2006.

Airports

The nearest active public airport is the Mariposa Yosemite Airport, approximately 3.5 miles northeast of the Project area.

Emergency Response Plan

Mariposa County manages and coordinates its emergency response activities in conjunction with the California State Standardized Emergency Management System.

Sensitive Receptors

Sensitive receptors, consisting of residences and schools, are located on lots adjacent to the Project. The nearest is located less than 100 feet away near the upstream portion of the Project area see. The nearest school to the Project area is the Where the Wild Things Play Preschool (Figure 4-7).

4.9.2 Impact Analysis

a) Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

b) Would the project 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?

A and b) Less than Significant Impact. Construction of the Project would potentially require the use of various types and quantities of hazardous materials. Hazardous materials that are typically used during construction include, but are not limited to, hydraulic oil, diesel fuel, grease, lubricants, solvents, paint, asphalt, and adhesives. Although equipment used during construction activities has the potential to contain various hazardous materials, these materials would be used in accordance with the manufacturers' specifications and all applicable regulations, including California Department of Occupational Safety and Health Administration regulations regarding regular maintenance and inspection of equipment, spill prevention, and spill remediation in order to reduce the potential for incidental release of pollutants or hazardous substances on-site. Furthermore, any potential accidental hazardous materials spills during construction are the responsibility of the contractor to remediate in accordance with industry Best Management Practices (BMP) and State and county regulations.

In terms of Project operations, there would be no routine storage or use of hazardous materials. All in all, impacts would be less than significant.

c) Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

[17] (California Department of Toxic Substances Control 2020); (State of California 2020)

Less than Significant Impact. The Project is located within a quarter-mile of the Where the Wild Things Play Preschool, but it wouldn't be close enough to be impacted by any potential hazardous substances from the Project. Any potential accidental hazardous materials spills during construction would comply with industry BMPs and State and county regulations to ensure that impacts would be less than significant.

d) Would the project 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?

Less than Significant Impact. The Project does not involve land that is listed as an active hazardous materials site pursuant to Government Code Section 65962.5 and is not included on a list compiled by DTSC. Both the SWQCB's GeoTracker and DTSC's EnviroStor websites were queried on June 21, 2022 for contaminated groundwater or sites in the area with negative findings. Once the Project is fully constructed, there would be no need for the transport, use, or disposal of hazardous materials and the land area proposed for the Project has not been identified as active hazardous waste generators or hazardous material spill sites. Impacts would be less than significant.

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 or excessive noise for people residing or working in the project area?

No Impact. The Project is not located within an adopted airport land use plan or within two miles of a public airport or public use airport. The nearest airport to the Project is the Mariposa Yosemite Airport, approximately 3.5 miles away. There would be no impact.

f) Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

No Impact. The Project does not involve any physical barriers or interfere any roadways in such a way that would impede emergency or hazards response; therefore, the Project would not interfere with implementation of an emergency response plan or evacuation plan. There would be no impact.

g) Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?

Less than Significant Impact with Mitigation Incorporated. The Project would be located in an area of increased wildland fire risk. Implementation of mitigation measures WLD-1 and WLD-2 would lessen any potential significant impacts to a less than significant level. Wildland fire impacts and risks, as well as the two mitigation measures mentioned above, are discussed further in Section 4.20 Wildfire.

4.9.3 Mitigation

HAZ-1 See WLD-1 and WLD-2 .

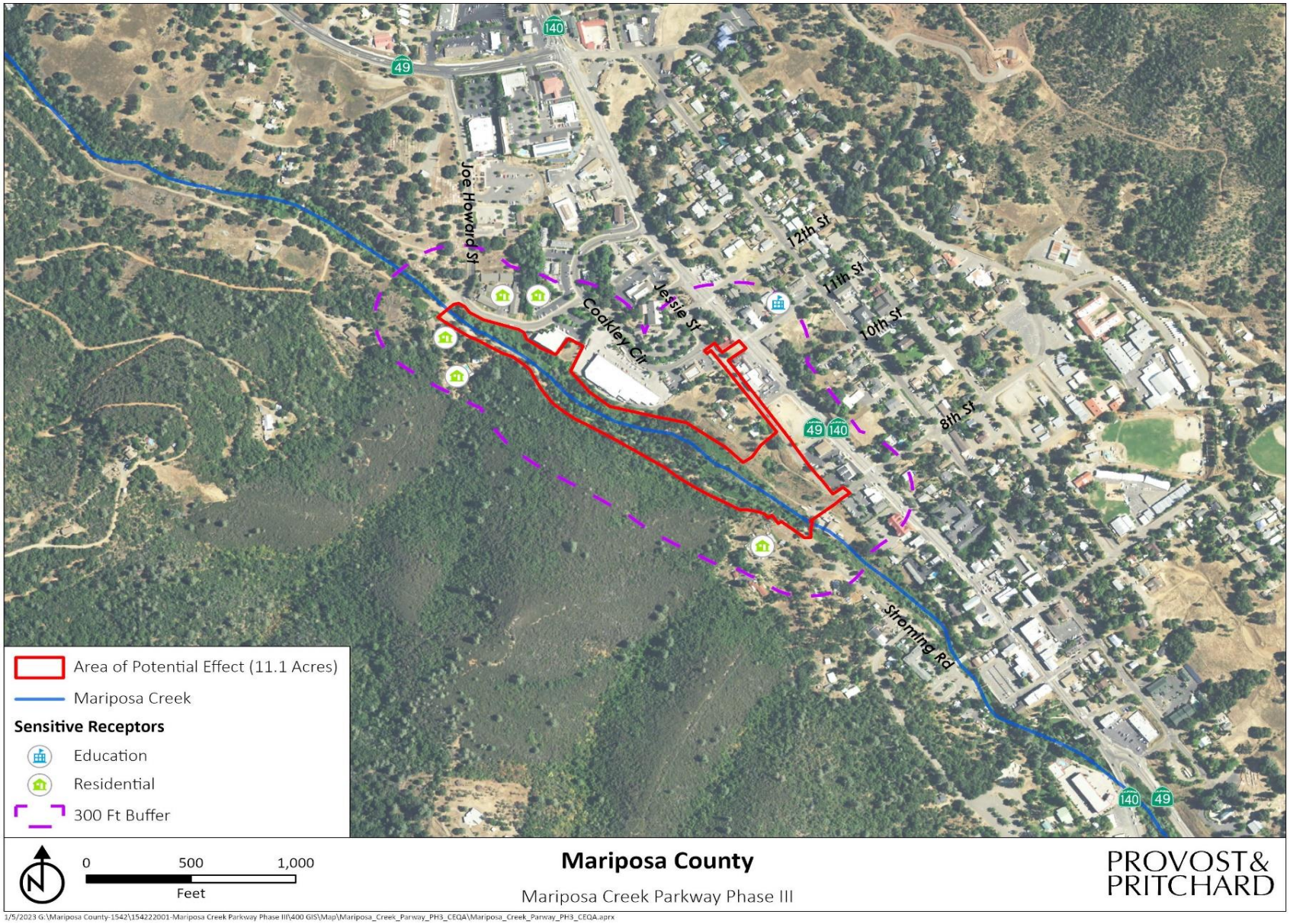

Figure 4-7: Sensitive Receptors Map

4.10 HYDROLOGY AND WATER QUALITY

Table 4-18: Hydrology and Water Quality Impacts

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 ground water quality?	☐	☐	☒	☐
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater 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 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 off-site;	☐	☐	☒	☐
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?	☐	☐	☐	☒

4.10.1 Baseline Conditions

Similar to the rest of California, Mariposa County experiences a Mediterranean type of climate with equally pronounced summers and winters. The majority of the precipitation is rainfall, though Mariposa does receive snowfall multiple times during the winter when temperatures are low enough. The average annual precipitation level reaches approximately 30 inches with most of the precipitation falling between November and April.[18] The major hydrological feature within Mariposa, which includes the Project area, is Mariposa Creek. Mariposa Creek begins approximately three miles north of the Mariposa TPA within the mountain ridges of the Sierra Nevada mountains. Downstream below the Mariposa TPA, various tributaries

[18] (County of Mariposa n.d.)

flow into Mariposa Creek, one being Stockton Creek. The Mariposa Public Utility District (MPUD) owns and operates a 440-acre foot reservoir on Stockton Creek known as the Stockton Creek Reservoir.[19] MPUD also provides wastewater services to the residents and businesses in the Mariposa TPA.

4.10.2 Impact Analysis

a) Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

Less than Significant Impact. During construction of the proposed creek way extension and renovation, Project grading and potential vegetation removal would disturb soils in the Project corridor. Unless measures are taken to prevent erosion of disturbed soils, rain events could wash loose soil into the adjacent Mariposa Creek, causing sedimentation. Stormwater runoff could also carry pollutants like nutrients, heavy metals, pesticides and herbicides, toxic chemicals, oils and fuels, and lubricants into the creek. The primary stormwater pollutant at the construction sites would be excess sediment. Excess sediment could be mobilized anywhere earthwork occurs. Additionally, removal of any existing vegetation along the creek banks would expose underlying soils that were previously not as susceptible to erosion. Contact with loose bare soil could entrain sediments into the runoff causing sedimentation of the water which could impact water quality in receiving waters downstream.

As previously described in Section 4.7 Geology and Soils, the County would ensure the construction contractor employ the appropriate water quality and erosion control BMPs to minimize the potential for offsite erosion and sedimentation in accordance with the construction specifications and with the NPDES CGP for Storm Water Discharges associated with construction activity. These BMPs would be in accordance with Caltrans's Construction Site Best Management Practices Manual[20] and would ensure no water quality standards or waste discharge requirements would be violated. Impacts would be less than significant.

Operation of the project would involve continued recreational use of the creek corridor. It would not introduce new uses that discharge additional water pollutants relative to existing conditions. Therefore, compliance with existing regulatory requirements would ensure that the Project does not violate water quality standards or waste discharge requirements and would not create substantial runoff water or otherwise degrade water quality. Impacts would be less than significant.

b) Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

No Impact. The Project includes no use of groundwater and would not result in any impacts associated with the depletion of groundwater supply or recharge. There would be no impact.

c) Would the project 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 substantial erosion or siltation on- or off-site;

[19] (Mariposa Public Utility District 2021)
[20] Caltrans's Construction Site Best Management Practices Manual can be found here: Microsoft Word - CSBMP-May-2017-Final-122917 (ca.gov)

ii. substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;

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?

c-i – c-iv) Less than Significant Impact. Construction activities would involve excavation, filling and grading of soils, which would expose areas to potential erosion during construction. Grading activities would be performed in accordance with Mariposa County standards. BMPs will be implemented during construction to further reduce potential impacts of erosion or siltation on or off site. Areas disturbed during construction would be restored. A SWPPP will be prepared to comply with the conditions of the NPDES general stormwater permit for construction activities.

As identified in the Project description, the Project would construct a pedestrian bridge over Mariposa Creek. Construction of the bridge would take place during no-flow or low-flow conditions, when there are small amounts of water in the creek. Sediment and erosion control BMPs, appropriate to aquatic conditions will be employed when working in no-flow or low-flow conditions. Project work is anticipated to be started within the dry season. However, in the unlikely event that work may need to occur when normal flows are present within the work area, a flow bypass system/cofferdams would be installed. All work done in the creek bed would comply with the BMPs, which would reduce any potential impacts to the flow in the creek bed to less than significant. Any rainfall runoff events that happen during the in-channel work window would not be controlled by the cofferdams. In the unlikely event of stormflows in Mariposa Creek in the summer months or early fall, construction crews would not work in the creek until flows have subsided.

The bridge itself would not increase the rate or amount of surface runoff or result in flooding. Any stormwater flows would flow to and through the creek bed. The bridge would be designed to handle most flow rates through the Mariposa Creek during stormflow situations. As discussed above, no construction would be done in the creek when there are stormflows. Lastly, the Project would not add sources of polluted runoff. Therefore, any impacts would be less than significant with the incorporation of Mariposa County standards and construction BMPs.

d) Would the project in flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundations?

Less than Significant Impact. The Project area contains a regulatory floodway (Mariposa Creek) and is within portions of a 1% Annual Chance Flood Hazard zone (see Figure 4-8). Construction of the Project elements would not occur during times when the potential for flooding is high. This would prevent the potential release of pollutants into Mariposa Creek. During operation, the Project would not contain pollutants; therefore, no pollutants would be at risk of releasing into the creek during inundation periods. Impacts would be less than significant.

e) Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

No Impact. The Project would not affect the implementation of the water quality control plan or the groundwater sustainability plan as no new water sources or discharges would be developed as part of the Project. There would be no impact.

Figure 4-8: FEMA Flood Map

4.11 LAND USE AND PLANNING

Table 4-19: Land Use and Planning Impacts

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?	☐	☐	☒	☐

4.11.1 Baseline Conditions

The Project is located within Mariposa County, which is known for its rural and natural character. The Project area, which spans multiple parcels of land, is designated and zoned General Commercial, Single-Family Residential, Multi-Family Residential, Scenic Resource, Split zoning, Public Quasi-Public, and Design Review Overlay by the Mariposa County-adopted Mariposa TPA Specific Plan (see Figure 2-5 and Figure 2-6). The Project area contains both developed and ruderal land and natural land. The surrounding areas are also designated for residential and commercial uses.

4.11.2 Impact Analysis

a) Would the project physically divide an established community?

No Impact. The Project proposes to extend a portion of the existing Mariposa Creek Parkway. The overall character of the area would not change, and the Project would provide a benefit to the region by creating a new linkage between the community, along with other regional trails and bicycle systems. The Project would improve safety for non-motorized trail users by constructing a pathway along Mariposa Creek, benefiting those who live and travel through the Project area. Implementation of the Project would not physically divide an established community, but rather connect two points of a single community. There would be no impact.

b) Would the project cause a significant environmental conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

No Impact. The Project would require a zone amendment to change all the Project parcels' zone designation to the Public Quasi-Public Zone district. The Public Quasi Public zone district includes recreation areas and parkways as permitted uses. With implementation of the zone amendment, the Project would be consistent with the applicable State and local goals and policies. Impacts would be less than significant.

4.12 MINERAL RESOURCES

Table 4-20: Mineral Resources Impacts

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?	☐	☐	☐	☒

4.12.1 Baseline Conditions

Mariposa County is situated astride the southern extreme of the mineralized fault belt running through the Central Sierra Mountains, which is commonly referred to as the "Mother Lode." While it is generally recognized that the richest portion of the Mother Lode Fault System is north of Mariposa County, the County has a historic record of precious metal mining production.

Mariposa County has one active slate quarry — Yosemite Slate Quarry, located off of Highway 140 on Agua Fria Road approximately 2.5 miles west of the Project area. With the exception of sand and gravel extraction and processing, most mines in the County are now closed or only intermittently active.

4.12.2 Impact Analysis

a) Would the project 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) Would the project 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?

a and b) No Impact. The Project area is not identified as containing any mineral resources. As a result, the Project would not 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. Therefore, there would be no impact.

4.13 NOISE

Table 4-21: Noise Impacts

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 ground borne vibration or ground borne 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?	☐	☐	☐	☒

4.13.1 Baseline Conditions

Terminology

Noise can be defined as unwanted and objectionable sound. Sound levels are usually measured and expressed in decibels (dB) with 0 dB corresponding roughly to the threshold of hearing. The method commonly used to quantify environmental sounds consists of evaluating all frequencies of a sound in accordance with a filter that reflects the fact that human hearing is less sensitive at very low and very high frequencies compared to mid-range frequencies. This is called "A" weighting, and the dB level measurement is called the A-weighted sound level (dBA).

A-weighted sound level (dBA) is expressed on a logarithmic (power of 10) scale using a frequency weighted pattern that duplicates the human ear's sensitivity to sound. A 70-dBA sound level is approximately twice as loud as a 60-dBA sound level and four times as loud as a 50-dBA sound level.

Sound intensity is normally measured through the A-weighted sound level (dBA). This scale gives greater weight to the frequencies of sound to which the human ear is most sensitive. The A-weighted sound level is the basis for many various sound level metrics, including the day/night sound level (Ldn) and the Community Noise Equivalent Level (CNEL), both of which represent how humans are more sensitive to sound at night. In addition, the equivalent continuous sound level (Leq) is the average sound energy of time-varying noise over a sample period and the (Lmax) is the maximum instantaneous noise level occurring over a sample period

Local Noise Regulations

The Mariposa County General Plan does not specifically limit hours during which construction may occur; however, it is common practice to limit hours of construction activity to minimize construction noise impacts in residential areas during the early morning and late evening hours, and on weekends and

holidays. Although not specifically stated in the County's General Plan Noise Element, it is also a standard requirement of many jurisdictions that all construction equipment be properly maintained and muffled to minimize noise generation at the source.

Some guidance on construction-related noise is provided by Section 14-8.02 of the Caltrans Standard Specifications document which suggests that construction equipment not exceed 86 dB (Lmax) at a distance of 50 feet from job site activities from 9 p.m. and 6 a.m.[21]

Mariposa County does not have any established performance standards regarding ground borne vibration levels from construction activities. However, the Mariposa County General Plan Noise Element does include Implementation Measure 15.1a (3) which requires the County to implement standards that will reduce vibration from construction activities to a level that is less than perceptible at adjacent property lines. Therefore, for purposes of this analysis, the "severe" impact criterion of 0.4 inch per second peak particle velocity (PPV) for vibration is utilized from the Caltrans 2020 Transportation and Construction Vibration Guidance Manual.[22]

Existing Noise Setting

Land uses surrounding the Project area consist of scattered low density residential uses, commercial buildings, and open space uses including Mariposa Creek. The existing noise environment in the immediate Project area is dominated by songbirds, residential maintenance equipment, and sporadic vehicle traffic along Jessie Street and SR 140/49. Some land uses are considered more sensitive to ambient noise levels than others because of the amount of noise exposure (in terms of both exposure duration and insulation from noise) and the types of activities typically involved for those uses. Residences, schools, day cares, rest homes, hospitals, and churches are generally more sensitive to noise than commercial and industrial land uses. The scattered residences in the Project area, in addition to the educational facility, are the primary sensitive receptors (see Figure 4-7).

Typical Construction Noise Levels

Table 4-22. Typical Construction Noise Levels

Equipment	50 feet from Source (dBA L_{eq})	100 feet from Source (dBA L_{eq})	200 feet from Source (dBA L_{eq})	300 feet from Source (dBA L_{eq})
Air Compressor	80	74	68	64
Backhoe	80	74	68	64
Concrete Mixer	85	79	73	69
Grader	85	79	73	69
Jack Hammer	88	82	76	72
Loader	80	74	68	64
Paver	85	79	73	69
Roller	85	79	73	69
Saw	76	70	64	60
Scraper	85	79	73	69
Truck	84	78	72	68

Source: Noise level at 50 feet from (John A. Volpe National Transportation Systems Center 2018)
Note: Noise Levels at 100 feet, 200 feet, and 300 feet were extrapolated using a 6 dBA attenuation rate per doubling of distance. Each noise level assumes the piece of equipment is operating at full power for the expected duration to complete the construction activity. The duration varies widely between each piece of equipment. Noise levels also depend on the model and year of the equipment used.

[21] Caltrans Standard Specification document can be found here: Standard Specifications 2018.
[22] (California Department of Transportation 2020)

Noise levels from point sources such as equipment at construction sites typically attenuate at a rate of 6 dBA per doubling of distance. Therefore, only areas within several hundred feet of construction sites would typically be exposed to perceptible construction noise levels. As noted above, the Mariposa County does not establish numeric standards for construction noise. However, construction noise that substantially exceeds existing ambient noise levels could disturb sensitive receptors, such as residences and schools.

4.13.2 Impact Analysis

a) Would the project result in 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?

Less than Significant Impact with Mitigation Incorporated. Construction noise levels at and near the Project construction areas would fluctuate depending on the particular type, number, and duration of uses of various pieces of construction equipment. Construction-related material haul trips would raise ambient noise levels along haul routes, depending on the number of haul trips made and types of vehicles used. Noise at the construction site would be intermittent and its intensity would vary. The degree of construction noise impacts may vary for different areas of the Project area and also vary depending on the construction activities. During construction of the Project, noise from construction activities may intermittently dominate the noise environment in the immediate area of construction and some of the sensitive receptors surrounding the Project area may be temporarily affected. As mentioned above, most of the construction equipment, other than the jack hammer, would not be expected to exceed Caltrans Standards of 86 dB Lmax at a distance of 50 feet from construction site activities. To ensure these Project-related increases in ambient noise would not exceed applicable noise and land use standards, the noise reducing BMPs pursuant to Mitigation Measures NOI-1, NOI-2, and NOI-3 will be implemented. With the inclusion of said mitigation, impacts would be less than significant with mitigation incorporated.

b) Would the project result in generation of excessive ground borne vibration or ground borne noise levels?

Less than Significant Impact. Construction activities such as excavation and roadway paving would temporarily increase ground borne vibration and/or ground borne noise levels in the vicinity of the Project area. The nearest vibration-sensitive land use from the Project are adjacent residential properties, located approximately 50 to 300 feet from the boundary of the Project construction footprint. An on-site source of vibration during Project construction would be a vibratory roller or paver, which would be used for pavement compaction for the proposed trail. A vibratory roller or paver would create approximately 0.210 inches per second PPV at a distance of 25 feet.[23] Using the Caltrans criterion of 0.4 inches per second Peak Particle Velocity (PPV) at 25 feet, the approximately 0.210 inches per second PPV vibration impact generated at 25 feet would be less than what is considered a “severe” impact. Therefore, although vibration may be perceptible by nearby residences (the nearest of which would be approximately 50 feet from the closest operation of a vibratory roller or paver), temporary impacts associated (and other potential equipment) would be less than significant.

[23] (California Department of Toxic Substances Control 2020)

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?

No Impact. The Mariposa-Yosemite Airport is located approximately 3.5 miles northwest of the Project area. According to the Mariposa-Yosemite Airport Comprehensive Land Use Plan, the Project area is not located in close enough proximity to be affected by airport noise.[24] Therefore, there would be no impact.

4.13.3 Mitigation

NOI-1 The County shall ensure the construction contractor implement the following construction noise reducing measures:

- The construction contractor shall ensure that all noise producing construction activities, including warming-up or servicing equipment and any preparation for construction, shall be limited to the hours between 7:00 a.m. and 6:00 p.m. The construction contractor shall locate on-site equipment staging areas to maximize the distance between construction-related noise sources and noise sensitive receptors nearest the project site during construction.

- The construction contractor shall ensure that all equipment will have sound control devices that are no less effective than those provided on the original equipment. Further, pavement breakers and jackhammers shall also be equipped with acoustically attenuating shields or shrouds recommended by the manufacturers thereof. In lieu of or in the absence of manufacturers' recommendations, the Director of Public Works shall have the authority to prescribe such means of accomplishing maximum noise attenuation as deemed to be in the public interest, considering the available technology and economic feasibility.

NOI-2 The County shall ensure that equipment and trucks used for construction of the Project utilize the best available noise control techniques (including mufflers, use of intake silencers, ducts, engine enclosures and acoustically attenuating shields or shrouds).

NOI-3 The County shall ensure that impact equipment (e.g., jack hammers, etc.) used for construction of the Project be hydraulically or electrically powered wherever feasible to avoid noise associated with compressed air exhaust from pneumatically powered tools. Where use of pneumatically powered tools is unavoidable, use of an exhaust muffler on the compressed air exhaust can lower noise levels from the exhaust by up to about 10 dBA. When feasible, external jackets on the impact equipment can achieve a reduction of 5 dBA. Whenever feasible, use quieter procedures, such as drilling rather than impact equipment operation.

[24] (Aries Consultant Ltd. 1995)

4.14 POPULATION AND HOUSING

Table 4-23: Population and Housing Impacts

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 Sample, 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?	☐	☐	☐	☒

4.14.1 Baseline Conditions

According to the U.S. Census Bureau, as of April 1, 2020, the estimated population for Mariposa County was 17,131.[25] The County has seen a decrease of approximately 6.1% since the last census was conducted in 2010. The County is characterized as natural and scenic and is sparsely populated due to its characterization. The Project area is located along the Mariposa Creek within the Town of Mariposa. There are less than five residences within 300 feet of the Project area (see Figure 4-7).

4.14.2 Impact Analysis

a) Would the project 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) Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

a and b) Less than Significant Impact. The Project would not involve the construction of infrastructure that could induce substantial population growth, such as new or increased capacity sewer or water lines, or the construction or extension of streets and roads. The Project does not propose new homes or business. The proposed extension of the Mariposa Creek Parkway, as well as the proposed improvements, would serve existing both the residents in the Mariposa area, and non-local visitors. This extension of the trail would not expand the capacity of the motor vehicle system and therefore would not induce population growth. In addition, because the Project would be located in an existing flood control channel, it would not require displacement of housing or people. Impacts would be less than significant to population and housing.

[25] (United States Census Bureau 2022)

4.15 PUBLIC SERVICES

Table 4-24: Public Services

Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) 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:				
Fire protection?	☐	☐	☒	☐
Police protection?	☐	☐	☒	☐
Schools?	☐	☐	☒	☐
Parks?	☐	☐	☒	☐
Other public facilities?	☐	☐	☒	☐

4.15.1 Baseline Conditions

Fire Protection: The Mariposa County Fire Department would serve the Project area. The closest fire station is the MPUD Fire Department Station #1 located approximately 0.5 miles northwest of the Project. As of July 1, 2022, Mariposa County has assumed fire protection responsibilities from MPUD within the Mariposa TPA.

Police Protection: The Mariposa County Sheriff Department would serve the Project area. The closest police protection station is Mariposa County Sheriff's Office located approximately 0.2 miles east of the Project.

Schools: Mariposa County High School is the closest school to the Project site, at a distance of approximately 0.3 miles east of the Project.

Parks: The Project is located within a recreational area, the Mariposa Creek Parkway. There is a skate park located approximately 0.3 miles southeast.

Landfills: The nearest landfill to the Project is the Mariposa Landfill, Composting, and Recycling Center, located approximately two miles northwest.

4.15.2 Impact Analysis

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:

a-i – a-ii) Less than Significant Impact. The Project would maintain public access from SR 140/49 at five different locations: 8th Street, 9th Street, 10th Street, the proposed Paseo at 11th Street, and at Joe Howard Street. Due to the Project's proximity to fire and police stations, response times in the event of an emergency would not be expected to be significant. The Project would open the segment of the creek parkway to recreational access, requiring additional police and fire service. However, the additional 0.5 miles of trail work and amenities would result in minimal demand to the existing segment of the creek parkway. Furthermore, the Project would not add residential, commercial, or other structural development that could substantially increase demand for police or fire services. Therefore, the Project would have a less than significant impact related to fire and police protection facilities.

iii. Schools:

No Impact. The Project includes the construction of the extension of the Mariposa Creek Parkway and associated amenities. It would not add residences or places of employment that would increase the population of school-age children in Mariposa County. Because the Project would not increase demand for school facilities, no impact would occur.

iv. Parks:

Less than Significant Impact. The Project would construct the extension of the Mariposa Creek Parkway trail that would provide non-motorized access from local businesses to the County Park, adding paved trails, soft paths, landscaping, and several recreational amenities. These proposed renovations and the trail extension itself would not substantially affect the level of public use at the County Park; but rather provide easier access to the park. The Project also would not add residences or places of employment that would increase the service population for park facilities in Mariposa County. Therefore, the Project would not result in the need for new or physically altered parks.

Although the Project would not add or expand parkland, the proposed trail, soft foot paths, landscaping, and fitness equipment would serve as recreational facilities for Mariposa residents. As discussed in Section 4.16 Recreation, the environmental effects of constructing the proposed recreational facilities are one component of the overall Project, and as such, are part of the whole of the action that in analyzed in this IS/MND, and there would be no additional impacts. Impacts would be less than significant.

v. Other public facilities:

No Impact. The Project would not cause an increase in Mariposa County's population. Therefore, it would not increase demand for libraries or other governmental facilities. There would be no impact.

4.16 RECREATION

Table 4-25: Recreation Impacts

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) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☒	☐

4.16.1 Baseline Conditions

The County of Mariposa has a park system which includes eight parks. These park sites allow residents and tourists access to recreational activities such as swimming, fishing, picnicking, and hiking. Other public and private entities provide local recreational opportunities in Mariposa County too. These entities include Mariposa Unified School District, the Fair Board, and Yosemite National Park.[26] The Project area contains the Mariposa Creek Parkway. Plans to extend the Mariposa Creek Parkway have been made public within the Mariposa Creek Parkway Master Plan, adopted December 2019.

Mariposa County's historic reliance on Yosemite National Park as an economic driver is becoming increasingly threatened by natural disasters that impact park operations, and during summer months Yosemite is over-burdened by throngs of tourists that seek alternative means of enjoying the Park.

The Town of Mariposa plans to become the Base Camp for larger adventures, with longer trails and bigger loops that tie into a regional trail network that connects Mariposa with the Merced River Trail and Yosemite National Park.

4.16.2 Impact Analysis

a) Would the project 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?

Less than Significant Impact. The Project would extend the Mariposa Creek Parkway trail from 8th Street to Joe Howard Street. Proposed amenities such as secondary soft paths, landscaping, outdoor fitness equipment, and nature play areas (Chapter 2 Project Description for other amenities included) would increase the trail's attractiveness to Mariposa's residents and visitors. However, it is not anticipated that the Project would cause an increase in trail use to the extent that would substantially alter public use of neighborhood parks. The Project would not involve construction of residential units or other development that increases the service population for local parks. In addition, the Project would add recreational resources to the Mariposa Creek Parkway, helping to meet countywide demand without

[26] (Mariposa County n.d.)

overwhelming existing parks. Therefore, it would not significantly accelerate or cause the physical deterioration of existing parks, requiring repair or expansion. Impacts would be less than significant.

b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

Less than Significant Impact. The Project includes the construction of a multi-modal trail; thus, recreational facilities would be developed. The Project plan includes the development of recreational facilities as described in Chapter 2 Project Description.

The physical and environmental impacts of this Project are outlined throughout this IS/MND. The primary source of environmental impacts would occur during the construction phase of the Project. Impacts are discussed in greater detail within their respective Impact Analysis sections and include mitigation measures to reduce impacts to less significant levels.

The Project is a recreational use. The construction and operation of the new facilities would expand the recreational amenities within the County and town of Mariposa. The Project would not result in any new impacts beyond those evaluated within this document. The overall implementation of the Project would be mitigated to a less than significant level in accordance with the requirements of CEQA. Mitigation measures can be found in Chapter 5 Mitigation, Monitoring, and Reporting Program.

4.17 TRANSPORTATION

Table 4-26: Transportation Impacts

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 section 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?	☐	☐	☒	☐

4.17.1 Baseline Conditions

The Project site is located along Mariposa Creek in Mariposa County. Access to Mariposa Creek in the vicinity of the Project area is taken by Joe Howard Street and 8th Street. Both these local roads are connected to the larger piece of the circulation system, SR 140/49. SR 140/49 runs through the town of Mariposa in a predominantly north-south direction. As noted in Section 4.1, the portion of SR 140 from Mariposa to Yosemite National Park is designated as a State Scenic Highway. In addition to vehicular circulation, various trails and pathways can be found within the vicinity of the Project too.

4.17.2 Impact Analysis

a) Would the project conflict with a plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

Less than Significant Impact. The Mariposa Creek Parkway Phase III and Trailhead would extend the previous section of the creek-side trail from 8th Street to Joe Howard Street, making a connection from the County Park to local businesses and a future transit center. The Project would also provide connection, via the proposed paseo at 11th Street, to State Route 140/49. Regionally, it would become part of several regional bicycle routes extending into the national forests and Yosemite National Park. By adding amenities such as a pedestrian bridge, fitness stations, lighting, and landscaping, the Project would encourage increased use of the trail as a multi-modal use. The Project would provide access for hikers, runners, and bicyclists. The Project would encourage greater trail use, which could incrementally increase the volume of trail users crossing roadways. However, an increase in crossing activity is not anticipated to significantly increase traffic delay. The Project does not include any residential or commercial development that would result in a significant amount of traffic.

Primary vehicle access to the trailhead would be provided from Jessie Street near 8th Street in Mariposa County. The trailhead would contain six parking spaces (one being ADA compliant). Access to the upstream end of the trail alignment is provided via Joe Howard Street.

The Project would be consistent with the Mariposa Creek Parkway Master Plan and the County-adopted Mariposa TPA Specific Plan. The Specific Plan identified the Project and analyzed its impacts under CEQA and did not find any significant impacts. Therefore, the Project would not conflict with a program plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities. Impacts would be less than significant.

b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3 subdivision (b)?

No Impact. The Governor's Office of Planning and Research (OPR) finds that "active transportation projects generally reduce vehicle miles traveled (VMT) and therefore are presumed to cause a less-than significant impact on transportation".[27] By extending and renovating an active transportation route, the Project would encourage residents to substitute multi-modal trips for motor vehicle trips in the Project area, which would reduce VMT. Therefore, the Project would be consistent with statewide policy to reduce vehicle miles traveled under CEQA Guidelines section 15064.3, subdivision (b) and there would be no impact.

c) Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

No Impact. The Project would not add sharp curves, new intersections, or incompatible uses. By adding lighting to the Project area, the Project would improve visibility and reduce potential hazards for trail users. Therefore, no impact related to roadway hazards would occur. There would be no impact.

d) Would the project result in inadequate emergency access?

Less than Significant Impact. The Project would provide an extension of an existing trail that contains both paved and soft paths. The trailhead would be open, providing access to the trail at all times. Although the trail is not anticipated to be utilized by motor vehicles, it would be accessible for emergency access in the event of an emergency. No Project feature would impede existing emergency access to the trail corridor. As discussed above, the Project would also not substantially increase traffic delay on nearby roadways. Therefore, it would not cause delays in emergency access on roadways. The impact on emergency access would be less than significant.

[27] (Governor's Office of Planning and Research (OPR) 2018)

4.18 TRIBAL CULTURAL RESOURCES

Table 4-27: Tribal Cultural Resources Impacts

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 tribal cultural resource, defined in Public Resources Code section 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 the 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 Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☒	☐	☐

4.18.1 Baseline Conditions

Mariposa is located within the territory of the Southern Sierra Miwok (alternatively Me-Wuk or Miwuk). The Sierra Miwok, members of the Penutian language group, occupied the territory between the Mokelumne and Fresno rivers, as well as the full width of the west slope of the Sierra Nevadas, from the edge of the Central Valley to the Sierra crest.

The influx of outsiders to the central Sierra region during the Gold Rush period resulted in a major disruption for the Miwoks and their way of life. Within a decade, introduced diseases, environmental damage, and cultural conflicts with the outsiders had decimated much of the population. Despite this calamity, some tribal members managed to survive and have continued their cultural traditions (See Appendix C).

Public Resources Code Section 21080.3.1, et seq. (codification of AB 52, 2013-14)

Public Resources Code Section 21080.3.1, et seq. (codification of AB 52, 2013-14) requires that a lead agency, within 14 days of determining that it would undertake a project, must notify in writing any California Native American Tribe traditionally and culturally affiliated with the geographic area of the project if that Tribe has previously requested notification about projects in that geographic area. The notice must briefly describe the project and inquire whether the Tribe wishes to initiate request formal consultation. Tribes have 30 days from receipt of notification to request formal consultation. The lead

agency then has 30 days to initiate the consultation, which then continues until the parties come to an agreement regarding necessary mitigation or agree that no mitigation is needed, or one or both parties determine that negotiation occurred in good faith, but no agreement would be made.

The County of Mariposa has received written correspondence from the North Fork Mono Tribe, the North Fork Rancheria of Mono, the Picayune Rancheria of Chukchansi, and the Southern Sierra Miwuk Nation pursuant to AB 52 requesting notification of proposed projects.

In addition, a search of the SLF by the NAHC was completed for the Project on July 21, 2022. The results of the search indicated that no known sacred sites or tribal cultural resources were located within the Project area. Mariposa County sent outreach letters pursuant to AB 52 via certified mail to the tribes listed on the NAHC contact list in an effort to obtain additional information on Tribal Cultural Resources. Follow-up emails were sent to the tribes on September 15, 2022. The list of the 13 tribes that were sent consultation letters and details of those efforts is provided in Table 4-28 below. No responses have been received from any of the tribes to date.

Table 4-28: Tribal Outreach Pursuant to AB 52

Tribe	Name of Tribal Contact	Date Mailed	Date Received	Follow up Email Sent
Chicken Ranch	Lloyd Matheson	7/29/2022	8/4/2022	9/15/2022
Nashville Enterprise Miwok-Maidu-Nishinam	Cosme Valdez	7/29/2022	8/9/2022	9/15/2022
North Fork Rancheria of Mono Indians	Elaine Fink	7/29/2022	8/5/2022	9/15/2022
Picayune Rancheria of the Chukchansi Indians	Heather Airey	7/29/2022	8/4/2022	9/15/2022
Picayune Rancheria of the Chukchansi Indians	Claudia Gonzales	7/29/2022	8/4/2022	9/15/2022
Southern Sierra Miwuk Nation	William Leonard	7/29/2022	8/8/2022	9/15/2022
Tule River Indian Tribe	Joey Garfield	7/29/2022	8/8/2022	Deceased
Tule River Indian Tribe	Neil Peyron	7/29/2022	8/8/2022	9/15/2022
Tule River Indian Tribe	Kerri Vera	7/29/2022	8/8/2022	9/15/2022
Tuolumne Band of Me-Wuk Indians	Andrea Reich	7/29/2022	8/4/2022	9/15/2022
Tuolumne Band of Me-Wuk Indians	Stanley Cox	7/29/2022	8/4/2022	Not delivered
Tuolumne Band of Me-Wuk Indians	D. Beasley			9/15/2022
Wuksachi Indian Tribe/ Eshom Valley Band	Kenneth Woodrow	7/29/2022	8/5/2022	9/15/2022

4.18.2 Impact Assessment

a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 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 the 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 Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

a-i – a-ii) Less than Significant Impact. In response to the October 11, 2021 mailing providing tribes with Project details, no requests for tribal consultation were received.

In the unlikely event of a discovery, mitigation will be implemented. With incorporation of mitigation measure CUL-1 and CUL-2 described above in Section 4.5, impacts resulting from the discovery of remains interred on the Project would be reduced less than significant in nature.

4.18.3 Mitigation

See CUL-1 and CUL-2 above.

4.19 UTILITIES AND SERVICE SYSTEMS

Table 4-29: Utilities and Service Systems Impacts

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?	☐	☐	☒	☐

4.19.1 Baseline Conditions

Wastewater collection and potable water within most of the County is provided primarily by on-site means or small, private communal systems. A portion of the Project is within the boundaries of the MPUD. MPUD provides water and wastewater services through a community system. The Mariposa County Department of Public Works provides solid waste services for lands within the County, including the Project area. Electrical and telecommunications services are limited throughout the County.

4.19.2 Impact Analysis

a) Would the project 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?

No Impact. The Project would not 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. Therefore, there would be no impact.

b) Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?

Less than Significant Impact. The Project would require water for temporary irrigation of the revegetated native plants. According to the Habitat Restoration and Management Plan for the Mariposa Creek Parkway Riparian Restoration Project, planted areas would be seasonally watered (typically April through November depending on soil type, aspect, annual precipitation, and temperature). During the first year, the interval between irrigations will be two days per week for two hours, using a two gallon/hour emitter. During the second year the interval between irrigations will be two days per week for one hour, and during the third-year, irrigations will last one hour every other week based on observed need for irrigation during regular inspections. If the plantings appear to be well established after the third year, and all success criteria have been met, the plant protection measures will cease. The plantings will be monitored at least once a week throughout the irrigation months of the three-year establishment period to ensure that the interval between irrigations is suitable for keeping the plantings alive. More frequent irrigation periods and duration may be necessary, particularly in hot weather or low precipitation years. Irrigation will be maintained as needed to repair leaks, cracks or any other impacts to the system. Repairs will be conducted at time of finding or when materials are available. Water used for irrigation purposes would be minor in nature. In addition, landscape irrigation would follow all applicable water efficiency standards as governed by the Model Water Efficient Landscape Ordinance.[28] Therefore, impacts would be less than significant.

c) Would the project 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?

No Impact. The Project would not include new restrooms or septic systems that could generate additional wastewater. Therefore, it would not affect the ability of wastewater treatment providers to accommodate wastewater generated in the Project region. No impact would occur

d) Would the project 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) Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

d and e) Less than Significant Impact. During construction, waste would be limited to debris from construction products. Post-construction, it is expected that recreational users would generate a minor amount of additional solid waste. Solid waste bins would be installed along the creek way. Regular solid waste removal from the Project area would be added to the Mariposa County's regular maintenance schedule. Due to the minor amount of solid waste anticipated to be generated, the Project would result in a less than significant impact.

[28] Model Water Efficient Landscape Ordinance

4.20 WILDFIRE

Table 4-30: Wildfire Impacts

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, 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 uncontrollable spread of 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?	☐	☒	☐	☐

4.20.1 Baseline Conditions

The Project area is served by both the Mariposa County Fire Department and the California Department of Forestry and Fire Protection (CAL FIRE) for its fire protection needs. The Project area also receives fire protection from CAL FIRE due to its designation as a State Responsibility Area (SRA).[29] CAL FIRE has the primary financial responsibility for the prevention and suppression of wildland fires within lands that have been determined to be an SRA. SRAs are categorized into three fire hazard levels: moderate, high, and very high. According to CAL FIRE, the Project area is not located in a very high fire hazard severity zone, but it is located in high fire hazard severity zone.[30] According to the CAL FIRE, Mariposa County has a rural and natural setting, with mountainous and forested features that are suitable for wildfires. "In many areas, particularly the settled areas of the county, this natural regime has been significantly altered by human and forest health impacts, such as insect outbreaks and drought-induced tree mortality contributing to more aggressive and harder to control wildfires near human development."[31]

[29] (California Department of Forestry and Fire Protection 2022)
[30] (ArcGIS n.d.)
[31] (WRT et al. 2019)

4.20.2 Impact Analysis

a) If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project substantially impair an adopted emergency response plan or emergency evacuation plan?

b) If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project 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) If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project 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) If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project 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?

a – d) Less than Significant Impact with Mitigation Incorporated. Although the Project is not located in a very high fire hazard severity zone, the Project area and its surroundings are considered a high fire hazard severity zone. The surrounding vegetation, in close proximity to commercial and residential buildings, provides a fuel source for wildland fires. Due to the location of the Project, wildfire mitigation will be provided at of an abundance of caution. Any potential impacts associated with construction and implementation of the new facilities would be considered less than significant with the implementation of WLD-1 and WLD-2 mitigation measures described below.

4.20.3 Mitigation Measures

WLD-1 (Defensible Space). Pre-wildfire mitigation measures focus on the maintenance of defensible space and fire-focused landscaping, and may include:

a) Highly flammable vegetation near the Project will be maintained to reduce fire fuel, as appropriate.

b) Dispose of debris, such as dry debris, leaves, and dead limbs near and within the Project.

c) Design defensible spaces with fire breaks around the Project, as appropriate.

WLD-2 (Water Source). Adequate on-site water sources will be made available during high fire risk construction activities and will include, but not limited to, water truck, water backpacks, and/or fire extinguishers.

4.21 CEQA MANDATORY FINDINGS OF SIGNIFICANCE

Table 4-31: CEQA Mandatory Findings of Significance

Does the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) 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?	☐	☒	☐	☐
b) Have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☒	☐	☐
c) Have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☒	☐

4.21.1 Statement of Findings

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?

Less than Significant with Mitigation Incorporated. The analysis conducted in this IS/MND results in a determination that the Project, with incorporation of mitigation measures, would have a less than significant effect on the environment. The potential for impacts to aesthetics, biological resources, cultural resources, geology and soils, hazards, noise, tribal cultural resources, and wildfire from the construction and operation of the Project would be less than significant with the incorporation of the mitigation measures discussed in Chapter 5 Mitigation, Monitoring, and Reporting Program. Accordingly, the Project would involve no potential for significant impacts through the degradation of the quality of the environment, the reduction in the habitat or population of fish or wildlife, including endangered plants or animals, the elimination of a plant or animal community or example of a major period of California history or prehistory.

b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when

viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?

Less than Significant with Mitigation Incorporated. CEQA Guidelines Section 15064(i) States that a Lead Agency shall consider whether the cumulative impact of a project is significant and whether the effects of the project are cumulatively considerable. The assessment of the significance of the cumulative effects of a project must, therefore, be conducted in connection with the effects of past projects, other current projects, and probable future projects. The Project would construct bicycle and pedestrian trails and associated improvements that would interconnect existing segments of the Mariposa Creek Parkway with State Route (SR) 140/49 and the Joe Howard Bridge. No additional vehicular roads or habitable structures would be constructed as a result of the Project. The Project is not expected to result in direct or indirect population growth. Therefore, implementation of the Project would not result in significant cumulative impacts and all potential impacts would be reduced to less than significant through the implementation of mitigation measures and basic regulatory requirements incorporated into future Project design.

c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

Less than Significant Impact. The Project would construct bicycle and pedestrian trails and associated improvements that would interconnect existing segments of the Mariposa Creek Parkway with State Route (SR) 140/49 and the Joe Howard Bridge. The Project in and of itself would not create a significant hazard to the public or the environment. Construction-related impacts could occur temporarily as a result of Project construction. However, implementation of basic regulatory requirements identified in this IS/MND would ensure that impacts are less than significant. Therefore, the Project would not have any direct or indirect adverse impacts on humans. This impact would be less than significant.

CHAPTER 5 MITIGATION, MONITORING, AND REPORTING PROGRAM

This Mitigation Monitoring and Reporting Program (MMRP) has been formulated based upon the findings of the Initial Study/Mitigated Negative Declaration (IS/MND) for the Project in Mariposa County. The MMRP lists mitigation measures recommended in the IS/MND for the Project and identifies monitoring and reporting requirements.

Table 5-1: Mitigation, Monitoring, and Reporting Program presents the mitigation measures identified for the Project. Each mitigation measure is numbered with a symbol indicating the topical section to which it pertains, a hyphen, and the impact number. For example, AIR-2 would be the second mitigation measure identified in the Air Quality analysis of the IS/MND.

The first column of Table 5-1: Mitigation, Monitoring, and Reporting Program identifies the mitigation measure. The second column, entitled "When Monitoring is to Occur," identifies the time the mitigation measure should be initiated. The third column, "Frequency of Monitoring," identifies the frequency of the monitoring of the mitigation measure. The fourth column, "Agency Responsible for Monitoring," names the party ultimately responsible for ensuring that the mitigation measure is implemented. The last columns will be used by the Lead and Responsible Agencies to ensure that individual mitigation measures have been complied with and monitored.

Table 5-1: Mitigation, Monitoring, and Reporting Program

Mitigation, Monitoring, and Reporting Program						
Item	Mitigation Measure	When Monitoring is to Occur	Frequency of Monitoring	Agency Responsible for Monitoring	Method to Verify Compliance	Verification of Compliance
Aesthetics						
AES-1	All outdoor lighting shall adhere to International Dark Sky Association standards, including the requirement that all outdoor lighting shall be hooded or screened as to direct the source of light downward and focus onto the property from which it originates and shall not negatively impact adjacent properties or directly reflect upon any adjacent properties.	During construction activities	Once, near project completion	Mariposa County Public Works		
Biological Resources						
BIO-1A	(Pre-construction Survey): A pre-construction survey for western pond turtles will be conducted no more than 24 hours prior to the start of work in Mariposa Creek and the adjoining mixed riparian woodland habitat.	Prior to the start of construction activities	Once, prior to the start of construction	Mariposa County Public Works		
BIO-1B	(Relocation): A qualified biologist will capture and relocate any turtles found within areas planned for direct impact. Turtles will be relocated to suitable alternative habitat within the Mariposa Creek corridor, outside of project boundaries.	During construction activities, if western pond turtles are identified	Daily during construction activities	Mariposa County Public Works		
BIO-1C	(Avoidance): If any turtles are observed on site while work is occurring, work in the immediate area will cease and turtles will be allowed to leave the construction zone of their own volition, if feasible. If necessary, a qualified biologist will capture and relocate such turtles as described above under Mitigation Measure **BIO-2B**.	During construction activities, if western pond turtles are identified	Daily during construction activities	Mariposa County Public Works		
BIO-2A	(Avoidance): To avoid impacts to nesting birds and raptors, construction will occur, where possible, outside the February 1-August 31 nesting season.	Prior to the start of construction activities	Once, prior to the start of construction	Mariposa County Public Works		
BIO-2B	(Pre-construction Survey): If construction must occur during the February 1-August 31 nesting season, a qualified biologist will conduct pre-construction surveys for active bird and raptor nests within 10 days of the onset of these activities. Nest surveys will encompass the work area and	10 days prior to construction if construction activities that fall between February 1 to August 31	One time survey, 10 days prior to construction	Mariposa County Public Works		

Mitigation, Monitoring, and Reporting Program						
Item	Mitigation Measure	When Monitoring is to Occur	Frequency of Monitoring	Agency Responsible for Monitoring	Method to Verify Compliance	Verification of Compliance
	surrounding lands within 250 feet. Nest surveys will be repeated whenever there is a lapse in construction of 10 days or more during the nesting season.					
BIO-2C	(Construction-Free Buffers): Should any active nests be discovered in or near proposed construction zones, a qualified biologist will identify suitable construction-free buffers around the nests. The buffers will be identified on the ground with flagging or fencing, and will be maintained until the biologist has determined that the young have fledged and are no longer reliant on the nest or parental care for their survival.	During construction activities upon discovery of active nests near work areas.	Daily, upon discovery of any active nests near work areas	Mariposa County Public Works		
BIO-3A	(Avoidance): To avoid potential impacts to maternity bat roosts, removal of mature trees and snags shall occur outside of the period between April 15 and August 31, the time frame within which colony-nesting bats in the vicinity generally assemble, give birth, nurse their young, and ultimately disperse.	During construction activities March 1 through September 30	Daily. during construction activities March 1 through September 30	Mariposa County Public Works		
BIO-3B	(Pre-construction Survey): If removal of mature trees and/or snags is to occur between April 15 and August 31, then within 10 days prior to their removal, a qualified biologist will survey them for the presence of bats. The biologist will look for individuals, guano, and staining, and will listen for bat vocalizations. If necessary, the biologist will wait for nighttime emergence of bats from roost sites.	10 days prior to construction if construction activities that fall between April 15 to August 31	One time survey, 10 days prior to construction	Mariposa County Public Works		
BIO-3C	(Construction-Free Buffers): Should any active maternity bat roosts be discovered in trees or snags to be impacted, the biologist will identify a suitable construction-free buffer around the maternity roost. The buffer will be identified on the ground with flagging or fencing, and will be maintained until the biologist has determined that the nursery is no longer active.	During construction activities upon discovery of active maternity bat roosts near work areas	Daily, upon discovery of any active maternity bat roosts near work areas	Mariposa County Public Works		
Cultural Resources						

Mitigation, Monitoring, and Reporting Program						
Item	Mitigation Measure	When Monitoring is to Occur	Frequency of Monitoring	Agency Responsible for Monitoring	Method to Verify Compliance	Verification of Compliance
CUL-1	(Archaeological Remains): Should archaeological remains or artifacts be unearthed during any stage of project activities, work in the area of discovery shall cease until the area is evaluated by a qualified archaeologist. If mitigation is warranted, the project proponent shall abide by recommendations of the archaeologist.	During construction activities upon discovery of archaeological remains in the work areas.	Daily, upon discovery of archaeological remains in the work areas	Mariposa County Public Works		
CUL-2	(Human Remains): In the event human remains, artifacts, or potentially significant cultural resources are discovered during ground disturbance on the project site, a Native American monitor shall be on-site for the duration of ground disturbance. During any construction activity that involves ground disturbance, if any signs of prehistoric, historic, archaeological, paleontological resources are evident, all work activity within fifty feet of the find shall stop and the Mariposa County Planning Department shall be notified immediately. No work shall be done within fifty feet of the find until Planning has identified appropriate measures to protect the find and those measures have been implemented by the project proponent. Protection measures for the site may include, but not be limited to, requiring the project proponent to hire a qualified archaeologist who shall conduct necessary inspections and research, and who may supervise all further ground disturbance activities and make any such recommendations as necessary to ensure compliance with applicable regulations. In addition to the Planning Department, the Mariposa County Coroner and the Native American Heritage Commission shall be notified should human remains be discovered. If the remains are determined by the Native American Heritage Commission to be Native American, the NAHC guidelines shall be adhered to in treatment and disposition of the remains. Representatives of the Most Likely Descendant shall	During construction activities upon discovery of human remains in the work areas.	Daily, upon discovery of human remains in the work areas.	Mariposa County Public Works		

Mitigation, Monitoring, and Reporting Program						
Item	Mitigation Measure	When Monitoring is to Occur	Frequency of Monitoring	Agency Responsible for Monitoring	Method to Verify Compliance	Verification of Compliance
	be requested to be on-site during disturbance and/or removal of human remains.					
CUL-3	(Avoidance/Preservation): Since the location of site P-22-001393 could not be accessed due to vegetation overgrowth to confirm its presence or absence, the recorded site location shall be avoided and preserved in place. If avoidance is not possible, a qualified archaeologist shall monitor vegetation clearing in the area and update the site if it is identified. If the site is relocated and cannot be avoided, the site shall be subject to a formal evaluation for eligibility to the CRHR). The MARIPOSA-SITE-1 shall be avoided and preserved in place. To ensure the site is avoided, project activities shall not occur within 10 meters (33 feet) of the site boundary if possible. If avoidance by project design is not possible, the site shall be subject to a formal evaluation for eligibility to the California Register of Historical Resources (CRHR).	During construction activities.	Daily	Mariposa County Public Works		
Geology and Soils						
GEO-1	An engineered grading plan, erosion control plan, and stormwater drainage plan prepared and approved in accordance with applicable provisions of County Code shall be required for all grading, including road work, on slopes 15% or greater.	Prior to construction	One engineered grading plan prior to construction	Mariposa County Public Works		
GEO-2	A sedimentation control plan prepared and approved in accordance with applicable provisions of County Code shall be required for all grading requiring a grading permit and conducted between the November 1 and April 1.	Prior to construction	One sedimentation control plan prior to construction	Mariposa County Public Works		
GEO-3	All exposed and/or disturbed soils for grading which requires a grading permit shall be watered down or suppressed in other manners during grading operations to reduce the generation of fugitive dust. During non-grading periods, all stockpiles of debris,	Prior to construction	During grading activities	Mariposa County Public Works		

Mitigation, Monitoring, and Reporting Program						
Item	Mitigation Measure	When Monitoring is to Occur	Frequency of Monitoring	Agency Responsible for Monitoring	Method to Verify Compliance	Verification of Compliance
	soil, sand, or other materials shall be protected from wind erosion.					
GEO-4	Should paleontological resources be encountered on the Project site, all ground disturbing activities in the area shall stop. A qualified paleontologist shall be contacted to assess the discovery. Mitigation may include monitoring, recording the fossil locality, data recovery and analysis, a final report. Public educational outreach may also be appropriate. Upon completion of the assessment, a report documenting methods, findings, and recommendations shall be prepared and submitted to Mariposa County for review, and (if paleontological materials are recovered) a paleontological repository, such as the University of California Museum of Paleontology.	During construction and ground disturbing activities	In the event paleontological resources are unearthed or exposed during any stage of Project construction activities	Mariposa County Public Works		
Hazards and Hazardous Materials						
HAZ-1	See **WLD-1** and **WLD-2**.					
Noise						
NOI-1	The County shall ensure the construction contractor implement the following construction noise reducing measures: • The construction contractor shall ensure that all noise producing construction activities, including warming-up or servicing equipment and any preparation for construction, shall be limited to the hours between 7:00 a.m. and 6:00 p.m. The construction contractor shall locate on-site equipment staging areas to maximize the distance between construction-related noise sources and noise sensitive receptors nearest the project site during construction.	During construction activities	Daily, during construction activities	Mariposa County Public Works		

Mitigation, Monitoring, and Reporting Program						
Item	Mitigation Measure	When Monitoring is to Occur	Frequency of Monitoring	Agency Responsible for Monitoring	Method to Verify Compliance	Verification of Compliance
	• The construction contractor shall ensure that all equipment will have sound control devices that are no less effective than those provided on the original equipment. Further, pavement breakers and jackhammers shall also be equipped with acoustically attenuating shields or shrouds recommended by the manufacturers thereof. In lieu of or in the absence of manufacturers' recommendations, the Director of Public Works shall have the authority to prescribe such means of accomplishing maximum noise attenuation as deemed to be in the public interest, considering the available technology and economic feasibility.					
NOI-2	The County shall ensure that equipment and trucks used for construction of the Project utilize the best available noise control techniques (including mufflers, use of intake silencers, ducts, engine enclosures and acoustically attenuating shields or shrouds).	During construction activities	Daily, during construction activities	Mariposa County Public Works		
NOI-3	The County shall ensure that impact equipment (e.g., jack hammers, etc.) used for construction of the Project be hydraulically or electrically powered wherever feasible to avoid noise associated with compressed air exhaust from pneumatically powered tools. Where use of pneumatically powered tools is unavoidable, use of an exhaust muffler on the compressed	During construction activities	Daily, during construction activities	Mariposa County Public Works		

Mitigation, Monitoring, and Reporting Program						
Item	Mitigation Measure	When Monitoring is to Occur	Frequency of Monitoring	Agency Responsible for Monitoring	Method to Verify Compliance	Verification of Compliance
	air exhaust can lower noise levels from the exhaust by up to about 10 dBA. When feasible, external jackets on the impact equipment can achieve a reduction of 5 dBA. Whenever feasible, use quieter procedures, such as drilling rather than impact equipment operation.					
Tribal Cultural Resources						
TCR-1	See **CUL-1** and **CUL-2** outlined above.					
Wildfire						
WLD-1	(Defensible Space). Pre-wildfire mitigation measures focus on the maintenance of defensible space and fire-focused landscaping, and may include: a) Highly flammable vegetation near the Project will be maintained to reduce fire fuel, as appropriate. b) Dispose of debris, such as dry debris, leaves, and dead limbs near and within the Project. c) Design defensible spaces with fire breaks around the Project, as appropriate.	During construction activities	Daily, during construction activities	Mariposa County Public Works		
WLD-2	(Water Source). Adequate on-site water sources will be made available during high fire risk construction activities and will include, but not limited to, water truck, water backpacks, and/or fire extinguishers	During construction activities	Daily, during construction activities	Mariposa County Public Works		
Table Notes						

CHAPTER 6 REFERENCES

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Appendix A: CalEEMod Output Files

Mariposa Parkway - Mariposa County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mariposa Parkway

Mariposa County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
City Park	12.00	Acre	12.00	522,720.00	0
Parking Lot	6.00	Space	0.05	2,400.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	1			**Operational Year**	2023
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	203.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value

2.0 Emissions Summary

Mariposa Parkway - Mariposa County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.3197	2.4758	2.5874	5.9200e-003	0.3968	0.0894	0.4862	0.1489	0.0835	0.2323	0.0000	531.5660	531.5660	0.0855	0.0238	540.7806
2024	0.3040	1.9478	2.3749	5.5800e-003	0.1956	0.0610	0.2566	0.0531	0.0574	0.1104	0.0000	504.8002	504.8002	0.0596	0.0282	514.7002
Maximum	**0.3197**	**2.4758**	**2.5874**	**5.9200e-003**	**0.3968**	**0.0894**	**0.4862**	**0.1489**	**0.0835**	**0.2323**	**0.0000**	**531.5660**	**531.5660**	**0.0855**	**0.0282**	**540.7806**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.3197	2.4758	2.5874	5.9200e-003	0.2668	0.0894	0.3562	0.0909	0.0835	0.1744	0.0000	531.5656	531.5656	0.0855	0.0238	540.7802
2024	0.3040	1.9478	2.3749	5.5800e-003	0.1956	0.0610	0.2566	0.0531	0.0574	0.1104	0.0000	504.8000	504.8000	0.0596	0.0282	514.7000
Maximum	**0.3197**	**2.4758**	**2.5874**	**5.9200e-003**	**0.2668**	**0.0894**	**0.3562**	**0.0909**	**0.0835**	**0.1744**	**0.0000**	**531.5656**	**531.5656**	**0.0855**	**0.0282**	**540.7802**

Mariposa Parkway - Mariposa County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**21.94**	**0.00**	**17.50**	**28.69**	**0.00**	**16.90**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**4-3-2023**	**7-2-2023**	1.0317	1.0317
2	**7-3-2023**	**10-2-2023**	0.8828	0.8828
3	**10-3-2023**	**1-2-2024**	0.9011	0.9011
4	**1-3-2024**	**4-2-2024**	0.8370	0.8370
5	**4-3-2024**	**7-2-2024**	0.8191	0.8191
6	**7-3-2024**	**9-30-2024**	0.5380	0.5380
		Highest	1.0317	1.0317

Mariposa Parkway - Mariposa County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0153	0.0000	1.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.2000e-004	3.2000e-004	0.0000	0.0000	3.4000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0777	0.0777	1.0000e-005	0.0000	0.0785
Mobile	0.0145	0.0204	0.1054	1.3000e-004	0.0110	2.0000e-004	0.0112	2.9700e-003	1.9000e-004	3.1600e-003	0.0000	12.0528	12.0528	1.3600e-003	8.6000e-004	12.3431
Waste						0.0000	0.0000		0.0000	0.0000	0.2091	0.0000	0.2091	0.0124	0.0000	0.5180
Water						0.0000	0.0000		0.0000	0.0000	0.0000	4.6301	4.6301	7.5000e-004	9.0000e-005	4.6759
Total	**0.0298**	**0.0204**	**0.1056**	**1.3000e-004**	**0.0110**	**2.0000e-004**	**0.0112**	**2.9700e-003**	**1.9000e-004**	**3.1600e-003**	**0.2091**	**16.7610**	**16.9700**	**0.0145**	**9.5000e-004**	**17.6158**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0153	0.0000	1.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.2000e-004	3.2000e-004	0.0000	0.0000	3.4000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0777	0.0777	1.0000e-005	0.0000	0.0785
Mobile	0.0145	0.0204	0.1054	1.3000e-004	0.0110	2.0000e-004	0.0112	2.9700e-003	1.9000e-004	3.1600e-003	0.0000	12.0528	12.0528	1.3600e-003	8.6000e-004	12.3431
Waste						0.0000	0.0000		0.0000	0.0000	0.2091	0.0000	0.2091	0.0124	0.0000	0.5180
Water						0.0000	0.0000		0.0000	0.0000	0.0000	4.6301	4.6301	7.5000e-004	9.0000e-005	4.6759
Total	**0.0298**	**0.0204**	**0.1056**	**1.3000e-004**	**0.0110**	**2.0000e-004**	**0.0112**	**2.9700e-003**	**1.9000e-004**	**3.1600e-003**	**0.2091**	**16.7610**	**16.9700**	**0.0145**	**9.5000e-004**	**17.6158**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	4/3/2023	4/28/2023	5	20	
2	Site Preparation	Site Preparation	4/29/2023	5/12/2023	5	10	
3	Grading	Grading	5/13/2023	6/23/2023	5	30	

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4	Building Construction	Building Construction	6/24/2023	8/16/2024	5	300	
5	Paving	Paving	8/17/2024	9/13/2024	5	20	
6	Architectural Coating	Architectural Coating	9/14/2024	10/11/2024	5	20	

Acres of Grading (Site Preparation Phase): 15

Acres of Grading (Grading Phase): 90

Acres of Paving: 0.05

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 3,000; Non-Residential Outdoor: 1,000; Striped Parking Area: 144 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Cranes	1	7.00	231	0.29
Demolition	Excavators	3	8.00	158	0.38
Grading	Excavators	2	8.00	158	0.38
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Grading	Graders	1	8.00	187	0.41
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	221.00	86.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	44.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0227	0.2148	0.1964	3.9000e-004		9.9800e-003	9.9800e-003		9.2800e-003	9.2800e-003	0.0000	33.9921	33.9921	9.5200e-003	0.0000	34.2301
Total	**0.0227**	**0.2148**	**0.1964**	**3.9000e-004**		**9.9800e-003**	**9.9800e-003**		**9.2800e-003**	**9.2800e-003**	**0.0000**	**33.9921**	**33.9921**	**9.5200e-003**	**0.0000**	**34.2301**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Demolition - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0800e-003	6.9000e-004	6.6500e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.0372	1.0372	6.0000e-005	5.0000e-005	1.0527
Total	**1.0800e-003**	**6.9000e-004**	**6.6500e-003**	**1.0000e-005**	**1.1900e-003**	**1.0000e-005**	**1.2000e-003**	**3.2000e-004**	**1.0000e-005**	**3.3000e-004**	**0.0000**	**1.0372**	**1.0372**	**6.0000e-005**	**5.0000e-005**	**1.0527**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0227	0.2148	0.1964	3.9000e-004		9.9800e-003	9.9800e-003		9.2800e-003	9.2800e-003	0.0000	33.9920	33.9920	9.5200e-003	0.0000	34.2300
Total	**0.0227**	**0.2148**	**0.1964**	**3.9000e-004**		**9.9800e-003**	**9.9800e-003**		**9.2800e-003**	**9.2800e-003**	**0.0000**	**33.9920**	**33.9920**	**9.5200e-003**	**0.0000**	**34.2300**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Demolition - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0800e-003	6.9000e-004	6.6500e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.0372	1.0372	6.0000e-005	5.0000e-005	1.0527
Total	**1.0800e-003**	**6.9000e-004**	**6.6500e-003**	**1.0000e-005**	**1.1900e-003**	**1.0000e-005**	**1.2000e-003**	**3.2000e-004**	**1.0000e-005**	**3.3000e-004**	**0.0000**	**1.0372**	**1.0372**	**6.0000e-005**	**5.0000e-005**	**1.0527**

3.3 Site Preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0983	0.0000	0.0983	0.0505	0.0000	0.0505	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0133	0.1376	0.0912	1.9000e-004		6.3300e-003	6.3300e-003		5.8200e-003	5.8200e-003	0.0000	16.7254	16.7254	5.4100e-003	0.0000	16.8606
Total	**0.0133**	**0.1376**	**0.0912**	**1.9000e-004**	**0.0983**	**6.3300e-003**	**0.1046**	**0.0505**	**5.8200e-003**	**0.0563**	**0.0000**	**16.7254**	**16.7254**	**5.4100e-003**	**0.0000**	**16.8606**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Site Preparation - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.5000e-004	4.2000e-004	3.9900e-003	1.0000e-005	7.1000e-004	1.0000e-005	7.2000e-004	1.9000e-004	1.0000e-005	2.0000e-004	0.0000	0.6223	0.6223	4.0000e-005	3.0000e-005	0.6316
Total	**6.5000e-004**	**4.2000e-004**	**3.9900e-003**	**1.0000e-005**	**7.1000e-004**	**1.0000e-005**	**7.2000e-004**	**1.9000e-004**	**1.0000e-005**	**2.0000e-004**	**0.0000**	**0.6223**	**0.6223**	**4.0000e-005**	**3.0000e-005**	**0.6316**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0442	0.0000	0.0442	0.0227	0.0000	0.0227	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0133	0.1376	0.0912	1.9000e-004		6.3300e-003	6.3300e-003		5.8200e-003	5.8200e-003	0.0000	16.7253	16.7253	5.4100e-003	0.0000	16.8606
Total	**0.0133**	**0.1376**	**0.0912**	**1.9000e-004**	**0.0442**	**6.3300e-003**	**0.0506**	**0.0227**	**5.8200e-003**	**0.0286**	**0.0000**	**16.7253**	**16.7253**	**5.4100e-003**	**0.0000**	**16.8606**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Site Preparation - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.5000e-004	4.2000e-004	3.9900e-003	1.0000e-005	7.1000e-004	1.0000e-005	7.2000e-004	1.9000e-004	1.0000e-005	2.0000e-004	0.0000	0.6223	0.6223	4.0000e-005	3.0000e-005	0.6316
Total	**6.5000e-004**	**4.2000e-004**	**3.9900e-003**	**1.0000e-005**	**7.1000e-004**	**1.0000e-005**	**7.2000e-004**	**1.9000e-004**	**1.0000e-005**	**2.0000e-004**	**0.0000**	**0.6223**	**0.6223**	**4.0000e-005**	**3.0000e-005**	**0.6316**

3.4 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1381	0.0000	0.1381	0.0548	0.0000	0.0548	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0498	0.5177	0.4208	9.3000e-004		0.0214	0.0214		0.0197	0.0197	0.0000	81.8028	81.8028	0.0265	0.0000	82.4642
Total	**0.0498**	**0.5177**	**0.4208**	**9.3000e-004**	**0.1381**	**0.0214**	**0.1594**	**0.0548**	**0.0197**	**0.0745**	**0.0000**	**81.8028**	**81.8028**	**0.0265**	**0.0000**	**82.4642**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Grading - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.1600e-003	1.3900e-003	0.0133	2.0000e-005	2.3800e-003	2.0000e-005	2.4000e-003	6.3000e-004	2.0000e-005	6.5000e-004	0.0000	2.0744	2.0744	1.2000e-004	9.0000e-005	2.1054
Total	**2.1600e-003**	**1.3900e-003**	**0.0133**	**2.0000e-005**	**2.3800e-003**	**2.0000e-005**	**2.4000e-003**	**6.3000e-004**	**2.0000e-005**	**6.5000e-004**	**0.0000**	**2.0744**	**2.0744**	**1.2000e-004**	**9.0000e-005**	**2.1054**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0621	0.0000	0.0621	0.0247	0.0000	0.0247	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0498	0.5177	0.4208	9.3000e-004		0.0214	0.0214		0.0197	0.0197	0.0000	81.8027	81.8027	0.0265	0.0000	82.4641
Total	**0.0498**	**0.5177**	**0.4208**	**9.3000e-004**	**0.0621**	**0.0214**	**0.0835**	**0.0247**	**0.0197**	**0.0443**	**0.0000**	**81.8027**	**81.8027**	**0.0265**	**0.0000**	**82.4641**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Grading - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.1600e-003	1.3900e-003	0.0133	2.0000e-005	2.3800e-003	2.0000e-005	2.4000e-003	6.3000e-004	2.0000e-005	6.5000e-004	0.0000	2.0744	2.0744	1.2000e-004	9.0000e-005	2.1054
Total	**2.1600e-003**	**1.3900e-003**	**0.0133**	**2.0000e-005**	**2.3800e-003**	**2.0000e-005**	**2.4000e-003**	**6.3000e-004**	**2.0000e-005**	**6.5000e-004**	**0.0000**	**2.0744**	**2.0744**	**1.2000e-004**	**9.0000e-005**	**2.1054**

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1062	0.9710	1.0965	1.8200e-003		0.0472	0.0472		0.0444	0.0444	0.0000	156.4682	156.4682	0.0372	0.0000	157.3987
Total	**0.1062**	**0.9710**	**1.0965**	**1.8200e-003**		**0.0472**	**0.0472**		**0.0444**	**0.0444**	**0.0000**	**156.4682**	**156.4682**	**0.0372**	**0.0000**	**157.3987**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0166	0.5630	0.0974	1.4200e-003	0.0379	3.4800e-003	0.0413	0.0109	3.3300e-003	0.0143	0.0000	135.6936	135.6936	7.8000e-004	0.0189	141.3450
Worker	0.1072	0.0691	0.6613	1.1200e-003	0.1183	1.0000e-003	0.1193	0.0315	9.2000e-004	0.0324	0.0000	103.1500	103.1500	5.9400e-003	4.6800e-003	104.6922
Total	**0.1238**	**0.6321**	**0.7586**	**2.5400e-003**	**0.1562**	**4.4800e-003**	**0.1607**	**0.0424**	**4.2500e-003**	**0.0466**	**0.0000**	**238.8436**	**238.8436**	**6.7200e-003**	**0.0236**	**246.0372**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1062	0.9710	1.0965	1.8200e-003		0.0472	0.0472		0.0444	0.0444	0.0000	156.4680	156.4680	0.0372	0.0000	157.3986
Total	**0.1062**	**0.9710**	**1.0965**	**1.8200e-003**		**0.0472**	**0.0472**		**0.0444**	**0.0444**	**0.0000**	**156.4680**	**156.4680**	**0.0372**	**0.0000**	**157.3986**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0166	0.5630	0.0974	1.4200e-003	0.0379	3.4800e-003	0.0413	0.0109	3.3300e-003	0.0143	0.0000	135.6936	135.6936	7.8000e-004	0.0189	141.3450
Worker	0.1072	0.0691	0.6613	1.1200e-003	0.1183	1.0000e-003	0.1193	0.0315	9.2000e-004	0.0324	0.0000	103.1500	103.1500	5.9400e-003	4.6800e-003	104.6922
Total	**0.1238**	**0.6321**	**0.7586**	**2.5400e-003**	**0.1562**	**4.4800e-003**	**0.1607**	**0.0424**	**4.2500e-003**	**0.0466**	**0.0000**	**238.8436**	**238.8436**	**6.7200e-003**	**0.0236**	**246.0372**

3.5 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1214	1.1091	1.3338	2.2200e-003		0.0506	0.0506		0.0476	0.0476	0.0000	191.2755	191.2755	0.0452	0.0000	192.4063
Total	**0.1214**	**1.1091**	**1.3338**	**2.2200e-003**		**0.0506**	**0.0506**		**0.0476**	**0.0476**	**0.0000**	**191.2755**	**191.2755**	**0.0452**	**0.0000**	**192.4063**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0196	0.6531	0.1145	1.7300e-003	0.0463	3.9400e-003	0.0502	0.0134	3.7700e-003	0.0171	0.0000	164.6035	164.6035	9.0000e-004	0.0228	171.4121
Worker	0.1232	0.0757	0.7384	1.3300e-003	0.1446	1.1200e-003	0.1457	0.0385	1.0400e-003	0.0395	0.0000	122.3812	122.3812	6.6200e-003	5.2800e-003	124.1200
Total	**0.1429**	**0.7288**	**0.8529**	**3.0600e-003**	**0.1909**	**5.0600e-003**	**0.1959**	**0.0518**	**4.8100e-003**	**0.0566**	**0.0000**	**286.9847**	**286.9847**	**7.5200e-003**	**0.0281**	**295.5321**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1214	1.1091	1.3338	2.2200e-003		0.0506	0.0506		0.0476	0.0476	0.0000	191.2753	191.2753	0.0452	0.0000	192.4061
Total	**0.1214**	**1.1091**	**1.3338**	**2.2200e-003**		**0.0506**	**0.0506**		**0.0476**	**0.0476**	**0.0000**	**191.2753**	**191.2753**	**0.0452**	**0.0000**	**192.4061**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0196	0.6531	0.1145	1.7300e-003	0.0463	3.9400e-003	0.0502	0.0134	3.7700e-003	0.0171	0.0000	164.6035	164.6035	9.0000e-004	0.0228	171.4121
Worker	0.1232	0.0757	0.7384	1.3300e-003	0.1446	1.1200e-003	0.1457	0.0385	1.0400e-003	0.0395	0.0000	122.3812	122.3812	6.6200e-003	5.2800e-003	124.1200
Total	**0.1429**	**0.7288**	**0.8529**	**3.0600e-003**	**0.1909**	**5.0600e-003**	**0.1959**	**0.0518**	**4.8100e-003**	**0.0566**	**0.0000**	**286.9847**	**286.9847**	**7.5200e-003**	**0.0281**	**295.5321**

3.6 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.8800e-003	0.0953	0.1463	2.3000e-004		4.6900e-003	4.6900e-003		4.3100e-003	4.3100e-003	0.0000	20.0265	20.0265	6.4800e-003	0.0000	20.1885
Paving	7.0000e-005					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**9.9500e-003**	**0.0953**	**0.1463**	**2.3000e-004**		**4.6900e-003**	**4.6900e-003**		**4.3100e-003**	**4.3100e-003**	**0.0000**	**20.0265**	**20.0265**	**6.4800e-003**	**0.0000**	**20.1885**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.6 Paving - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0100e-003	6.2000e-004	6.0800e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	1.0068	1.0068	5.0000e-005	4.0000e-005	1.0211
Total	**1.0100e-003**	**6.2000e-004**	**6.0800e-003**	**1.0000e-005**	**1.1900e-003**	**1.0000e-005**	**1.2000e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**1.0068**	**1.0068**	**5.0000e-005**	**4.0000e-005**	**1.0211**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.8800e-003	0.0953	0.1463	2.3000e-004		4.6900e-003	4.6900e-003		4.3100e-003	4.3100e-003	0.0000	20.0265	20.0265	6.4800e-003	0.0000	20.1884
Paving	7.0000e-005					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**9.9500e-003**	**0.0953**	**0.1463**	**2.3000e-004**		**4.6900e-003**	**4.6900e-003**		**4.3100e-003**	**4.3100e-003**	**0.0000**	**20.0265**	**20.0265**	**6.4800e-003**	**0.0000**	**20.1884**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.6 Paving - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0100e-003	6.2000e-004	6.0800e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	1.0068	1.0068	5.0000e-005	4.0000e-005	1.0211
Total	**1.0100e-003**	**6.2000e-004**	**6.0800e-003**	**1.0000e-005**	**1.1900e-003**	**1.0000e-005**	**1.2000e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**1.0068**	**1.0068**	**5.0000e-005**	**4.0000e-005**	**1.0211**

3.7 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0240					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.8100e-003	0.0122	0.0181	3.0000e-005		6.1000e-004	6.1000e-004		6.1000e-004	6.1000e-004	0.0000	2.5533	2.5533	1.4000e-004	0.0000	2.5569
Total	**0.0258**	**0.0122**	**0.0181**	**3.0000e-005**		**6.1000e-004**	**6.1000e-004**		**6.1000e-004**	**6.1000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.4000e-004**	**0.0000**	**2.5569**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.7 Architectural Coating - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.9700e-003	1.8300e-003	0.0178	3.0000e-005	3.4900e-003	3.0000e-005	3.5200e-003	9.3000e-004	2.0000e-005	9.5000e-004	0.0000	2.9534	2.9534	1.6000e-004	1.3000e-004	2.9954
Total	**2.9700e-003**	**1.8300e-003**	**0.0178**	**3.0000e-005**	**3.4900e-003**	**3.0000e-005**	**3.5200e-003**	**9.3000e-004**	**2.0000e-005**	**9.5000e-004**	**0.0000**	**2.9534**	**2.9534**	**1.6000e-004**	**1.3000e-004**	**2.9954**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0240					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.8100e-003	0.0122	0.0181	3.0000e-005		6.1000e-004	6.1000e-004		6.1000e-004	6.1000e-004	0.0000	2.5533	2.5533	1.4000e-004	0.0000	2.5568
Total	**0.0258**	**0.0122**	**0.0181**	**3.0000e-005**		**6.1000e-004**	**6.1000e-004**		**6.1000e-004**	**6.1000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.4000e-004**	**0.0000**	**2.5568**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.7 Architectural Coating - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.9700e-003	1.8300e-003	0.0178	3.0000e-005	3.4900e-003	3.0000e-005	3.5200e-003	9.3000e-004	2.0000e-005	9.5000e-004	0.0000	2.9534	2.9534	1.6000e-004	1.3000e-004	2.9954
Total	**2.9700e-003**	**1.8300e-003**	**0.0178**	**3.0000e-005**	**3.4900e-003**	**3.0000e-005**	**3.5200e-003**	**9.3000e-004**	**2.0000e-005**	**9.5000e-004**	**0.0000**	**2.9534**	**2.9534**	**1.6000e-004**	**1.3000e-004**	**2.9954**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Mariposa Parkway - Mariposa County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0145	0.0204	0.1054	1.3000e-004	0.0110	2.0000e-004	0.0112	2.9700e-003	1.9000e-004	3.1600e-003	0.0000	12.0528	12.0528	1.3600e-003	8.6000e-004	12.3431
Unmitigated	0.0145	0.0204	0.1054	1.3000e-004	0.0110	2.0000e-004	0.0112	2.9700e-003	1.9000e-004	3.1600e-003	0.0000	12.0528	12.0528	1.3600e-003	8.6000e-004	12.3431

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	9.36	23.52	26.28	29,461	29,461
Parking Lot	0.00	0.00	0.00		
Total	9.36	23.52	26.28	29,461	29,461

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.376940	0.081838	0.215518	0.168928	0.071578	0.013376	0.007933	0.004020	0.000829	0.000342	0.045282	0.003664	0.009752
Parking Lot	0.376940	0.081838	0.215518	0.168928	0.071578	0.013376	0.007933	0.004020	0.000829	0.000342	0.045282	0.003664	0.009752

5.0 Energy Detail

Mariposa Parkway - Mariposa County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0777	0.0777	1.0000e-005	0.0000	0.0785
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0777	0.0777	1.0000e-005	0.0000	0.0785
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	840	0.0777	1.0000e-005	0.0000	0.0785
Total		**0.0777**	**1.0000e-005**	**0.0000**	**0.0785**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	840	0.0777	1.0000e-005	0.0000	0.0785
Total		**0.0777**	**1.0000e-005**	**0.0000**	**0.0785**

6.0 Area Detail

Mariposa Parkway - Mariposa County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0153	0.0000	1.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.2000e-004	3.2000e-004	0.0000	0.0000	3.4000e-004
Unmitigated	0.0153	0.0000	1.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.2000e-004	3.2000e-004	0.0000	0.0000	3.4000e-004

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	2.4000e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0129					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.0000e-005	0.0000	1.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.2000e-004	3.2000e-004	0.0000	0.0000	3.4000e-004
Total	**0.0153**	**0.0000**	**1.7000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**3.2000e-004**	**3.2000e-004**	**0.0000**	**0.0000**	**3.4000e-004**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	2.4000e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0129					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.0000e-005	0.0000	1.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.2000e-004	3.2000e-004	0.0000	0.0000	3.4000e-004
Total	**0.0153**	**0.0000**	**1.7000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**3.2000e-004**	**3.2000e-004**	**0.0000**	**0.0000**	**3.4000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	4.6301	7.5000e-004	9.0000e-005	4.6759
Unmitigated	4.6301	7.5000e-004	9.0000e-005	4.6759

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 14.2978	4.6301	7.5000e-004	9.0000e-005	4.6759
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**4.6301**	**7.5000e-004**	**9.0000e-005**	**4.6759**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 14.2978	4.6301	7.5000e-004	9.0000e-005	4.6759
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**4.6301**	**7.5000e-004**	**9.0000e-005**	**4.6759**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.2091	0.0124	0.0000	0.5180
Unmitigated	0.2091	0.0124	0.0000	0.5180

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	1.03	0.2091	0.0124	0.0000	0.5180
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**0.2091**	**0.0124**	**0.0000**	**0.5180**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	1.03	0.2091	0.0124	0.0000	0.5180
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**0.2091**	**0.0124**	**0.0000**	**0.5180**

9.0 Operational Offroad

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Appendix B: Biological Evaluation

LIVE OAK
ASSOCIATES, INC.

BIOLOGICAL EVALUATION
MARIPOSA CREEK PARKWAY PHASE III PROJECT
MARIPOSA COUNTY, CALIFORNIA

Prepared by:

LIVE OAK ASSOCIATES, INC.

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October 27, 2022 PN 2317-04

EXECUTIVE SUMMARY

Live Oak Associates, Inc. (LOA) investigated the biological resources of an approximately 12-acre area proposed for the Mariposa Creek Parkway Phase III Project, and evaluated potential impacts to such resources resulting from project implementation. The project is the development of bicycle and pedestrian trails and associated improvements that will interconnect existing segments of the Mariposa Creek Parkway with State Route (SR) 140/49 and the Joe Howard Bridge. It is located within the unincorporated community of Mariposa in Mariposa County, California.

The project is centered on Mariposa Creek and treats the creek and its associated riparian habitat as an ecological, cultural, and recreational asset. Accordingly, the project includes conservation strategies to protect this corridor and the sensitive resources it supports or potentially supports. This includes strategies for the protection of special status plants, the monarch butterfly, and riparian trees and shrubs.

Three biotic habitats / land uses were identified during surveys conducted by LOA on March 11, 2019 and July 28, 2022: mixed riparian woodland, riverine, and ruderal/developed. The mixed riparian woodland and riverine habitats were associated with Mariposa Creek, which flows through the site for a distance of approximately 0.4 mile. Ruderal/developed lands included several vacant lots, portions of Jessie Street and 8th Street, parking lots, landscaped areas, and an existing creekside trail.

The project has the potential to result in significant impacts, as defined by the California Environmental Quality Act (CEQA), to the western pond turtle, maternal roosting bats including the pallid bat, Townsend's big-eared bat, and western red bat, and nesting migratory birds and raptors, all of which have a special conservation status or are afforded certain legal protections. These impacts can be mitigated to a less-than-significant level by limiting construction activities to lower-risk times of year and avoiding protected resources identified during preconstruction surveys.

No other biological resources would be significantly impacted by project implementation. The project has adopted a conservation strategy that will protect and/or conserve special status plants, riparian habitat, and the monarch butterfly. Impacts to these species and resources are considered less than significant under CEQA. Impacts would also be less than significant for nine special status animal species absent from or unlikely to occur on site, one special status animal species that would use the site for foraging only, wildlife movement corridors, jurisdictional waters, and designated critical habitat. The project appears to be consistent with the Mariposa Town Planning Area Specific Plan, and there are no known Habitat Conservation Plans or Natural Community Conservation Plans in the area.

TABLE OF CONTENTS

1.0 INTRODUCTION

This technical report, prepared by Live Oak Associates, Inc. (LOA) in support of California Environmental Quality Act (CEQA) review, describes the biological resources of an approximately 12-acre area proposed for the Mariposa Creek Parkway Phase III Project ("project"), and evaluates the potential impacts to biological resources associated with project implementation. The project is located within the town of Mariposa in Mariposa County, California (Figure 1). It may be found on the Mariposa U.S. Geological Survey (USGS) 7.5-minute quadrangle, in Township 5 South, Range 18 East of Rancho Las Mariposas, Mount Diablo Base and Meridian (Figure 2).

1.1 PROJECT DESCRIPTION

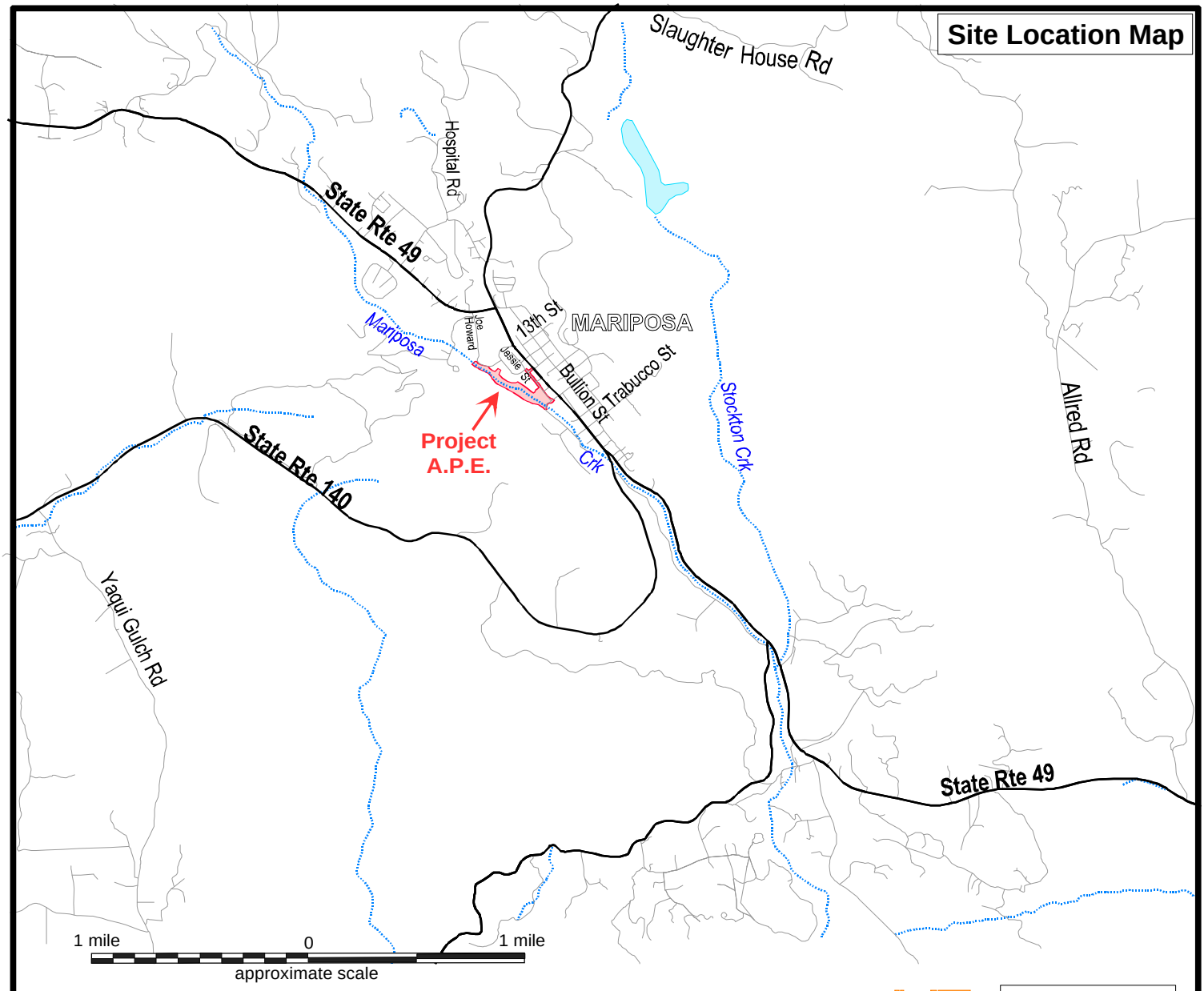
The project is the development of bicycle and pedestrian trails and associated improvements that will interconnect existing segments of the Mariposa Creek Parkway with State Route (SR) 140/49 and the Joe Howard Bridge. Locally, it will extend the existing trail from the Mariposa County Arts Park to local businesses and a future transit center. Regionally, it will become part of several bicycle routes extending into the national forests and Yosemite National Park.

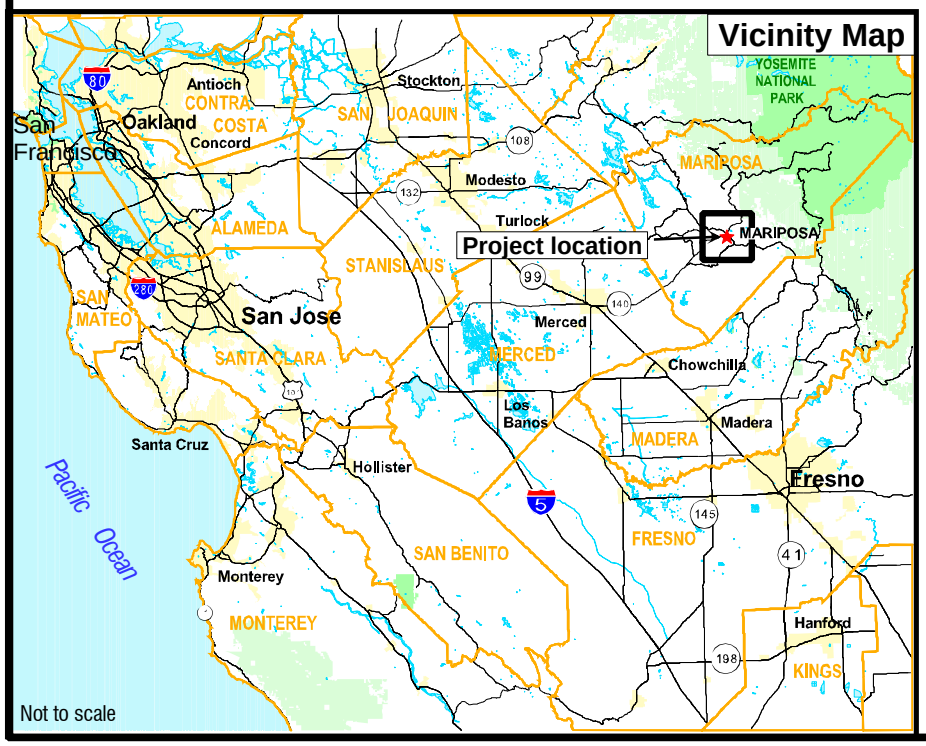
The project will implement critical components of the Mariposa Creek Parkway Master Plan and the 11th Street Paseo Graphic Enhancement Project. Specifically, it will construct (1) Phase III of the Mariposa Creek Parkway, an approximately 0.4-mile-long parkway segment between 8th Street and Joe Howard Street, (2) the 11th Street Paseo, an approximately 100-foot-long strategic active transportation linkage between State Route (SR) 140/49 and Jessie Street, and (3) new sidewalk along Jessie Street to connect the aforementioned mobility resources and establish a safe bicycle and pedestrian network in this area of Mariposa.

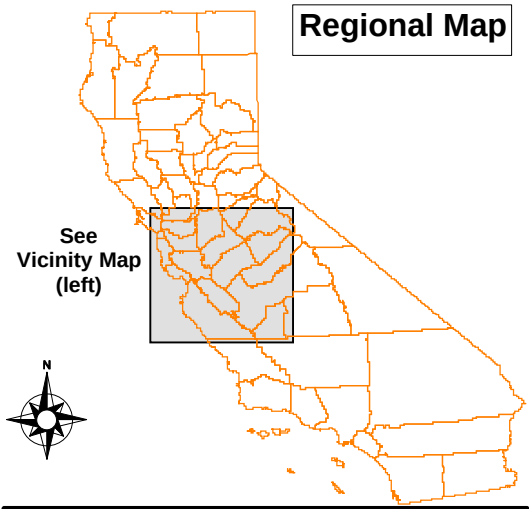
The proposed project includes the following specific elements:

Amenities

- Stepstone crossing
- Benches
- Locations and opportunities for public art installations
- Native American interpretive elements
- Creek access points & shade structures





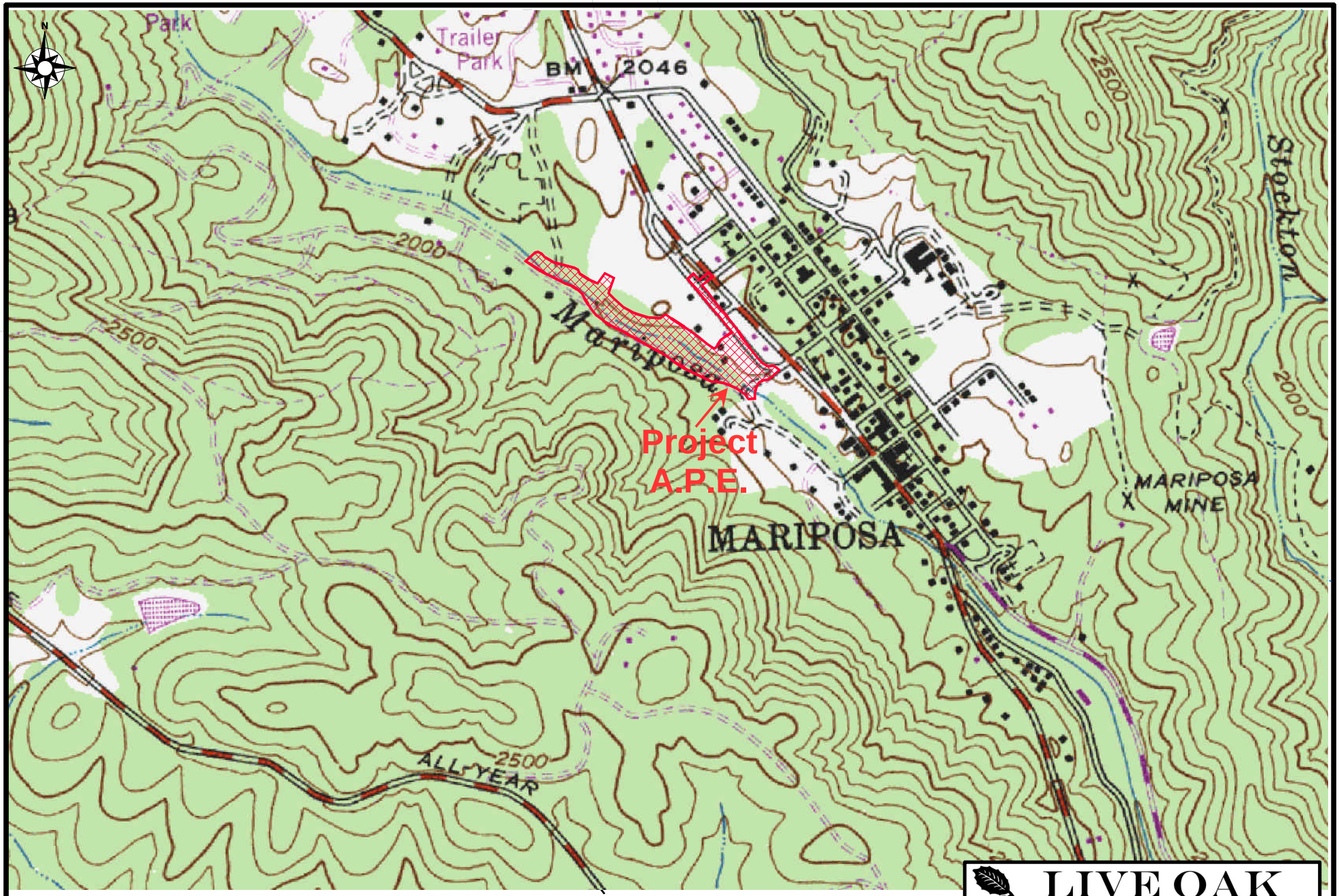


LIVE OAK ASSOCIATES, INC.

Mariposa Creek Parkway Phase III

Site / Vicinity Map

Date	Project #	Figure #
10/27/2022	2317-04	1



1/2 mile 0 1/2 mile

approximate scale

From USGS
Mariposa 7.5' Quadrangle 1981

LIVE OAK ASSOCIATES, INC.

Mariposa Creek Parkway Phase III

U.S.G.S. Quadrangle

Date	Project #	Figure #
10/27/2022	**2317-04**	**2**

- Fitness stations
- Trail information kiosk (at Joe Howard Street)
- Lighting
- Secondary soft paths
- 11th Street Paseo
- Wayfinding signage
- Stormwater management facilities

Trails and Roads

- Primary Parkway Trail Section
    - 14’ with minimum 2’ buffer on both sides of trail
        - 8’ Paved path
        - 4’ Decomposed Granite Path
- Secondary Trail Section
    - 4’ earthen path
- Jessie Street Trail Section
    - Section A-A: 8’ Paved, painted bike path with 2’ buffer on creek side
        - Bollard separation between trail and Jessie Street drive lane
    - Section B-B: 8’ Paved, painted bike path with 2’ buffer on creek side
        - Bollard separation between trail and Jessie Street drive lane
        - TBD Dimension overlook with handrail
- Up to two (2) Pedestrian bridge across Mariposa Creek
- Five (5) parking spaces with one Americans with Disabilities Act (ADA) compliant space (as mentioned below under Trailhead Project)
- Painted crosswalk connecting to Phase II trail
- Parkway access/trailhead at 8th Street

New Trailhead

- Creekside nature play area
- Trailhead pavilion
- Five (5) parking spaces with one Americans with Disabilities Act (ADA) compliant space
- Rock Outcropping Performance Space & Outdoor Classroom
- Downtown connection path
- Creek viewing platforms/Jessie St. overlook
- Boulder scramble area

The larger Mariposa Creek Parkway Master Plan views the Mariposa Creek corridor as an ecological, cultural, and recreational asset. As such, it includes elements designed to protect and enhance the corridor, including removal of invasive species, culturally-appropriate prescribed burning, and a large-scale native revegetation effort. These elements will primarily be

implemented under the Mariposa Creek Traditional Ecological Restoration Project ("Restoration Project"), which is not part of the CEQA project considered in this biological study. However, the current project is designed to be self-mitigating to the maximum extent possible, and will incorporate methods and approaches from the Restoration Project to this end. Specifically, the project will implement the following conservation strategies:

1) ***Special Status Plant Conservation.*** Any special status plants that are discovered on site will be treated as an asset and protected to the maximum extent feasible. If special status plants are discovered in areas of the site in which project design cannot be modified to avoid them, they will be salvaged on site. This conservation strategy will be accomplished by:
    a. Retaining a qualified biologist to conduct protocol-level surveys for the slender-stalked monkeyflower (*Erythranthe gracilipes*) and Madera leptosiphon (*Leptosiphon serrulatus*) following CDFW's 2018 *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities*, or most current agency guidance. Surveys will target all suitable habitats of the project site, and will be conducted during appropriate times of year, when local populations of the target species are in bloom and readily identifiable.
    b. Modifying project design, if at all feasible, to avoid any special status plant individuals or populations that are identified in proposed impact areas. A qualified biologist will identify an appropriate buffer around the plants, and no developments or other project-related activities will be permitted within.
    c. Salvaging any special status plant individuals or populations that cannot be avoided. Salvage methods may include seed collection and dispersal, direct transplantation, or other techniques, depending on the ecology of the species in question. The planting area(s) will be located in portions of the site that support suitable habitat and soils for the affected species. Plantings will be protected with fencing and/or interpretive signage, and will be maintained and monitored following methods described and depicted in the Habitat Restoration and Management Plan (HRMP) (Sierra Foothill Conservancy 2021) and Mariposa

Creek Phase II and III Planting Restoration (WRT 2022; "planting plan") for the Restoration Project.

2) ***Monarch Butterfly Conservation.*** The potential for construction-related mortality of the monarch butterfly (*Danaus plexippus*), a candidate for listing under the federal Endangered Species Act, will be minimized to the extent feasible, and steps will be taken to ensure there is no net loss of milkweed (*Asclepias* sp.), the obligatory breeding habitat of this species. This will be accomplished by:
    a. Retaining a qualified biologist to survey all proposed work areas for milkweed plants. The survey will take place during the milkweed growing season when it is readily identifiable, approximately April through October. The objective of the survey will be to tally and map all milkweed plants that could potentially be impacted by project activities.
    b. Avoiding milkweed removal during the period when monarchs are most likely to breed in the project vicinity, April to August.
    c. Compensating for project-related loss of milkweed plants at a 3:1 ratio. Plantings will be installed, maintained, and monitored following methods described and depicted in the HRMP and planting plan for the Restoration Project.
3) ***Riparian Habitat Conservation.*** The project site's mixed riparian woodland habitat will be conserved to the maximum extent feasible, and steps will be taken to ensure there is no net loss of trees or shrubs associated with this habitat type. This will be accomplished by:
    a. Retaining a qualified biologist to survey all portions of the riparian woodland habitat that are proposed for direct impact. All trees and shrubs within these areas will be identified to species and mapped, and their diameter at breast height (DBH) will be recorded. At the end of construction, the survey will be repeated to determine if any trees or shrubs were removed.
    b. Compensating for project-related loss of riparian trees or shrubs with a DBH of 4 inches or greater. Plantings will be installed at a ratio of 3:1 for impacted trees/shrubs with a DBH between 4 and 24 inches, and at a ratio of 10:1 for impacted trees with a DBH greater than 24 inches. Plantings will be installed, maintained, and monitored following methods described and depicted in the HRMP and planting plan for the Restoration Project.

1.2 REPORT OBJECTIVES

This report summarizes a biological study conducted by LOA to facilitate environmental review pursuant to CEQA. As such, the report's objectives are to:

- Characterize the project site's existing biological resources, including biotic habitats, flora and fauna, soils, and aquatic resources
- Evaluate the project site's potential to support sensitive resources such as special status species, sensitive natural communities, and jurisdictional waters and wetlands
- Summarize all state and federal natural resource protection laws that may be relevant to project implementation
- Identify and discuss potential project-related impacts to biological resources within the context of CEQA and state and federal laws
- Identify avoidance and mitigation measures that would reduce the magnitude of project-related impacts in a manner consistent with CEQA and species-specific guidelines

1.3 STUDY METHODOLOGY

Reconnaissance-level field surveys of the project site were conducted on March 11, 2019 by LOA ecologist Jeff Gurule and July 28, 2022 by LOA ecologist Colleen Del Vecchio. The 2019 survey was conducted in support of an earlier stage of project design, and did not include the 11th Street Paseo or Jessie Street improvement areas. The 2022 survey encompassed all areas proposed for impact under current project design. Both surveys consisted of walking and driving through the project site while identifying its principal land uses, biotic habitats, flora, and fauna, and assessing its potential to support special status species and other sensitive resources.

LOA conducted an analysis of potential project impacts based on the known and potential biotic resources of the project site. Sources of information used in the preparation of this analysis included: (1) the *California Natural Diversity Data Base* (CDFW 2022), (2) the *Online Inventory of Rare and Endangered Vascular Plants of California* (CNPS 2022), and (3) manuals, reports, and references related to plants and animals of the project vicinity.

LOA also conducted a field investigation of the site's aquatic resources and prepared an associated Aquatic Resources Delineation (ARD) report (LOA 2022). This investigation built upon an earlier

ARD conducted by LOA for a riparian restoration project along the Mariposa Creek Parkway (LOA 2021). The earlier ARD included the Phase III project segment, but not the 11th Street Paseo or Jessie Street improvements. Accordingly, LOA inspected the latter two improvement areas for tributary waters, features meeting the technical criteria of wetlands, and other aquatic resources potentially subject to the jurisdiction of the U.S. Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), and/or the California Department of Fish and Wildlife (CDFW). This inspection was conducted by Ms. Del Vecchio in conjunction with the July 28, 2022 reconnaissance-level survey.

2.0 EXISTING CONDITIONS

2.1 REGIONAL SETTING

The project site is located within a mountain community in the western foothills of the Sierra Nevada. The surrounding landscape is extremely rugged and characterized by a mix of chaparral and woodland habitats. The site is adjoined to the south by a steep, undeveloped hillside and, beyond that, rural residential uses. It is adjoined on all other sides by commercial and municipal uses associated with the town of Mariposa.

Average annual precipitation in the general vicinity is approximately 30 inches, 85% of which falls between the months of October and March. Stormwater readily infiltrates into the soils, but when field capacity has been reached or bedrock is encountered, stormwater runs off into drainages.

The primary drainage in the project vicinity is Mariposa Creek, which flows in a southeasterly direction through the site. Mariposa Creek originates approximately 4 miles northwest of the site at an elevation of 3,000 feet above sea level. Downstream of the site, it flows generally south and west, ultimately entering the Central Valley, where it feeds a network of sloughs. It was historically, and is presumably still, tributary to the San Joaquin River.

2.2 PROJECT SITE

The project site consists of a short reach of Mariposa Creek and associated riparian habitat, an existing creekside trail, several vacant lots, and portions of Jessie Street and 8th Street and adjoining developments. It slopes gradually downward in a southeasterly direction, with elevations ranging from approximately 1,950 to 2,000 feet above sea level. It contains three soil mapping units: Riverwash and tailings; Loafercreek and Bonanza complex, 3 to 15 percent slopes; and Gardellones, Gopheridge, Motherlode complex, 30 to 60 percent slopes. One of these mapping units, Riverwash and tailings, is classified as hydric, meaning it has the propensity to pond water and support the growth of wetland vegetation.

Lists of the vascular plant species observed within the project site and the terrestrial vertebrates using, or potentially using, the site are provided in Appendices A and B, respectively. Representative photographs are presented in Appendix C.

2.3 LAND USES / BIOTIC HABITATS

Three biotic habitats / land uses were identified within the project site: mixed riparian woodland, riverine, and ruderal/developed. These habitats / land uses are depicted in Figure 3 and described in more detail in the following sections.

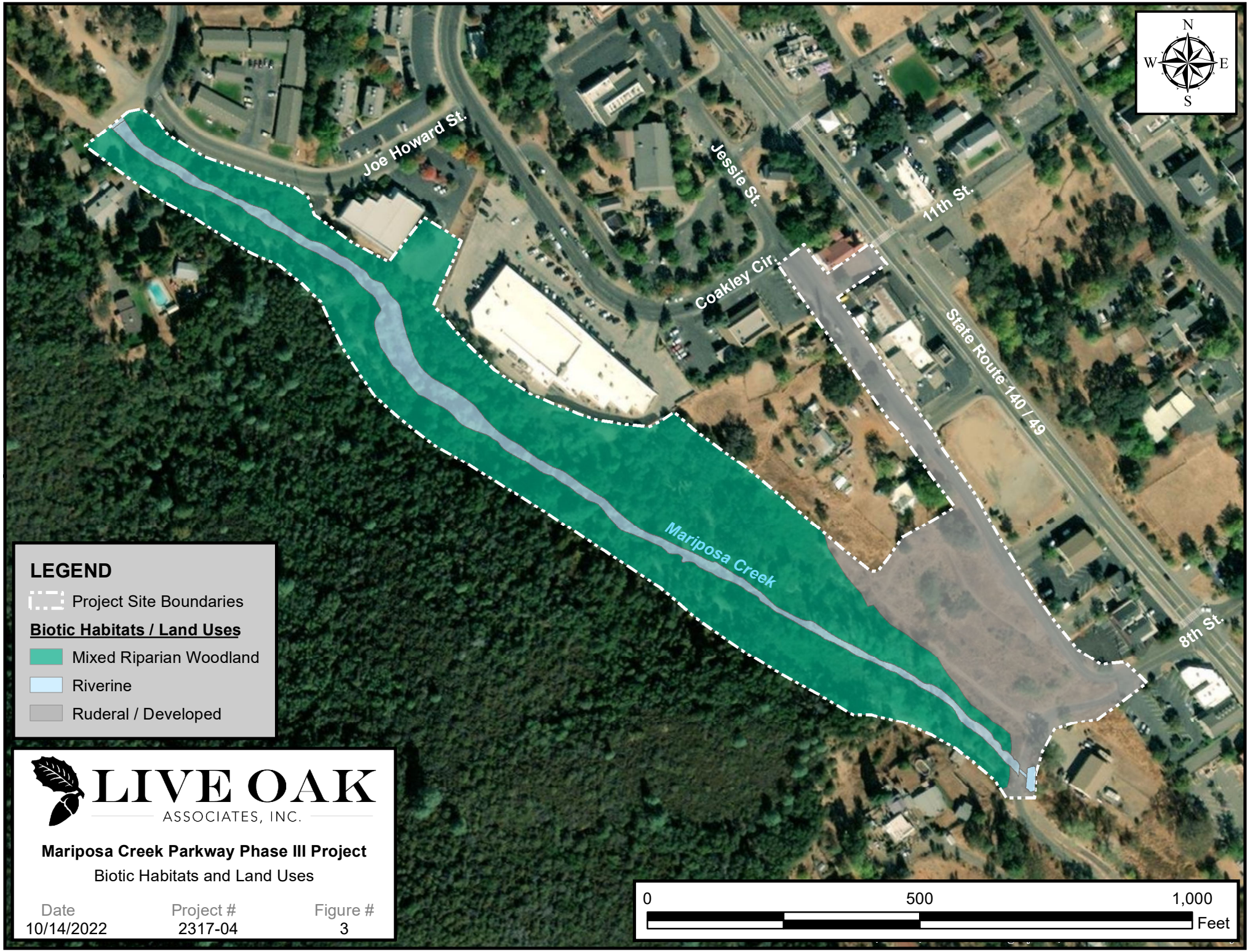
2.3.1 Mixed Riparian Woodland

The project site consists primarily of mixed riparian woodland habitat associated with Mariposa Creek. At the time of the field survey, this habitat was characterized by a well-developed stand of riparian trees including red willow (*Salix laevigata*), Fremont's cottonwood (*Populus fremontii*), white alder (*Alnus rhombifolia*), and valley oak (*Quercus lobata*), interspersed with occasional native upland trees including interior live oak (*Quercus wislizeni*), gray pine (*Pinus sabiniana*), and California buckeye (*Aesculus californica*), as well as the invasive non-native tree-of-heaven (*Ailanthus altissima*). The dominant shrub species was the invasive non-native Himalayan blackberry (*Rubus armeniacus*). A mix of both upland and wetland understory grasses and forbs were identified within this habitat type. Some of the species observed included barnyard barley (*Hordeum murinum*), ripgut brome (*Bromus diandrus*), mugwort (*Artemisia douglasiana*), and geranium (*Geranium sp.*).

The site's mixed riparian woodland is expected to support a large number of terrestrial vertebrates, particularly in comparison to the ruderal/developed lands that characterize much of the vicinity. The dense cover and structural diversity of this woodland, combined with its proximity to the riverine habitat of Mariposa Creek (see Section 2.3.2 below), contribute to its wildlife value and capacity for species diversity.

The riparian woodland is expected to support many reptile and amphibian species. The leaf litter provides habitat for Gilbert's skinks (*Eumeces gilberti*) and southern alligator lizards (*Gerrhonotus multicarinatus*). Trees would provide habitat for western fence lizards (*Sceloporus occidentalis*). Gopher snakes (*Pituophis melanoleucus*), common kingsnakes (*Lampropeltis getulus*), and racers (*Coluber constrictor*) may all forage in this habitat as well.

Riparian woodlands also attract a large number of avian species that seek cover, forage, and nest in the various canopy layers. Resident birds observed in this habitat during one or both of LOA's field



LIVE OAK ASSOCIATES, INC.

Mariposa Creek Parkway Phase III Project

Biotic Habitats and Land Uses

Date	Project #	Figure #
10/14/2022	2317-04	3

surveys included the California scrub jay (*Aphelocoma californica*), belted kingfisher (*Ceryle alcyon*), bushtit (*Psaltriparus minimus*), and Eurasian collared-dove (*Streptopelia decaocto*). Resident raptors common in this habitat include red-tailed hawks (*Buteo jamaicensis*), red-shouldered hawks (*Buteo lineatus*), and Cooper's hawks (*Accipiter cooperi*). Riparian woodlands are of particular importance to various migrant birds. Some, like the white-crowned sparrow (*Zonotrichia leucophrys*), yellow-rumped warbler (*Zonotrichia atricapilla*), and dark-eyed junco (*Junco hyemalis*) arrive on site in late September or early October and remain until April, at which time they return to their breeding habitats upslope in the Sierra or in various locations of the northern United States. Summer migrants expected to breed in riparian habitats of the project site could include Bullock's orioles (*Icterus bullocki*), ash-throated flycatchers (*Myiarchus cinerascens*), and black-headed grosbeaks (*Pheucticus melanocephalus*). Riparian corridors such as those found along Mariposa Creek also provide important temporary cover and foraging opportunity for migrating birds.

Various mammals are expected to occur in the site's riparian woodland. Small mammals would include ornate shrews (*Sorex ornatus*), deer mice (*Peromyscus maniculatus*), Audubon's cottontails (*Sylvilagus auduboni*), California ground squirrels (*Otospermophilus beecheyi*) (observed), and western gray squirrels (*Sciurus griseus*) (observed). Raccoons (*Procyon lotor*), striped skunks (*Mephitus mephitus*), and gray fox (*Urocyon cinereoargenteus*) are predators common to this habitat. Mule deer (*Odocoileus hemionus*) are also expected in to occur here.

2.3.2 Riverine

The project site contains an approximately 0.4-mile-long reach of Mariposa Creek. Mariposa Creek carries seasonal flows from its headwaters through the northern portion of the town of Mariposa. It becomes a perennial stream near the downtown area, and the project site, due to spring activity and urban runoff (County of Mariposa 1992, County of Mariposa 2006). At the time of LOA's late July field survey, the channel was inundated in most areas, with some pools up to 2 feet deep. It was mostly devoid of vegetation, with pebbles or cobble in the stream bed and cobble or boulders on the lower bank. Several isolated patches of cattail (*Typha latifolia*) were observed.

The site's riverine habitat is likely of considerable value to a variety of aquatic and terrestrial vertebrate species. Native fish that may be present in this stretch of creek include the Sacramento

hitch (*Lavinia exilicauda exilicauda*). Introduced species may include the green sunfish (*Lepomis cyanellus*) (observed) and mosquitofish (*Gambusia affinis*), among others. Several amphibian species are expected to breed in this habitat, including bullfrogs (*Lithobates catesbeianus*) (observed), western toads (*Bufo boreas*), and Sierra treefrogs (*Pseudacris sierra*). Western pond turtles (*Actinemys marmorata*), western aquatic garter snakes (*Thamnophis couchii*), and common garter snakes (*Thamnophis sirtalis*) may also occur in this habitat.

A large number of birds occur within the site's riverine habitat. Many of these species would seek the cover of the mixed riparian woodland, but forage in and over the creek itself. Belted kingfishers (observed), for example, commonly perch on overhanging branches of riparian vegetation from which they forage for small fish. Black phoebes (*Sayornis nigricans*) (observed) commonly hawk insects over such habitat from perches in riparian bushes growing from the bank. The creek may also be occasionally used by mallards (*Anas platyrhynchos*).

Mammals, although common in the mixed riparian woodland, would not be common in the riverine habitat. The riverine habitat would, nonetheless, provide drinking water and foraging habitat for many species. For example, a number of species of bats are attracted to the aquatic habitat of creeks and rivers, because these habitats sustain large insect populations on which bats feed.

2.3.3 Ruderal/Developed

The project site contains areas that have either been developed in some way, or are highly disturbed from human activities such as grading, mowing, or landscaping. At the time of the survey, these areas included several vacant lots, portions of Jessie Street and 8th Street, road shoulders and sidewalks, portions of several parking lots, and landscaped areas. The existing creekside trail is technically also a ruderal/developed use; however, because much of the trail is located under the canopy of the mixed riparian woodland, it is considered part of that woodland for the purposes of this analysis.

At the time of LOA's survey, the site's ruderal/developed lands supported a mix of ornamental vegetation, common weeds, and native plants. Where present, trees and shrubs were mostly horticultural varieties including Aleppo pine (*Pinus halepensis*), fern pine (*Afrocarpus* sp.), deodar cedar (*Cedrus deodara*), wisteria (*Wisteria* sp.), privet (*Ligustrum* sp.), and boxwood (*Buxus* sp.).

Some native trees and shrubs were also observed; these included California black oak (*Quercus kelloggii*), blue oak (*Quercus douglasii*), interior live oak, gray pine, and Mariposa manzanita (*Arctostaphylos viscida* ssp. *mariposa*). Grasses were mostly naturalized non-natives including wild oats (*Avena fatua*), barnyard barley (*Hordeum murinum*), and foxtail brome (*Bromus madritensis*). Forbs encompassed planted species, volunteers, natives, and non-natives, and included California poppy (*Eschscholzia californica*), yucca (*Yucca* sp.), narrow-leaf milkweed (*Asclepias fascicularis*), turkey mullein (*Croton setiger*), red-stemmed filaree (*Erodium cicutarium*), puncturevine (*Tribulus terrestris*), and yellow star-thistle (*Centaurea solstitialis*).

The trees and shrubs in the ruderal/developed areas provide cover for a number of avian species. Species observed in landscaped vegetation in these areas included the acorn woodpecker (*Melanerpes formicivorus*), downy woodpecker (*Picoides pubescens*), yellow-rumped warbler, and house finch (*Haemorhous mexicanus*). The site's ruderal/developed areas are highly modified and of relatively low value for amphibian, reptile, and mammal species; however, some disturbance-tolerant species are likely to occur here. For example, Sierra treefrogs may disperse through irrigated landscaped areas, western fence lizards may bask on paved surfaces or trees and buildings, and gopher snakes may be found foraging in these areas. Mammals typically living in close association with humans such as Botta's pocket gopher (*Thomomys bottae*), house mouse (*Mus musculus*), black rat (*Rattus rattus*), and feral cat (*Felis catus*) may thrive in these areas.

2.4 SPECIAL STATUS PLANTS AND ANIMALS

Many species of plants and animals within the state of California have low populations, limited distributions, or both. Such species may be considered "rare" and are vulnerable to extirpation as the state's human population grows and the habitats these species occupy are converted to agricultural and urban uses. As described more fully in Section 3.2, state and federal laws have provided CDFW and the U.S. Fish and Wildlife Service (USFWS) with a mechanism for conserving and protecting the diversity of plant and animal species native to the state. A sizable number of native plants and animals have been formally designated as threatened or endangered under state and federal endangered species legislation. Others have been designated as "candidates" for such listing. Still others have been designated as "species of special concern" by the CDFW. The California Native Plant Society (CNPS) has developed its own set of lists of native

plants considered rare, threatened or endangered (CNPS 2022). Collectively, these plants and animals are referred to as "special status species."

The California Natural Diversity Data Base (CNDDB) (CDFW 2022) was queried for special status species occurrences in the nine USGS 7.5-minute quadrangles containing and immediately surrounding the project site *(Mariposa, Ben Hur, Buckingham Mtn., Feliciana Mtn., Stumpfield Mtn., Horsecamp Mountain, Catheys Valley, Illinois Hill,* and *Bear Valley*). These species, and their potential to occur on site, are listed in Table 1 on the following pages. Table 1 also includes several special status species not returned in the CNDDB query, but known by LOA to occur in the general vicinity of the project site. Sources of information for Table 1 included *California's Wildlife, Volumes I, II, and III* (Zeiner et. al 1988), *The Jepson Manual: Vascular Plants of California, second edition* (Baldwin et al. 2012), CNPS's *Online Inventory of Rare and Endangered Vascular Plants of California* (CNPS 2022), Calflora.org, and eBird.org.

Special status plant and animal species occurrences recorded in the CNDDB within 3.1 miles (5 kilometers) of the project site are depicted in Figure 4.

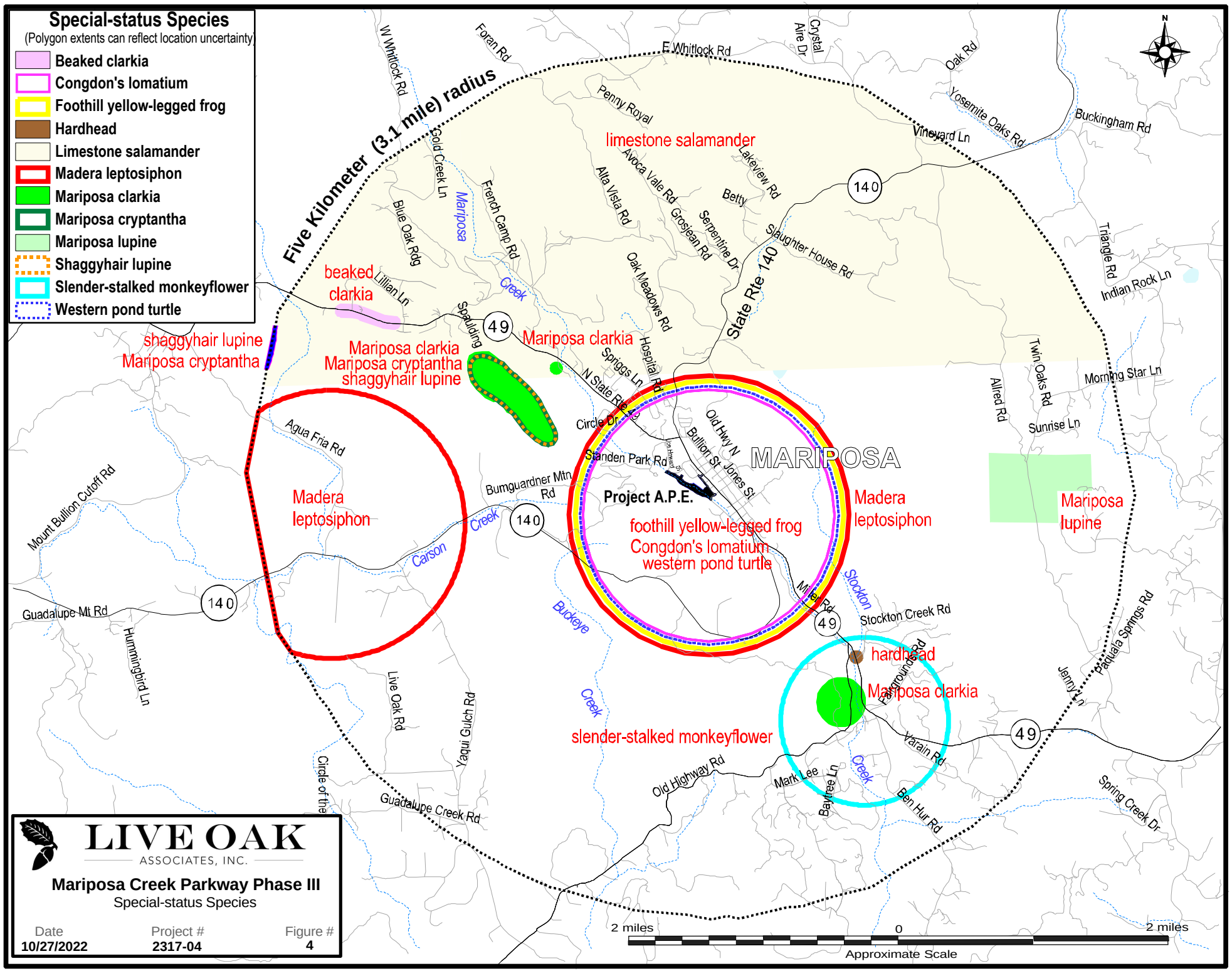

Special-status Species
(Polygon extents can reflect location uncertainty)
Beaked clarkia
Congdon's lomatium
Foothill yellow-legged frog
Hardhead
Limestone salamander
Madera leptosiphon
Mariposa clarkia
Mariposa cryptantha
Mariposa lupine
Shaggyhair lupine
Slender-stalked monkeyflower
Western pond turtle
Five Kilometer (3.1 mile) radius
limestone salamander
beaked clarkia
shaggyhair lupine
Mariposa cryptantha
Mariposa clarkia
Mariposa cryptantha
shaggyhair lupine
Mariposa clarkia
Madera leptosiphon
Project A.P.E.
foothill yellow-legged frog
Congdon's lomatium
western pond turtle
Madera leptosiphon
Mariposa lupine
hardhead
Mariposa clarkia
slender-stalked monkeyflower
MARIPOSA
State Rte 140
W Whitlock Rd
E Whitlock Rd
Foran Rd
Crystal Aire Dr
Oak Rd
Yosemite Oaks Rd
Buckingham Rd
Vineyard Ln
Penny Royal
Cold Creek Ln
Mariposa Creek
French Camp Rd
Blue Oak Rdg
Avoca Vale Rd
Alta Vista Rd
Grosjean Rd
Serpentine Dr
Betty
Lakeview Rd
Slaughter House Rd
Oak Meadows Rd
Lillian Ln
Spaulding
Springs Ln
N State Rte 140
Hospital Rd
Triangle Rd
Indian Rock Ln
Twin Oaks Rd
Morning Star Ln
Allred Rd
Sunrise Ln
Circle Dr
Old Hwy N
Bullion St
Jones St
Standen Park Rd
Agua Fria Rd
Mount Bullion Cutoff Rd
Bumguardner Mtn Rd
Carson Creek
Buckeye Creek
Guadalupe Mt Rd
Hummingbird Ln
Live Oak Rd
Yaqui Gulch Rd
Circle of the
Guadalupe Creek Rd
Old Highway Rd
Mariposa Rd
Stockton
Stockton Creek Rd
Fairgrounds Rd
Jennys Ln
Pagquala Springs Rd
Varain Rd
Mark Lee
Bayfree Ln
Ben Hur Rd
Spring Creek Dr
140
49
LIVE OAK
ASSOCIATES, INC.
Mariposa Creek Parkway Phase III
Special-status Species
Date
10/27/2022
Project #
2317-04
Figure #
4
2 miles
0
2 miles
Approximate Scale

TABLE 1. LIST OF SPECIAL STATUS SPECIES THAT COULD OCCUR IN THE PROJECT VICINITY

PLANTS (adapted from CDFW 2022, CNPS 2022)

Species Listed as Threatened or Endangered under the State and/or Federal Endangered Species Act

Species	Status	Habitat	Occurrence on the Project Site
Mariposa Pussypaws (*Calytridium pulchellum*)	FT, CNPS 1B	Known from fewer than ten populations in Mariposa, Madera, and Fresno Counties, where it can be found on granite domes and other exposed sites between 1,320 and 4,000 feet in elevation. Blooms April-August.	**Absent.** Suitable habitat for this species is absent from the project site.
Mariposa Lupine (*Lupinas citrinus var. deflexus*)	CT, CNPS 1B	Known from fewer than ten occurrences in chaparral and woodland habitats near Mariposa Creek, elevations 1,300 to 2,000 feet. Preferred microhabitat is granitic sand on hilltops and hillsides, mostly with southern exposure. Blooms April-May.	**Unlikely.** Although portions of the site may have once been suitable for the Mariposa lupine, any habitats once present have been eliminated by urban development and other forms of anthropogenic disturbance.

CNPS Listed Species

Yosemite Onion (*Allium yosemitense*)	CNPS 1B	Occurs in pockets of wet soil, in wet cracks of metamorphic rock, and on slopes and walls within chaparral, woodland, and forest habitats. Elevations between 1,740 and 6,650 feet. Blooms April-June	**Absent.** Suitable habitat is absent from the project site.
Big-scale Balsamroot (*Balsamorhiza macrolepis*)	CNPS 1B	Found in dry, open areas in chaparral, grassland, and woodland habitats, sometimes in serpentine soils. Elevations up to 5,000 feet; blooms March-June.	**Absent.** Suitable habitat is absent from the project site.
Mariposa Clarkia (*Clarkia biloba* ssp. *australis*)	CNPS 1B	Found in chaparral and woodland habitats in serpentine soils. Several occurrences known from the foothill woodland / riparian ecotone. Elevations between 1,000 and 4,800 feet. Blooms April-July.	**Absent.** Serpentine soils are absent from the project site.
Beaked Clarkia (*Clarkia rostrata*)	CNPS 1B	Occurs in oak or pine woodlands, often on north-facing slopes; blooms May-July; elevations 560-3,445 feet.	**Unlikely.** Although portions of the site may have once been suitable for the beaked clarkia, any habitats once present have been eliminated by urban development and other forms of anthropogenic disturbance..
Pleasant Valley Mariposa-lily (*Calochortus clavatus* var. *avius*)	CNPS 1B	Occurs in lower montane coniferous forest in Josephine silt loam or volcanic soils, often in rocky areas; blooms May-July; elevations 1,000-5,900 feet.	**Absent.** Suitable habitat is absent from the project site.
Mariposa Cryptantha (*Cryptantha mariposae*)	CNPS 1B	Occurs in rocky chaparral habitats; serpentine soils; blooms April-May; elevations 660-2,130 ft.	**Absent.** Suitable habitat and soils are absent from the project site.
Recurved Larkspur (*Delphinium recurvatum*)	CNPS 1B	Occurs in poorly drained, fine, alkaline soils in grassland and Atriplex scrub; blooms March-June; alkaline soils; elevations below 2,500 ft.	**Absent.** Suitable habitat is absent from the project site.

TABLE 1. LIST OF SPECIAL STATUS SPECIES THAT COULD OCCUR IN THE PROJECT VICINITY

PLANTS (cont'd)

CNPS Listed Species

Species	Status	Habitat	Occurrence on the Project Site
Yellow-lipped Pansy Monkeyflower (*Diplacus pulchellus*)	CNPS 1B	Found in vernally wet or mesic sites in lower montane coniferous forest or meadow habitats; elevations 2,000-6,500 feet. Blooms April-July.	**Absent.** Suitable habitat is absent from the project site, and the site is situated at the lower extent of this species' elevation range.
Koch's Cord Moss (*Entosthodon kochii*)	CNPS 1B	This moss is known from only four occurrences statewide. It grows on the soil in woodland habitats, often on river banks. Elevations between 600 and 3,300 feet.	**Unlikely.** Although portions of the site may have once been suitable for this rare species, any habitats once present have been eliminated by urban development and other forms of anthropogenic disturbance.
Congdon's Woolly Sunflower (*Eriophyllum congdonii*)	CNPS 1B	Occurs in cracks in rock outcroppings and on talus, in chaparral, woodland, lower montane coniferous forest, and grassland habitats. Elevations between 1,590 and 6,000 feet. Blooms April – June.	**Absent.** Suitable habitat is absent from the project site.
Slender-stemmed Monkeyflower (*Erythranthe filicaulis*)	CNPS 1B	Occurs on vernally mesic granitic sand and meadow edges within woodland and coniferous forest habitats between 2,035 and 5,525 feet in elevation. Blooms April – August.	**Absent.** Suitable habitat is absent from the project site, and the site is situated at the lower extent of this species' elevation range.
Slender-stalked Monkeyflower (*Erythranthe gracilipes*)	CNPS 1B	Occurs within disturbed places such as burns and railroad grades; also on thin granitic soil in cracks in large granite rocks. Associated with chaparral, woodland, and lower montane coniferous forest between 1,640 and 4,265 feet. Blooms April – June.	**Possible.** Portions of the project site may offer suitable habitat for this species. There is a historical (1897) occurrence of the slender-stalked monkeyflower in the Mariposa area, generally mapped to Mormon Bar, approximately 1.5 miles southeast of the site
Parry's Horkelia (*Horkelia parryi*)	CNPS 1B	Found in openings in chaparral and woodland habitats at elevations between 260 and 3,500 feet. Especially known from the Ione Formation in Amador County. Blooms April-September.	**Absent.** Suitable habitat is absent from the project site.
Madera Leptosiphon (*Leptosiphon serrulatus*)	CNPS 1B	Occurs in woodlands and lower montane coniferous forests between 100 and 4,200 ft. in elevation. Prefers dry slopes often on decomposed granite in woodlands. Blooms April-May.	**Possible.** A historical (1896) occurrence of the Madera leptosiphon is generally mapped to the town of Mariposa. Urban development and other anthropogenic disturbances since this time have degraded the quality of the site's habitats and limited its potential to support this species. Nevertheless, the Madera leptosiphon's occurrence on site cannot be conclusively ruled out.
Congdon's Lomatium (*Lomatium congdonii*)	CNPS 1B	Found in chaparral and woodland habitats in serpentine soils. Associated species include the gray pine and various chaparral plants. Elevations between 1,000 and 6,900 feet. Blooms March-June.	**Absent.** A historical (1903) occurrence of the Congdon's lomatium is generally mapped to the town of Mariposa. Serpentine soils are absent from the project site itself, and this species does not have the potential to occur on site.

TABLE 1. LIST OF SPECIAL STATUS SPECIES THAT COULD OCCUR IN THE PROJECT VICINITY

PLANTS (cont'd)

CNPS Listed Species

Species	Status	Habitat	Occurrence on the Project Site
Shaggyhair Lupine (*Lupinus spectabilis*)	CNPS 1B	Found in serpentine chaparral habitats on open, rocky slopes; elevations between 900 and 2,700 feet. Often surrounded by gray pine woodland. Blooms April-May.	**Absent.** Suitable habitat and soils are absent from the project site.

ANIMALS (adapted from CDFW 2022 and USFWS 2022)

Species Listed as Threatened or Endangered under the State and/or Federal Endangered Species Act

Monarch Butterfly (*Danaus plexippus*)	FC	Overwinters in coastal California and Baja California and breeds throughout California in the spring and summer along its annual migration north and east. The adult monarch lays its eggs on obligate milkweed (*Asclepias* spp.) host plants, which the resultant larvae feed on before pupating and emerging as adults. In addition to milkweed, this species requires abundant nectar resources to nourish migrating adults, and trees for roosting during migratory stopovers.	**Possible.** Narrow-leaf milkweed was observed on one of the project site's vacant lots, and may occur elsewhere on site. Monarchs may reproduce on site, and the site may also support foraging and roosting by migratory adults.
Valley Elderberry Longhorn Beetle (VELB) (*Desmocerus californicus dimorphus*)	FT	Found in mature elderberry shrubs of the Central Valley from Shasta County to Madera County. Historic occurrence records south of Madera County and in the foothills above 500 feet in elevation are now believed to be associated with the closely-related California elderberry longhorn beetle (*D. c. californicus*) (USFWS 2019).	**Absent.** The project site is located well above this species' elevational distribution, based on current scientific understanding (USFWS 2019).
California Tiger Salamander (*Ambystoma californiense*)	FT, CT	Found primarily in annual grasslands; requires vernal pools for breeding and rodent burrows for aestivation.	**Absent.** Suitable habitat is absent from the project site and surrounding lands, and the site is located outside of this species' range.
Limestone Salamander (*Hydromantes brunus*)	CT, CFP	Found in the chaparral belt of the lower Merced River Canyon. Inhabits mossy limestone crevices, typically on steep slopes. Breeds terrestrially.	**Absent.** Suitable habitat is absent from the project site, and the site is located outside of this species' limited range.
Foothill Yellow-legged Frog (*Rana boylii*)	CE	Found in or near rocky streams in a variety of habitats. Uses submerged rocks and debris for cover. Requires gravel or rocks in moving water near stream margins for reproduction.	**Unlikely.** A historical (1899) collection of this species was made in Mariposa, presumably from Mariposa Creek. However, this species is nearly extinct in the Sierra Nevada south of Interstate 80, and the presence of bullfrogs and introduced fish in Mariposa Creek further limits their potential to occur here.
Sierra Nevada Yellow-legged Frog (*Rana sierrae*)	FE, CT	Found in cold mountain lakes and streams, generally from 5,000 to 12,000 feet in elevation. Breeding and egg laying occur after snowmelt from June to August.	**Absent.** The site is below the elevational range of the species.

TABLE 1. LIST OF SPECIAL STATUS SPECIES THAT COULD OCCUR IN THE PROJECT VICINITY

ANIMALS (cont'd)

Species Listed as Threatened or Endangered under the State and/or Federal Endangered Species Act

Species	Status	Habitat	Occurrence on the Project Site
Bald Eagle (*Haliaeetus leucocephalus*)	CE	Nests and winters on ocean shores, lake margins and rivers. Uses old-growth snags. Mostly forages over water and along shores.	**Unlikely**. This species is associated with large bodies of water, which are absent from the project site and surrounding lands.

California Species of Special Concern or Fully Protected

Hardhead (*Mylopharodon conocephalus*)	CSC	Found in large, low- to mid-elevation undisturbed streams and reservoirs, in clear, deep pools with sand-gravel-boulder substrates and slow water velocity.	**Unlikely.** The on-site reach of Mariposa Creek is at the upper limits of this stream's perennial flows, and does not appear to offer suitable microhabitat conditions for this species.
Western Spadefoot (*Spea hammondii*)	CSC	Occurs in grasslands of the San Joaquin Valley, where it breeds in vernal pools or other seasonal wetlands and aestivates in underground refugia such as rodent burrows.	**Absent.** Suitable habitat is absent from the project site and surrounding lands, and the site is located outside of this species' range.
Western Pond Turtle (*Actinemys marmorata*)	CSC	Found in open, slow-moving water or ponds with rocks and logs for basking. Nesting occurs in open areas, on a variety of soil types, and up to ¼ mile away from water.	**Possible.** Suitable habitat occurs on the site in and immediately surrounding Mariposa Creek. Outside of the site's riparian corridor, upland habitats are highly disturbed and unlikely to be used by this species.
Pallid Bat (*Antrozous pallidus*)	CSC	Roosts in rocky outcrops, cliffs, and crevices with access to open habitats for foraging. May also roost in caves, mines, hollow trees, and buildings. This opportunistic forager gleans a variety of arthropod prey from surfaces, and may also take insects in flight.	**Possible.** The pallid bat could potentially roost in the site's mature trees and snags, and forage on or over the site.
Townsend's Big-eared Bat (*Corynorhinus townsendii*)	CSC	Primarily a cave-dwelling bat that may also roost in buildings, rock crevices, and hollow trees. Forages in edge habitats along streams and within and adjacent to various types of forest and woodland.	**Possible.** The Townsend's big-eared bat could potentially roost in the site's mature trees and snags, and forage on or over the site.
Spotted Bat (*Euderma maculatum*)	CSC	Occurs in a variety of habitats. Roost sites are cracks, crevices, and caves, usually high in fractured rock cliffs.	**Possible.** Spotted bats may forage over the project site from time to time, but roosting habitat is absent.
Western Red Bat (*Lasiurus blossevillii*)	CSC	This mostly solitary bat roosts primarily in trees, 2-40 feet above ground, from sea level up through mixed conifer forests. Prefers habitat edges and mosaics with trees that are protected from above and open below with open areas for foraging.	**Possible.** The western red bat could potentially roost in the site's trees, and forage on or over the site.
Ringtail (*Bassariscus astutus*)	CFP	Found in a variety of habitats including chaparral, rocky hillsides, and riparian areas. This species dens in rock crevices, boulder piles, underground cavities, and hollow trees.	**Unlikely.** High levels of anthropogenic disturbance would likely preclude this species from occurring on or around the project site.

OCCURRENCE DESIGNATIONS AND STATUS CODES

Present: Species observed on the site at time of field surveys or during recent past.
Likely: Species not observed on the site, but it may reasonably be expected to occur there on a regular basis.
Possible: Species not observed on the site, but it could occur there from time to time.
Unlikely: Species not observed on the site, and would not be expected to occur there except, perhaps, as a transient.
Absent: Species not observed on the site and precluded from occurring there because habitat requirements not met.

STATUS CODES

FE	Federally Endangered	CE	California Endangered
FT	Federally Threatened	CT	California Threatened
FC	Federal Candidate	CFP	California Fully Protected
		CSC	California Species of Special Concern

CNPS LISTING

1A	Plants Presumed Extinct in California	2	Plants Rare, Threatened, or Endangered in California, but more common elsewhere
1B	Plants Rare, Threatened, or Endangered in California and elsewhere		

2.5 JURISDICTIONAL WATERS

Jurisdictional waters are those rivers, creeks, drainages, lakes, ponds, reservoirs, and wetlands that are subject to the authority of the USACE, CDFW, and/or the RWQCB. In general, the USACE regulates navigable waters, tributaries to navigable waters, and wetlands adjacent to these waters, where wetlands are defined by the presence of hydric soils, hydrophytic vegetation, and wetland hydrology. The CDFW has jurisdiction over waters in California that have a defined bed and bank, and the RWQCB has jurisdiction over California surface water and groundwater. The regulation of jurisdictional waters is discussed in more detail in Section 3.2.7.

As discussed, the project site contains an approximately 0.4-mile-long reach of Mariposa Creek, which is likely to fall under the jurisdiction of the USACE, RWQCB, and CDFW.

2.6 SENSITIVE NATURAL COMMUNITIES

California contains a wide range of natural communities, or unique assemblages of plants and animals. These communities have largely been classified and mapped by CDFW as part of their Vegetation Classification and Mapping Program (VegCAMP). Natural communities are assigned state and global ranks according to their rarity and the magnitude and trend of the threats they face. Any natural community with a state rank of 3 or lower (on a 1 to 5 scale) is considered "sensitive" and must be considered in CEQA review.

Although not formally mapped in the CNDDB, the project site's mixed riparian woodland is considered a sensitive natural community. It is dominated by Fremont cottonwood and red willow and has a state rank of 3 per the VegCAMP classification system (CDFW 2021).

2.7 WILDLIFE MOVEMENT CORRIDORS

Wildlife movement corridors are routes that animals regularly and predictably follow during seasonal migration, dispersal from native ranges, daily travel within home ranges, and inter-population movements. Movement corridors in California are typically associated with valleys, ridgelines, and rivers and creeks supporting riparian vegetation.

Mariposa Creek in the project vicinity is a relatively undisturbed aquatic/riparian corridor that is likely to function as a conduit for wildlife movement. It supports fish, and may also serve as a dispersal route for amphibians and other stream-associated species. It may be used by songbirds that migrate along an elevational gradient, wintering in the Central Valley and breeding in the Sierra Nevada. It would provide relatively secure passage for terrestrial wildlife through the surrounding anthropogenic landscape, and is likely to be regularly used.

2.8 DESIGNATED CRITICAL HABITAT

The USFWS often designates areas of "critical habitat" when it lists species as threatened or endangered. Critical habitat is a specific geographic area(s) that contains features essential for the conservation of a threatened or endangered species and that may require special management and protection.

Designated critical habitat is absent from the project vicinity. The nearest unit of critical habitat is located some 16 miles to the west of the project site, in the grassland / vernal pool complexes of the lower foothills. It is designated for the protection of a variety of listed vernal pool plant and animal species.

3.0 RELEVANT GOALS, POLICIES, AND LAWS

3.1 CALIFORNIA ENVIRONMENTAL QUALITY ACT

In California, any project carried out or approved by a public agency that will result in a direct or reasonably foreseeable indirect physical change in the environment must comply with CEQA. The purpose of CEQA is to ensure that a project's potential impacts on the environment are evaluated and methods for avoiding or reducing these impacts are considered before the project is allowed to move forward. A secondary aim of CEQA is to provide justification to the public for the approval of any projects involving significant impacts on the environment.

According to Section 15382 of the CEQA Guidelines, a significant effect on the environment means a "substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic interest." Although the lead agency may set its own CEQA significance thresholds, project impacts to biological resources are generally considered to be significant if they would meet any of the following criteria established in Appendix G of the CEQA Guidelines:

- 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 CDFW or USFWS.
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by CDFW or USFWS.
- Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.
- 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.
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

Furthermore, CEQA Guidelines Section 15065(a) requires the lead agency to make "mandatory findings of significance" if there is substantial evidence that a project may:

- 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, or substantially reduce the number or restrict the range of an endangered, rare or threatened species.
- Achieve short-term environmental goals to the detriment of long-term environmental goals.
- Produce environmental effects that are individually limited but cumulatively considerable, meaning that the incremental effects of the project are significant when viewed in connection with the effects of past projects, other current projects, and probable future projects.

3.2 OTHER RELEVANT LAWS AND POLICIES

3.2.1 Mariposa Town Planning Area Specific Plan

The Mariposa Town Planning Area Specific Plan (Town Plan) provides development standards designed to protect significant biotic resources of the Planning Area. Relevant resources addressed by this plan include: (1) scenic resources, (2) water resources, (3) air resources, and (4) wildlife and vegetation. The Mariposa Creek Parkway is outlined in this plan and identified as a capital project. The Mariposa Town Planning Area Specific Plan Environmental Impact Report, certified in 1992, assessed environmental impacts of these development standards and provides mitigation, as appropriate, to reduce impacts to a less than significant level.

3.2.2 Threatened and Endangered Species

In California, imperiled plants and animals may be afforded special legal protections under the California Endangered Species Act (CESA) and/or Federal Endangered Species Act (FESA). Species may be listed as "threatened" or "endangered" under one or both Acts, and/or as "rare" under CESA. Under both Acts, "endangered" means a species is in danger of extinction throughout all or a significant portion of its range, and "threatened" means a species is likely to become endangered within the foreseeable future. Under CESA, "rare" means a species may become endangered if their present environment worsens. Both Acts prohibit "take" of listed species, defined under CESA as "to hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue,

catch, capture or kill" (California Fish and Game Code, Section 86), and more broadly defined under FESA to include "harm" (16 USC, Section 1532(19), 50 CFR, Section 17.3). The USFWS commonly interprets "take" to include the loss of habitat utilized by a listed species.

When state and federally listed species have the potential to be impacted by a project, the USFWS and CDFW must be included in the CEQA process. These agencies review the environmental document to determine the adequacy of its treatment of endangered species issues and to make project-specific recommendations for the protection of listed species. Projects that may result in the "take" of listed species must generally enter into consultation with the USFWS and/or CDFW pursuant to FESA and CESA, respectively. In some cases, incidental take authorization(s) from these agencies may be required before the project can be implemented.

3.2.3 Migratory Birds

The Federal Migratory Bird Treaty Act (FMBTA: 16 USC 703-712) prohibits killing, possessing, or trading in any bird species covered in one of four international conventions to which the United States is a party, except in accordance with regulations prescribed by the Secretary of the Interior. The name of the act is misleading, as it actually covers almost all birds native to the United States, even those that are non-migratory. The FMBTA encompasses whole birds, parts of birds, and bird nests and eggs.

Native birds are also protected under California state law. The California Fish and Game Code makes it unlawful to take or possess any non-game bird covered by the FMBTA (Section 3513), as well as any other native non-game bird (Section 3800), even if incidental to lawful activities. Moreover, the California Migratory Bird Protection Act, enacted in September 2019, clarifies native bird protection and increases protections where California law previously deferred to federal law.

3.2.4 Birds of Prey

Birds of prey are also protected in California under provisions of the State Fish and Game Code, Section 3503.5, 1992), which states that it is "unlawful to take, possess, or destroy any birds in the order *Falconiformes* or *Strigiformes* (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant

thereto." Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered "taking" by the CDFW.

3.2.5 Nesting Birds

In California, protection is afforded to the nests and eggs of all birds. California Fish and Game Code (Section 3503) states that it is "unlawful to take, possess, or needlessly destroy the nest or eggs of any bird except as otherwise provided by this code or any regulation adopted pursuant thereto." Breeding-season disturbance that causes nest abandonment and/or loss of reproductive effort is considered a form of "take" by the CDFW.

3.2.6 Habitat Conservation Plans and Natural Community Conservation Plans

Section 10 of the federal Endangered Species Act establishes a process by which non-federal projects can obtain authorization to incidentally take listed species, provided take is minimized and thoroughly mitigated. A Habitat Conservation Plan (HCP), developed by the project applicant in collaboration with the USFWS and/or NMFS, ensures that such minimization and mitigation will occur, and is a prerequisite to the issuance of a federal incidental take permit. Similarly, a Natural Community Conservation Plan (NCCP), developed by the project applicant in collaboration with CDFW, provides for the conservation of biodiversity within a project area, and permits limited incidental take of state-listed species.

3.2.7 Wetlands and Other Jurisdictional Waters

Section 404 of the federal Clean Water Act (CWA) regulates the discharge of dredged or fill material into "navigable waters" (33 U.S.C. §1344), defined in the CWA as "the waters of the United States, including the territorial seas" (33 U.S.C. §1362(7)). The CWA does not supply a definition for waters of the U.S., and that has been the subject of considerable debate since the CWA's passage in 1972. A variety of regulatory definitions have been promulgated by the two federal agencies responsible for implementing the CWA, the Environmental Protection Agency (EPA) and USACE. These definitions have been interpreted, and in some cases, invalidated, by federal courts.

Most recently, waters of the U.S. were defined by the Navigable Waters Protection Rule (NWPR). The new rule was published in the Federal Register on April 21, 2020 and took effect on June 22, 2020. However, on August 30, 2021, in the case of *Pascua Yaqui Tribe v. U.S. Environmental Protection Agency*, the U.S. District Court for the District of Arizona vacated and remanded the NWPR. In light of this order, the EPA and USACE have halted implementation of the NWPR and, until further notice, are interpreting "waters of the United States" consistent with the pre-2015 regulatory regime.

The interpretation of waters of the U.S. prior to 2015 generally included:

- All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide.
- All interstate waters including interstate wetlands.
- All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce.
- All impoundments of waters otherwise defined as waters of the United States under the definition.
- Tributaries of waters identified in the bulleted items above.

As determined by the United States Supreme Court in its 2001 *Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers* (SWANCC) decision, channels and wetlands isolated from other jurisdictional waters cannot be considered jurisdictional on the basis of their use, hypothetical or observed, by migratory birds. Similarly, in its 2006 consolidated *Carabell/Rapanos* decision, the U.S. Supreme Court ruled that a significant nexus between a wetland and other navigable waters must exist for the wetland itself to be considered a jurisdictional water.

All activities that involve the discharge of dredge or fill material into waters of the U.S. are subject to the permit requirements of the USACE. Such permits are typically issued on the condition that the applicant agrees to provide mitigation that result in no net loss of wetland functions or values. No permit can be issued until the RWQCB issues a Section 401 Water Quality

Certification (or waiver of such certification) verifying that the proposed activity will meet state water quality standards.

Under the Porter-Cologne Water Quality Control Act of 1969, the State Water Resources Control Board has regulatory authority to protect the water quality of all surface water and groundwater in the State of California ("waters of the State"). Nine RWQCBs oversee water quality at the local and regional level. The RWQCB for a given region regulates discharges of fill or pollutants into waters of the State through the issuance of various permits and orders. Discharges into waters of the State that are also waters of the U.S. require a Section 401 Water Quality Certification from the RWQCB as a prerequisite to obtaining certain federal permits, such as a Section 404 Clean Water Act permit. Discharges into all waters of the State, even those that are not also waters of the U.S., require Waste Discharge Requirements (WDRs), or waivers of WDRs, from the RWQCB. The RWQCB also administers the Construction Storm Water Program and the federal National Pollution Discharge Elimination System (NPDES) program. Projects that disturb one or more acres of soil must obtain a Construction General Permit under the Construction Storm Water Program. A prerequisite for this permit is the development of a Storm Water Pollution Prevention Plan (SWPPP) by a certified Qualified SWPPP Developer. Projects that discharge wastewater, storm water, or other pollutants into a water of the U.S. may require a NPDES permit.

CDFW has jurisdiction over the bed and bank of natural drainages and lakes according to provisions of Section 1601 and 1602 of the California Fish and Game Code. Activities that may substantially modify such waters through the diversion or obstruction of their natural flow, change or use of any material from their bed or bank, or the deposition of debris require a Notification of Lake or Streambed Alteration. If CDFW determines that the activity may adversely affect fish and wildlife resources, a Lake or Streambed Alteration Agreement will be prepared. Such an agreement typically stipulates that certain measures will be implemented to protect the habitat values of the lake or drainage in question.

4.0 IMPACTS AND MITIGATIONS

The following discussions address the potential impacts to biological resources associated with implementation of the Mariposa Creek Parkway Phase III Project, including all components of the Mariposa Creek Parkway Master Plan and 11th Street Paseo Graphic Enhancement Project that were identified in Section 1.1.

4.1 POTENTIALLY SIGNIFICANT PROJECT IMPACTS/MITIGATION

4.1.1 Potential Project Impacts to the Western Pond Turtle

Potential Impacts. The project site contains potential aquatic and upland habitat for the western pond turtle. While project buildout will not result in a significant loss of habitat for this species, construction activities could harm individual turtles. This would be considered a significant impact under CEQA.

Mitigation. The following mitigation measures will be implemented to minimize direct impacts to western pond turtles.

> ***Mitigation Measure 4.1.1a* (*Preconstruction Survey*).** A pre-construction survey for western pond turtles will be conducted no more than 24 hours prior to the start of work in Mariposa Creek and the adjoining mixed riparian woodland habitat.
>
> ***Mitigation Measure 4.1.1b* (*Relocation*).** A qualified biologist will capture and relocate any turtles found within areas planned for direct impact. Turtles will be relocated to suitable alternative habitat within the Mariposa Creek corridor, outside of project boundaries.
>
> ***Mitigation Measure 4.1.1c (Avoidance).*** If any turtles are observed on site while work is occurring, work in the immediate area will cease and turtles will be allowed to leave the construction zone of their own volition, if feasible. If necessary, a qualified biologist will capture and relocate such turtles as described above under Mitigation Measure 4.1.2b.

Implementation of the above measures will reduce impacts to the western pond turtle to a less than significant level under CEQA.

4.1.2 Potential Project Impacts to Nesting Migratory Birds and Raptors

Potential Impacts. The project site contains suitable nesting habitat for a number of avian species protected under the federal Migratory Bird Treaty Act and related state laws. Any birds or raptors

that are nesting within or near work areas at the time of construction would have the potential to be injured or killed by project activities. In addition to direct "take" of nesting birds, project activities could disturb birds nesting within or adjacent to work areas such that they would abandon their nests. Project-related injury or mortality of nesting birds and raptors would violate state and federal laws, and is considered a potentially significant impact under CEQA.

Mitigation. The following measures will be implemented for the protection of nesting migratory birds and raptors.

> ***Mitigation 4.1.2a* (*Avoidance*).** To avoid impacts to nesting birds and raptors, construction will occur, where possible, outside the February 1-August 31 nesting season.
>
> ***Mitigation 4.1.2b* (*Pre-construction Surveys*).** If construction must occur during the February 1-August 31 nesting season, a qualified biologist will conduct pre-construction surveys for active bird and raptor nests within 10 days of the onset of these activities. Nest surveys will encompass the work area and surrounding lands within 250 feet. Nest surveys will be repeated whenever there is a lapse in construction of 10 days or more during the nesting season.
>
> ***Mitigation 4.1.2c* (*Construction-Free Buffers*).** Should any active nests be discovered in or near proposed construction zones, a qualified biologist will identify suitable construction-free buffers around the nests. The buffers will be identified on the ground with flagging or fencing, and will be maintained until the biologist has determined that the young have fledged and are no longer reliant on the nest or parental care for their survival.

Implementation of the above measures will reduce potential project impacts to nesting migratory birds and raptors to a less than significant level under CEQA and will ensure compliance with state and federal laws protecting these species.

4.1.3 Potential Project Impacts to the Pallid Bat, Townsend's Big-eared Bat, Western Red Bat, and other Roosting Bats

Potential Impacts. A few native bat species have the potential to breed and rear their young on the project site. These include the Yuma myotis (*Myotis yumanensis*) and little brown myotis (*Myotis lucifugus*), both of which were observed on site by SFC during emergence and foraging surveys conducted in 2021 (SFC 2021), the pallid bat (*Antrozous pallidus*), Townsend's big-eared bat (*Corynorhinus townsendii*), and western red bat (*Lasiurus blossevillii*); the latter three are California Species of Special Concern. During the maternity season, typically April 15 to August 31, these species may roost, sometimes in large numbers, within the site's trees and snags.

Removal of trees and snags that contain maternity colonies could lead to the mortality of many bats, which would be considered a significant impact under CEQA.

The project will not result in a significant loss of roosting or foraging habitat for the pallid bat, Townsend's big-eared bat, and western red bat. Although a few potential roost trees may be removed, numerous similar trees and snags will remain available along the Mariposa Creek corridor and elsewhere in the project vicinity. The project site's foraging value for special status bats will remain virtually unchanged. Any bats that presently forage on site would be expected to continue to do so following project development.

Mitigation. The following measures will be implemented for the protection of maternity roosting bats.

> ***Mitigation 4.1.3a* (*Avoidance*).** To avoid potential impacts to maternity bat roosts, removal of mature trees and snags should occur outside of the period between April 15 and August 31, the time frame within which colony-nesting bats in the vicinity generally assemble, give birth, nurse their young, and ultimately disperse.
>
> ***Mitigation 4.1.3b* (*Pre-construction Surveys*).** If removal of mature trees and/or snags is to occur between April 15 and August 31, then within 10 days prior to their removal, a qualified biologist will survey them for the presence of bats. The biologist will look for individuals, guano, and staining, and will listen for bat vocalizations. If necessary, the biologist will wait for nighttime emergence of bats from roost sites.
>
> ***Mitigation 4.1.3c* (*Construction-Free Buffers*).** Should any active maternity bat roosts be discovered in trees or snags to be impacted, the biologist will identify a suitable construction-free buffer around the maternity roost. The buffer will be identified on the ground with flagging or fencing, and will be maintained until the biologist has determined that the nursery is no longer active.

Implementation of the above measures will reduce potential construction-related impacts to maternity roosting bats, including the pallid bat, Townsend's big-eared bat, and western red bat, to a less than significant level under CEQA.

4.2 LESS THAN SIGNIFICANT PROJECT IMPACTS

4.2.1 Potential Project Impacts to Special Status Plants

Potential Impacts. Eighteen special status plants are known from the project vicinity (see Table 1). Of these, two species, the slender-stalked monkeyflower and Madera leptosiphon, have some potential to occur in the site's riparian woodland habitat. This habitat is an asset and focal point of the Mariposa Creek Parkway and will be conserved to the maximum extent feasible. Moreover, the project includes a conservation strategy for special status plants that ensures that, if found on site, the slender-stalked monkeyflower and Madera leptosiphon will be protected in place as a preferred option, or salvaged on site if avoidance is not feasible (see Section 1.1). For these reasons, project impacts to the slender-stalked monkeyflower and Madera leptosiphon are considered less than significant under CEQA.

The remaining 16 special status plant species are considered absent from or unlikely to occur on the project site due to an absence of suitable habitat and/or soils, the site's being situated outside of the species' distribution, or a combination thereof (see Table 1). The project is not expected to adversely affect these species, either directly or indirectly, and impacts are considered less than significant under CEQA.

Mitigation. Mitigation measures are not warranted.

4.2.2 Potential Project Impacts to the Monarch Butterfly

Potential Impacts. The project site is located in an area where monarch butterflies are known to occur, and provides suitable habitat for this species. Narrow-leaf milkweed, a host plant for monarch reproduction, was observed on one of the site's vacant lots during LOA's July 2022 survey, and may occur elsewhere on site. Migrating adults may use the site's trees for roosting and its understory vegetation as a source of nectar. The project is unlikely to result in construction-related injury or mortality of adult monarchs because individuals of this volant life stage would presumably be able to avoid construction disturbance. The project is also unlikely to adversely affect this species through the loss of foraging or roosting habitat because project-related vegetation removal will be localized and small-scale, and considerable such habitat will remain available to monarchs following project implementation, both on- and off-site. The project

includes a conservation strategy that is geared toward the protection of monarch eggs, larvae, and pupae, which are inherently vulnerable to construction-related mortality due to their non-volant nature (see Section 1.1). The conservation strategy also ensures there will be no net loss of milkweed plants on the project site. For these reasons, project impacts to the monarch butterfly are considered less than significant under CEQA.

Mitigation. Mitigation measures are not warranted.

4.2.3 Project Impacts to Special Status Animal Species Absent from or Unlikely to Occur on the Project Site

Potential Impacts. Fifteen special status animals have been documented in the general vicinity of the project site, or are known to occur regionally (see Table 1). Of these, nine are considered absent or unlikely to occur on the site due to the absence of suitable habitat and/or the site's being situated outside of the species' known distribution. These species are the valley elderberry longhorn beetle (*Desmocerus californicus occidentalis*), California tiger salamander (*Ambystoma californiense*), limestone salamander (*Hydromantes brunus*), foothill yellow-legged frog (*Rana boylii*), Sierra Nevada yellow-legged frog (*Rana sierrae*), bald eagle (*Haliaeetus leucocephalus*), hardhead (*Mylopharodon conocephalus*), western spadefoot (*Spea hammondii*), and ringtail (*Bassariscus astutus*) (see Table 1). Because these species have no appreciable potential to occur on site, they are not expected to be affected by the project, directly or indirectly. Project impacts are considered less than significant under CEQA.

Mitigation. Mitigation measures are not warranted.

4.2.4 Project-Related Mortality of Special Status Animal Species that May Occur on the Project Site as Occasional or Regular Foragers but Breed Elsewhere

Potential Impacts. One special status animal, the spotted bat (*Euderma maculatum*), has the potential to forage on the site from time to time but would not breed on site or close enough to the site to be vulnerable to project-related disturbance at roosting locations (see Table 1). Individuals of this species are unlikely to be injured or killed by construction activities because they are highly mobile foragers and would be expected to simply avoid active work areas.

Mitigation. Mitigation measures are not warranted.

4.2.5 Potential Project Impacts to Riparian Habitat and other Sensitive Habitats

Potential Impacts. As discussed, the project site contains one sensitive natural community as classified by the VegCAMP system (CDFW 2021), the mixed riparian woodland habitat associated with Mariposa Creek. This woodland is an asset and focal point of the Mariposa Creek Parkway, and will be conserved to the maximum extent feasible. Moreover, the project includes a conservation strategy that will ensure that there is no net loss of riparian trees or shrubs of 4 inches DBH or greater (see Section 1.1). For these reasons, project impacts to riparian woodland habitat are considered less than significant under CEQA.

The project site does not contain or adjoin habitat designated for the protection of federally listed species. There will be no impacts to designated critical habitat.

Mitigation. Mitigation measures are not warranted.

4.2.6 Project Impacts to Wildlife Movement Corridors

Potential Impacts. As discussed in Section 2.8, Mariposa Creek is likely to function as an important movement corridor for aquatic and terrestrial wildlife. Construction activities along or near the creek may produce noise, vibration, and other stimuli that may temporarily disturb wildlife using this corridor. Terrestrial wildlife may shift their movements away from work areas; however, the creek's riparian woodland habitat is wide and well-developed, with opportunities for movement on either side of the channel, and it is expected that these species will continue to use the corridor during construction. Similarly, because no water diversions or other major disruptions of the creek's flow are planned, the wetted channel should continue to support the movements of aquatic wildlife while construction is occurring. Any impacts to this movement corridor would be temporary; after construction, both terrestrial and aquatic wildlife would be expected to continue to use the corridor as they do under pre-project conditions. For these reasons, potential project impacts to wildlife movement corridors are considered less than significant under CEQA.

Mitigation. Mitigation measures are not warranted.

4.2.7 Project Impacts to Jurisdictional Waters

Potential Impacts. Certain project elements may impact portions of Mariposa Creek that fall under the jurisdiction of the USACE, RWQCB, and/or CDFW. These impacts are expected to be localized and largely temporary, and in some cases may yield ecosystem benefits, as would be expected for planned restoration and native riparian planting activities. Although small areas of the creek may be modified by excavation, placement of "fill," and other activities, the project is not expected to affect the function and value of this aquatic resource, and project impacts to jurisdictional waters are considered less than significant under CEQA. However, proposed activities in the creek must be conducted in accordance with Clean Water Act Sections 404 and 401 and California Fish and Game Code Section 1602. The project applicant is advised to seek permitting from the USACE, RWQCB, and CDFW well in advance of any work in the channel.

Mitigation. Mitigation measures are not warranted.

4.2.8 Consistency with Local Policies and Ordinances

Potential Impacts. The project appears consistent with those goals and policies of the Mariposa Town Planning Area Specific Plan that pertain to biological resources.

Mitigation. Mitigation measures are not warranted.

4.2.9 Consistency with Habitat Conservation Plans and Natural Community Conservation Plans

Potential Impacts. There are no known HCPs or NCCPs in effect for the project vicinity.

Mitigation. Mitigation measures are not warranted.

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APPENDIX A: VASCULAR PLANT LIST

APPENDIX A
VASCULAR PLANTS OF THE PROJECT SITE

The plants species listed below were observed on the project site during LOA's March 11, 2019 and/or July 28, 2022 surveys. The U.S. Fish and Wildlife Service wetland indicator status of each plant, if available, has been shown following its common name.

OBL - Obligate
FACW - Facultative Wetland
FAC - Facultative
FACU - Facultative Upland
UPL - Upland

AGAVACEAE—Century-Plant Family		
Yucca sp.	Yucca	UPL
ANACARDIACEAE – Cashew Family		
Toxicodendron diversilobum	Poison Oak	FACU
APIACEAE – Carrot Family		
Sanicula bipinnatifida	Purple Sanicle	UPL
Torilis arvensis	Field Hedge Parsley	UPL
APOCYNACEAE – Dogbane Family		
Vinca sp.	Periwinkle	UPL
ARACEAE – Arum Family		
Lemna sp.	Duckweed	OBL
ASTERACEAE - Sunflower Family		
Artemisia douglasiana	Mugwort	FAC
Carduus pycnocephalus	Italian Thistle	UPL
Centaurea solstitialis	Yellow Star-thistle	UPL
Cirsium vulgare	Bull Thistle	FACU
Grindelia camporum	Common Gumplant	FACW
Lactuca serriola	Prickly Lettuce	FACU
Xanthium strumarium	Rough Cocklebur	FAC
BETULACEAE- Birch Family		
Alnus rhombifolia	White Alder	FACW
BRASSICACEAE- Mustard Family		
Brassica nigra	Black Mustard	UPL
Hirschfeldia incana	Short-pod Mustard	UPL
BUXACEAE – Box Family		
Buxus sp.	Boxwood	
CUPRESSACEAE – Cedar Family		
Calocedrus decurrens	Incense Cedar	UPL
Sequoia sempervirens	Coast Redwood	UPL
CYPERACEAE – Sedge Family		
Carex nudata	Torrent Sedge	OBL
Cyperus eragrostis	Tall Flatsedge	FACW

ERICACEAE – Heath Family		
Arctostaphylos viscida ssp. *mariposa*	Mariposa Manzanita	UPL
EUPHORBIACEAE – Spurge Family		
Croton setiger	Turkey Mullein	UPL
FABACEAE - Pea Family		
Cytisus scoparius	Scotch Broom	
Hoita macrostachya	California Hemp	OBL
Melilotus albus	White Sweetclover	UPL
Vicia sp.	Vetch	
Trifolium sp.	Clover	
Wisteria sp.	Wisteria	
FAGACEAE - Oak Family		
Quercus douglasii	Blue Oak	UPL
Quercus kelloggii	California Black Oak	UPL
Quercus lobata	Valley Oak	FACU
Quercus wislizeni	Interior Live Oak	UPL
GERANIACEAE - Geranium Family		
Erodium cicutarium	Red-stemmed Filaree	UPL
Geranium mole	Crane's Bill Geranium	UPL
HYDROPHYLLACEAE – Waterleaf Family		
Phacelia sp.	Phacelia	
JUNCACEAE- Rush Family		
Juncus effusus	Bog Rush	FACW
LAMIACEAE- Mint Family		
Lamium amplexicaule	Henbit	UPL
Marrubium vulgare	Horehound	FACU
Mentha spicata	Spearmint	FACW
MALVACEAE – Mallow Family		
Malva sp.	Mallow	UPL
MONTIACEAE- Miner's Lettuce Family		
Calandrinia ciliata	Red Maids	FACU
Claytonia perfoliata	Miner's Lettuce	FAC
OLEACEAE—Lilac Family		
Ligustrum sp.	Privet	
PAPAVERACEAE- Poppy Family		
Eschscholzia californica	California Poppy	UPL
PINACEAE- Pine Family		
Cedrus deodara	Deodar Cedar	UPL
Pinus sabiniana	Gray Pine	UPL
Pinus halepensis	Aleppo Pine	UPL
PLANTAGINACEAE- Plantain Family		
Plantago lanceolata	Ribwort Plantain	FAC
PLATANACEAE- Plane-tree family		
Platanus racemosa	California Sycamore	FAC
POACEAE - Grass Family		
Avena fatua	Wild Oats	UPL

Bromus diandrus	Ripgut Brome	UPL
Bromus madritensis	Foxtail Brome	UPL
Cynoserus echinatus	Hedgehog Dogtail	UPL
Hordeum murinum	Barnyard Barley	FACU
Polypogon monspeliensis	Annual Rabbitsfoot Grass	FACW
Stipa sp.	Needlegrass	UPL
PODOCARPACEAE – Yellow-wood Family		
Afrocarpus sp.	Afrocarpus	
POLYGONACEAE - Buckwheat Family		
Rumex crispus	Curly Dock	FAC
PORTULACAEAE – Purslane Family		
Portulaca oleracea	Common Purslane	FAC
RHAMNACEAE- Buckthorn Family		
Ceanothus cuneatus	Buckbrush	UPL
Rhamnus crocea	Spiny Redberry	UPL
ROSACEAE – Rose Family		
Cercocarpus betuloides	Birch-leaf Mountain Mahogany	UPL
Heteromeles arbutifolia	Toyon	UPL
Prunus sp.	Fruit tree species	
Rosa californica	California Wilde Rose	FAC
Rubus armeniacus	Himalayan Blackberry	FAC
SALICACEAE – Willow Family		
Populus fremontii	Fremont Cottonwood	UPL
Salix exigua	Narrowleaf Willow	FACW
Salix laevigata	Red Willow	FACW
SAPINDACEAE- Soapberry Family		
Aesculus californica	California Buckeye	UPL
SIMAROUBACEAE- Quassia Family		
Ailanthus altissima	Tree of Heaven	FACU
VITACEAE- Grape Family		
Vitis californica	California Grape	FACU
ZYGOPHYLLACEAE—Creosote-bush Family		
Tribulus terrestris	Puncturevine	UPL

APPENDIX B: TERRESTRIAL VERTEBRATE SPECIES THAT POTENTIALLY OCCUR ON THE PROJECT SITE

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TERRESTRIAL VERTEBRATE SPECIES THAT POTENTIALLY OCCUR ON THE PROJECT SITE

The species listed below are those that may reasonably be expected to use or pass through the habitats of the site. The list was not intended to include birds that are vagrants or occasional transients. Its purpose is rather to include those species that may be expected to routinely and predictably use or pass through the project site during some or all of the year. An asterisk denotes a species observed on or immediately adjacent to the site during surveys conducted for the current project by LOA on March 11, 2019 and/or July 28, 2022.

CLASS: AMPHIBIA
ORDER: SALIENTIA (Frogs and Toads)
FAMILY: BUFONIDAE
Western Toad (*Bufo boreas*)
FAMILY: HYLIDAE (Treefrogs and Relatives)
Sierra Treefrog (*Pseudacris sierra*)
ORDER: SALIENTIA (Frogs and Toads)
FAMILY: RANIDAE (True Frogs)
*Bullfrog (*Lithobates catesbeianus*)

CLASS: REPTILIA
ORDER: TESTUDINES
FAMILY: EMYDIDAE
Western Pond Turtle (*Emys marmorata*)
ORDER: SQUAMATA (Lizards and Snakes)
SUBORDER: SAURIA (Lizards)
FAMILY: PHRYNOSOMATIDAE
Western Fence Lizard (*Sceloporus occidentalis*)
Side Blotched Lizard (*Uta stansburiana*)
FAMILY: SCINCIDAE (Skinks)
Gilbert Skink (*Eumeces gilberti*)
FAMILY: TEIIDAE (Whiptails and relatives)
Western Whiptail (*Cnemidophorus tigris*)
FAMILY: ANGUIDAE (Alligator Lizards and Relatives)
Southern Alligator Lizard (*Elgaria multicarinata*)
SUBORDER: SERPENTES (Snakes)
FAMILY: COLUBRIDAE (Colubrids)
Ringneck Snake (*Diadophis punctatus*)
Gopher Snake (*Pituophis melanoleucus*)
Common Kingsnake (*Lampropeltis getulus*)
Common Garter Snake (*Thamnophis sirtalis*)
FAMILY: VIPERIDAE
Western Rattlesnake (*Crotalus viridis*)

CLASS: AVES

ORDER: ANSERIFORMES (Screamers, Ducks and Relatives)

FAMILY: ANATIDAE (Swans, Geese and Ducks)

Canada Goose (*Branta canadensis*)
Wood Duck (*Aix sponsa*)
Mallard (*Anas platyrhynchos*)
Common Merganser (*Mergus merganser*)

ORDER: GALLIFORMES (Megapodes, Currassows, Pheasants, and Relatives)

FAMILY: ODONTOPHORIDAE (New World Quail)

*California Quail (*Callipepla californica*)

FAMILY: PHASIANIDAE (Partridges, Grouse, Turkeys, and Old World Quail)

*Wild Turkey (*Melegris gallopavo*)

ORDER: COLUMBIFORMES (Pigeons and Doves)

FAMILY: COLUMBIDAE (Pigeons and Doves)

Rock Pigeon (*Columba livia*)
*Mourning Dove (*Zenaida macroura*)
*Eurasian Collared-Dove (*Streptopelia decaocto*)

ORDER: APODIFORMES (Swifts and Hummingbirds)

FAMILY: APODIFORMES (Swifts)

White-Throated Swift (*Aeronautes saxatalis*)

FAMILY: TROCHILIDAE (Hummingbirds)

*Anna's Hummingbird (*Calypte anna*)
Rufous Hummingbird (*Selasphorus rufus*)

ORDER: CHARADRIIFORMES (Plovers, Sandpipers, Gulls, and Terns)

FAMILY: CHARADRIIDAE (Plovers)

Killdeer (*Charadrius vociferus*)

ORDER: CICONIIFORMES (Herons, Storks, Ibises and Relatives)

FAMILY: ARDEIDAE (Herons and Egrets)

Great Blue Heron (*Ardea herodias*)

FAMILY: CATHARTIDAE (New World Vultures)

*Turkey Vulture (*Cathartes aura*)

ORDER: FALCONIFORMES (Vultures, Hawks, and Falcons)

FAMILY: ACCIPITRIDAE (Hawks, Old World Vultures, and Harriers)

Sharp-shinned Hawk (*Accipiter striatus*)
Cooper's Hawk (*Accipiter cooperi*)
Red-shouldered Hawk (*Buteo lineatus*)
Red-tailed Hawk (*Buteo jamaicensis*)

FAMILY: FALCONIDAE (Caracaras and Falcons)

American Kestrel (*Falco sparverius*)

ORDER: STRIGIFORMES (Owls)

FAMILY: TYTONIDAE (Barn Owls)

Barn Owl (*Tyto alba*)

FAMILY: STRIGIDAE (Typical Owls)

Western Screech Owl (*Otus kennicottii*)
Great Horned Owl (*Bubo virginianus*)

ORDER: CORACIIFORMES (Kingfishers and Relatives)

FAMILY: ALCEDINIDAE (Kingfishers)
Belted Kingfisher (*Ceryle alcyon*)
ORDER: PICIFORMES (Woodpeckers and Relatives)
FAMILY: PICIDAE (Woodpeckers and Wrynecks)
*Acorn Woodpecker (*Melanerpes formicivorus*)
Red-Breasted Sapsucker (*Sphyrapicus ruber*)
Nuttall's Woodpecker (*Dryobates nuttallii*)
Downy Woodpecker (*Dryobates pubescens*)
*Hairy Woodpecker (*Dryobates villosus*)
Northern Flicker (*Colaptes auratus*)
ORDER: PASSERIFORMES (Perching Birds)
FAMILY: TYRANNIDAE (Tyrant Flycatchers)
Western Wood-Pewee (*Contopus sordidulus*)
Pacific-Slope Flycatcher (*Empidonax difficilis*)
*Black Phoebe (*Sayornis nigricans*)
Say's Phoebe (*Sayornis saya*)
Ash-Throated Flycatcher (*Myiarchus cinerascens*)
*Western Kingbird (*Tyrannus verticalis*)
FAMILY: VIREONIDAE (Typical Vireos)
Hutton's Vireo (*Vireo huttoni*)
Warbling Vireo (*Vireo gilvus*)
FAMILY: CORVIDAE (Jays, Magpies, and Crows)
*Western Scrub Jay (*Aphelocoma californica*)
American Crow (*Corvus brachyrhynchos*)
*Common Raven (*Corvus corax*)
FAMILY: HIRUNDINIDAE (Swallows)
Violet-green Swallow (*Tachycineta thalassina*)
Northern Rough-winged Swallow (*Stelgidopteryx serripennis*)
Barn Swallow (*Hirundo rustica*)
Cliff Swallow (*Petrochelidon pyrrhonota*)
FAMILY: PARIDAE (Titmice and Relatives)
*Oak Titmouse (*Baeolophus inornatus*)
FAMILY: AEGITHALIDAE (Bushtit)
Bushtit (*Psaltriparus minimus*)
FAMILY: SITTIDAE (Nuthatches)
White-Breasted Nuthatch (*Sitta carolinensis*)
FAMILY: TROGLODYTIDAE (Wrens)
Bewick's Wren (*Thryomanes bewickii*)
House Wren (*Troglodytes aedon*)
FAMILY: REGULIDAE (Kinglets)
Ruby-Crowned Kinglet (*Regulus calendula*)
FAMILY: SYLVIIDAE (Old World Warblers and Gnatcatchers)
Blue-Gray Gnatcatcher (*Polioptila caerulea*)
FAMILY: TURDIDAE (Thrushes)
Western Bluebird (*Sialia mexicana*)
Hermit Thrush (*Catharus guttatus*)

*American Robin (*Turdus migratorius*)

FAMILY: TIMALIIDAE (Babblers)

Wrentit (*Chamaea fasciata*)

FAMILY: MIMIDAE (Mockingbirds and Thrashers)

*Northern Mockingbird (*Mimus polyglottos*)

FAMILY: STURNIDAE (Starlings and Allies)

European Starling (*Sturnus vulgaris*)

FAMILY: MOTACILLIDAE (Wagtails and Pipits)

American Pipit (*Anthus rubrescens*)

FAMILY: BOMBYCILLIDAE (Waxwings)

Cedar Waxwing (*Bombycilla cedrorum*)

FAMILY: PTILOGONATIDAE (Silky Flycatchers)

Phainopepla (*Phainopepla nitens*)

FAMILY: PARULIDAE (Wood Warblers and Relatives)

Orange-Crowned Warbler (*Vermivora celata*)

Yellow-Rumped Warbler (*Dendroica coronata*)

Black-Throated Gray Warbler (*Dendroica nigrescens*)

Common Yellowthroat (*Geothlypis trichas*)

FAMILY: EMBERIZIDAE (Emberizines)

*Spotted Towhee (*Pipilo maculatus*)

*California Towhee (*Pipilo crissalis*)

Lark Sparrow (*Chondestes grammacus*)

Savannah Sparrow (*Passerculus sandwichensis*)

Fox Sparrow (*Passerella iliaca*)

Song Sparrow (*Melospiza melodia*)

White-Crowned Sparrow (*Zonotrichia leucophrys*)

Golden-Crowned Sparrow (*Zonotrichia atricapilla*)

Dark-Eyed Junco (*Junco hyemalis*)

FAMILY: CARDINALIDAE (Cardinals, Grosbeaks and Allies)

Black-Headed Grosbeak (*Pheucticus melanocephalus*)

Blue Grosbeak (*Passerina caerulea*)

Lazuli Bunting (*Passerina amoena*)

FAMILY: ICTERIDAE (Blackbirds, Orioles and Allies)

Brewer's Blackbird (*Euphagus cyanocephalus*)

Brown-Headed Cowbird (*Molothrus ater*)

Bullock's Oriole (*Icterus bullockii*)

FAMILY: FRINGILLIDAE (Finches)

*House Finch (*Carpodacus mexicanus*)

*Lesser Goldfinch (*Carduelis psaltria*)

American Goldfinch (*Carduelis tristis*)

FAMILY: PASSERIDAE (Old World Sparrows)

*House Sparrow (*Passer domesticus*)

CLASS: MAMMALIA

ORDER: DIDELPHIMORPHIA (Marsupials)

FAMILY: DIDELPHIDAE (Opossums)

Virginia Opossum (*Didelphis virginiana*)

ORDER: INSECTIVORA (Shrews and Moles)

FAMILY: TALPIDAE (Moles)

Broad-footed Mole (*Scapanus latimanus*)

ORDER: CHIROPTERA (Bats)

FAMILY: VESPERTILIONIDAE (Vespertilionid Bats)

Yuma Myotis (*Myotis yumanensis*)
Long-eared Myotis (*Myotis evotis*)
Fringed Myotis (*Myotis thysanodes*)
California Myotis (*Myotis californicus*)
Little Brown Myotis (*Myotis lucifugus*)
Western Red Bat (*Lasiurus blossevillii*)
Hoary Bat (*Lasiurus cinereus*)
Big Brown Bat (*Eptesicus fuscus*)
Spotted Bat (*Euderma maculatum*)
Townsend's Big-eared Bat (*Corynorhynus townsendii*)
Pallid Bat (*Antrozous pallidus*)

FAMILY: MOLOSSIDAE (Free-tailed Bat)

Brazilian Free-tailed Bat (*Tadarida brasiliensis*)

ORDER: LAGOMORPHA (Rabbits, Hares, and Pikas)

FAMILY: LEPORIDAE (Rabbits and Hares)

Brush Rabbit (*Sylvilagus bachmani*)
Audubon's Cottontail (*Sylvilagus audubonii*)
Black-Tailed Jackrabbit (*Lepus californicus*)

ORDER: RODENTIA (Squirrels, Rats, Mice, and Relatives)

FAMILY: SCIURIDAE (Squirrels, Chipmunks, and Marmots)

*California Ground Squirrel (*Spermophilus beecheyi*)
*Western Gray Squirrel (*Sciurus griseus*)

FAMILY: GEOMYIDAE (Pocket Gophers)

Botta's Pocket Gopher (*Thomomys bottae*)

FAMILY: CRICETIDAE (Deer Mice, Voles, and Relatives)

California Pocket Mouse (*Perognathus californicus*)
Western Harvest Mouse (*Reithrodontomys megalotis*)
California Mouse (*Peromyscus californicus*)
Deer Mouse (*Peromyscus maniculatus*)
Brush Mouse (*Peromyscus boylii*)
House Mouse (*Mus musculus*)
Meadow Vole (*Microtus californicus*)
*Dusky-footed Woodrat (*Neotoma fuscipes*)

ORDER: CARNIVORA (Carnivores)

FAMILY: CANIDAE (Foxes, Wolves, and Relatives)

Coyote (*Canis latrans*)
Gray Fox (*Urocyon cinereoargenteus*)

FAMILY: PROCYONIDAE (Raccoons and Relatives)

Raccoon (*Procyon lotor*)

FAMILY: MUSTELIDAE (Weasels, Badgers, and Relatives)
Long-tailed Weasel (*Mustela frenata*)
FAMILY: MEPHITIDAE
Striped Skunk (*Mephitis mephitis*)
FAMILY: FELIDAE
Feral Cat (*Felis catus*)
Mountain Lion (*Felis concolor*)
Bobcat (*Felis rufus*)
FAMILY: CERVIDAE (Deer, Elk and Relatives)
*Mule Deer (*Odocoileus hemionus*)

APPENDIX C: REPRESENTATIVE PHOTOS OF THE PROJECT SITE

Photos 1 (above) and 2 (below). Mixed riparian woodland habitat associated with the project site's reach of Mariposa Creek.

Photos 3 (above) and 4 (below). Riverine habitat associated with the project site's reach of Mariposa Creek.

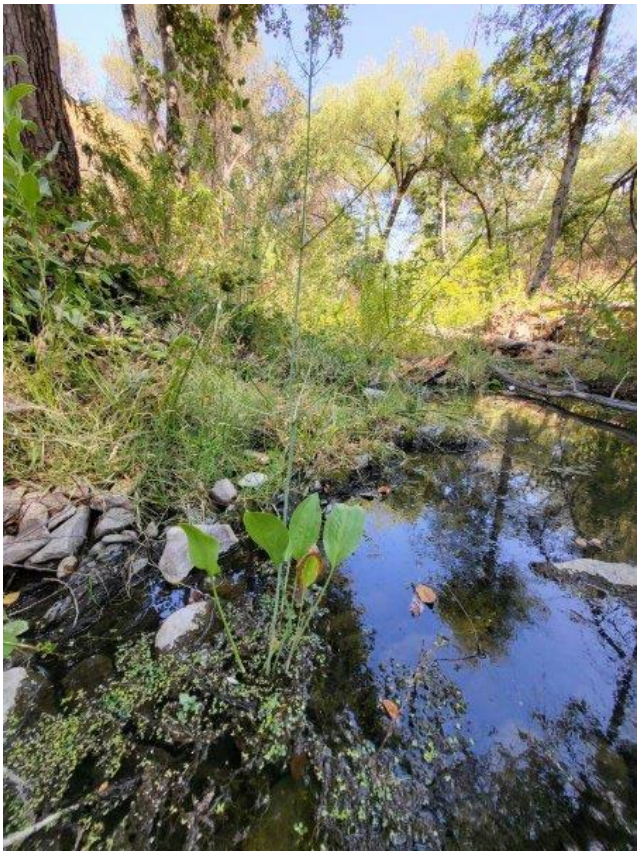

Photo 5 (above). Existing creekside trail within the Phase III improvement area, with the creek corridor visible at left. **Photo 6 (below).** Ruderal/developed lands near east end of the Phase III improvement area.

Photo 7 (above). Ruderal/developed lands near east end of the Phase III improvement area. **Photo 8 (below).** Ruderal/developed lands associated with 11th Street Paseo improvement area.

Photo 9 (above). Ruderal/developed lands associated with Jessie Street improvement area.

Appendix C: Phase I Cultural Resources Survey

PHASE I CULTURAL RESOURCES SURVEY FOR THE MARIPOSA PARKWAY PROJECT, MARIPOSA COUNTY, CALIFORNIA

Prepared for:

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PN 36510.22

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MANAGEMENT SUMMARY

An intensive Phase I survey was conducted for the Mariposa Parkway Project (Project), Mariposa County, California. The Project is located in the town of Mariposa in an unsectioned portion of the Las Mariposas Land Grant. ASM Affiliates, Inc., conducted this study, with Peter A. Carey, M.A., RPA, serving as Principal Investigator. The study was undertaken to assist with compliance with the California Environmental Quality Act (CEQA). The study area for the Project totals approximately 11.8-acres (ac) located between 8th Street and Joe Howard Street.

A records search of site files and maps was conducted at the Central California Archaeological Information Center (IC), California State University, Stanislaus. A Sacred Lands File (SLF) search request was also submitted to the Native American Heritage Commission (NAHC). These investigations determined that three previous surveys had been conducted within the Project study area and thirteen previous surveys had been conducted within a 0.25-mile (mi) radius of the study area. There are three resources known to exist within the Project study area and 48 resources known to exist within a 0.25-mi radius. A search of the SLF by the NAHC indicated that no tribal cultural resources were known to exist within the study area. Mariposa County sent outreach letters by certified mail on 29 July 2022 to tribes on the NAHC contact-list. Follow-up emails were sent to the tribes on 15 September 2022. As of the writing of this report, no responses have been received.

The Phase I survey fieldwork was conducted in August and October 2022 with parallel transects spaced at 15-meter (m) intervals walked across the approximately 11.8-ac study area. The study area includes approximately 0.4-mi of Mariposa Creek and a 0.2-mi connecting corridor of existing rights-of-way along Highway 49 (Central Yosemite Highway).

The three previous resources known to exist within the study area are P-22-001393 (milling station), P-22-002016 (historic district), and P-22-002068 (mining features and refuse). Of those three previously recorded resources, P-22-001393 could not be located due to heavy vegetation overgrowth; no elements of P-22-002016 (historic district) were identified within the study area, and elements of P-22-002068 recorded within the study area were found to have been destroyed. Two newly identified cultural resources were recorded during the survey and given the temporary field designations MARIPOSA-SITE-1 (prehistoric milling stations) and MARIPOSA-SITE-2 (historic-era water conveyance features).

Since the location of site P-22-001393 could not be accessed to confirm its presence or absence due to vegetation overgrowth, it is recommended that the recorded site location be avoided and preserved in place. If avoidance is not possible, it is recommended that a qualified archaeologist monitor vegetation clearing in the area and update the site if it is identified. If the site is relocated and cannot be avoided, it is recommended the site be subject to a formal evaluation for eligibility to the California Register of Historical Resources (CRHR).

It is recommended that MARIPOSA-SITE-1 be avoided and preserved in place. To ensure the site is avoided, it is recommended that project activities do not occur within 10-m of the site boundary.

If avoidance by project design is not possible, it is recommended that the site be subject to a formal evaluation for eligibility to the CRHR.

Site MARIPOSA-SITE-2 is recommended as not eligible for inclusion in the CRHR due to a lack of integrity and research potential. Any development or use of the site location will not have an adverse effect on significant or unique historical resources.

With the avoidance of sites P-22-001393 and MARIPOSA-SITE-1, any proposed future use or development within the 11.8-ac study area does not have the potential to result in adverse impacts to unique or significant historical resources. A determination of no significant impacts for cultural resources is therefore recommended. It is further recommended that, in the unlikely event that cultural resources are encountered during any construction or use of the study area, a qualified archaeologist be contacted to assess the discovery.

1. INTRODUCTION AND REGULATORY CONTEXT

ASM Affiliates, Inc., was retained by the Provost and Pritchard Consulting Group to conduct an intensive Phase I cultural resources survey for the Mariposa Parkway Project, Mariposa County, California. The study was undertaken to assist with compliance with the California Environmental Protection Act (CEQA). The investigation was conducted, specifically, to ensure that significant impacts or adverse effects to historical resources or historic properties do not occur as a result of Project construction.

This current study included:

- A background records search and literature review to determine if any known cultural resources were present in the project zone and/or whether the area had been previously and systematically studied by archaeologists;
- An on-foot, intensive inventory of the study area to identify and record previously undiscovered cultural resources and to examine known sites; and,
- A preliminary assessment of any such resources found within the subject property.

Peter A. Carey, M.A., RPA, served as Principal Investigator and Robert Azpitarte, B.A., ASM Associate Archaeologist, conducted the fieldwork for this study.

This document constitutes a report on the Phase I survey. Subsequent chapters provide background to the investigation, including historic context studies; the findings of the archival records search; Native American outreach; a summary of the field surveying techniques employed; and the results of the fieldwork. We conclude with management recommendations for the study area.

1.1 PROJECT LOCATION

The Project is located in Mariposa, in an unsectioned portion of the Las Mariposas Land Grant. Mariposa is located approximately 36-mi northeast of Merced and 27-mi northwest of Oakhurst. This places it in the western slopes of the Sierra Nevada Foothills. More specifically, the Project study area is located at the intersection of Highway 49 and Highway 140. Mariposa is a smaller incorporated, urban population center with an outlying low-density rural housing community that surrounds the Project location.

1.2 PROJECT DESCRIPTION AND STUDY AREA

The Project study area includes approximately 0.4-mi of Mariposa Creek and a 0.2-mi connecting corridor of existing right-of-way (ROW) along Highway 49 (Central Yosemite Highway). The project will include adjacent, undeveloped portions of land located between 8th Street to Joe Howard Street and developed land (paved) along Highway 49. The study area totals approximately 11.8-ac and will include an existing section of a creek-side trail from 8th Street to Joe Howard Street, located on the west side of Mariposa Creek. The County of Mariposa Public Works Department seeks to extend this previous section of creek-side trail from 8th Street to Joe Howard

Street, making a connection from the County Park to local businesses and a future transit center. The study area includes all construction, staging, and lay-down areas for the project.

1.3 REGULATORY CONTEXT

1.3.1 California Environmental Quality Act

CEQA is applicable to discretionary actions by state or local lead agencies. Under CEQA, lead agencies must analyze impacts to cultural resources. Significant impacts under CEQA occur when "historically significant" or "unique" cultural resources are adversely affected, which occurs when such resources could be altered or destroyed through project implementation. Historically significant cultural resources are defined by eligibility for or by listing in the CRHR. In practice, the federal NRHP criteria (below) for significance applied under Section 106 are generally (although not entirely) consistent with CRHR criteria (see PRC § 5024.1, Title 14 CCR, Section 4852 and § 15064.5(a)(3)).

Significant cultural resources are those archaeological resources and historical properties that:

(A) Are associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

(B) Are associated with the lives of persons important in our past;

(C) Embody the distinctive characteristics of a type, period, region, or method of construction, or represent the work of an important creative individual, or possess high artistic values; or

(D) Have yielded, or may be likely to yield, information important in prehistory or history.

Unique resources under CEQA, in slight contrast, are those that represent:

> An archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:
>
> (1) Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.
>
> (2) Has a special and particular quality such as being the oldest of its type or the best available example of its type.
>
> (3) Is directly associated with a scientifically recognized important prehistoric or historic event or person (PRC § 21083.2(g)).

Preservation in place is the preferred approach under CEQA to mitigating adverse impacts to significant or unique cultural resources.

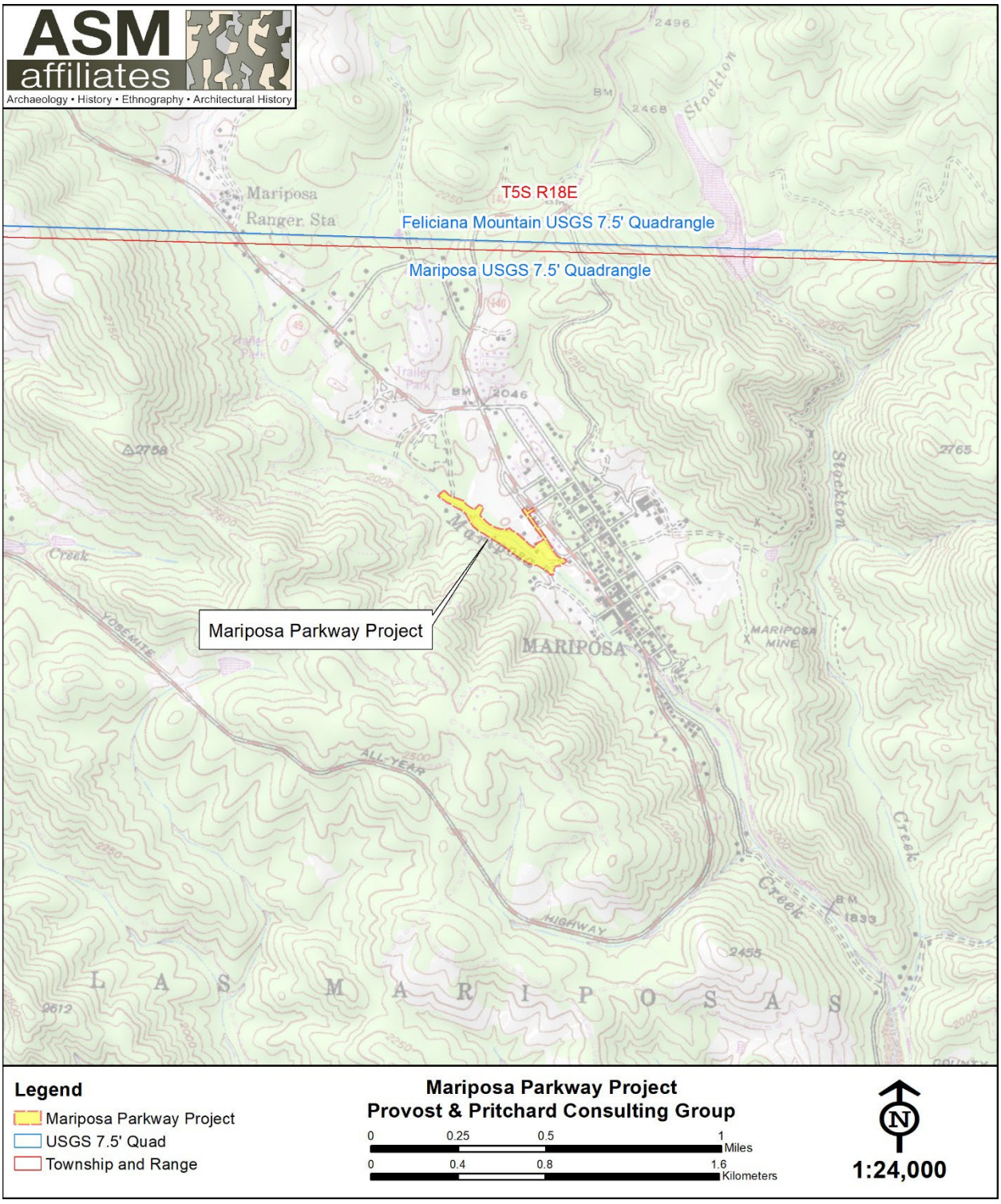

Figure 1. Location of the Mariposa Parkway Project Study Area, Mariposa County, California.

2. ENVIRONMENTAL AND CULTURAL BACKGROUND

2.1 ENVIRONMENTAL BACKGROUND

The Project location, in southwestern Mariposa County, is in the western foothills of the Sierra Nevada at an elevation of about 1,950 feet (ft) above mean seal level (amsl). In pre-contact times this general area appears to have been transitional from the Valley Grasslands to the Oak Woodlands biotic communities (cf. Schoenherr 1992). It would have been characterized by a variety of species of bunch grasses within a low cover canopy of live oak. Historic ranching has resulted in the elimination of most of the indigenous grasses, however, with undeveloped landscape currently covered with introduced grasses among the still-standing oaks.

2.2 ETHNOGRAPHIC BACKGROUND

Mariposa is located within the territory of the Southern Sierra Miwok (alternatively Me-Wuk or Miwuk). The Sierra Miwok, members of the Penutian language group (Levy 1978), occupied the territory between the Mokelumne and Fresno rivers, as well as the full width of the west slope of the Sierra Nevadas, from the edge of the Central Valley to the Sierra crest (Moratto 1984:290).

The socio-political structure of the Southern Sierra Miwoks is based on the patrilineal joint family acting as an independent autonomous political unit (Kroeber 1925; Levy 1978). The men of the lineage remained at their ancestral home, bringing their wives to live with them, and sending their daughters and sisters to their husbands' homes. The patriarch, as head of the unit, was chief. Chieftainship was normally passed down directly from father to eldest son. As a land-owning group, the lineage-maintained lands to be shared in common by all members of the family unit.

The Sierra Miwok lived in permanent settlements of "10 or 15 to several hundred people," usually on the southern exposure of ridges or knolls and close to water sources (Moratto 1984:290). The larger, main villages generally consisted of family dwellings, acorn granaries, bedrock mortars, a sweat house, a headman's house, and a ceremonial structure. The main villages were usually surrounded by smaller settlements related by kinship and economic ties to the primary village.

Dwellings were conical, ranging from 8 to 15 feet in diameter, and covered by slabs of cedar bark, or bark from other conifers (Levy 1978). Each dwelling had a shallow dirt fireplace in its center for warmth and light. Most cooking was done in the earth oven located next to the fire. The oven was often a simple pit, 12 to 18 inches deep by as many inches wide. Food was cooked, baked, or steamed by placing hot stones among the cooking items; acorn bread, greens, bulbs, corms (short, thick, solid, food-storing underground stems), meat, and fish.

Subsistence was gained by harvesting plants, hunting, and fishing (Moratto 1984:290). Important staple items included black and golden oak acorns, buckeye nuts, and pine nuts. Additionally, snares, traps, nets, and bow and arrows were used to hunt mule deer, pronghorn, black bear, rabbits,

quail, and pigeons. Salmon, trout, suckers, whitefish, and sturgeon were caught by hook, net, trap, poison, and captured by hand.

The influx of outsiders to the central Sierra region during the Gold Rush period resulted in a major disruption for the Miwoks and their way of life. Within a decade, introduced diseases, environmental damage, and cultural conflicts with the outsiders had decimated much of the population. Despite this calamity, some tribal members managed to survive and have continued their cultural traditions.

2.3 PRE-CONTACT ARCHAEOLOGICAL BACKGROUND

The prehistory of the Sierra Nevada Mountains has been described in detail by Moratto (1984) who places Mariposa and the nearby Yosemite Valley in the central Sierran archaeological subregion, encompassing the watersheds of the Cosumnes, Mokelumne, Calaveras, Stanislaus, Tuolumne, Merced, Chowchilla, and Fresno rivers (1984:288). Evidence indicates that Yosemite Valley has been inhabited for as long as 4,000 to 6,000 years before present (YBP). In addition, archaeological sites in the vicinity of El Portal indicate that the Merced River canyon may have been inhabited as early as 9,500 years ago (NPS 2000). Substantial additional evidence of early occupation is found in the central valley, especially to the southwest around Tulare Lake, where a number of sites are known to date to the *Paleoindian Period*, circa 12,500 to 9,000 YBP.

Less evidence for early occupation has then been found at higher elevations, off the valley floor, a circumstance which may be due to preservation issues or potentially the changing nature of land-use during early pre-contact times. In general terms at least occasional use of the Sierra and foothills occurred during the *Early* and *Middle Archaic*, circa 9,000 to 4,000 YBP, as signaled by discoveries of characteristic projectile points or spear points. Substantial occupation had occurred by the *Late Archaic* (4000 to 1500 YBP) and *Late Prehistoric* (1500-150 YBP) periods, however. Moratto (1984) has defined a cultural sequence for these periods at the Buchanan Reservoir/Eastman Lake, about 12-mi due south of Catheys Valley, that is pertinent to the Project location.

Moratto's *Chowchilla Phase* (2300 YBP to 1700 YBP) is characterized by a few relatively large villages near rivers, with a corresponding large population size. Subsistence appears to have followed a generalized hunting and gathering pattern with little specialization. Trade occurred both with Great Basin groups to the east, and the lowland populations in the Central Valley to the west. This phase appears to represent a widespread expansion of populations across many California environments and an increase in population size which occurred during the Late Archaic period in many parts of the state (Whitley 2000). At least initially, this was associated with (and may have been at least partly influenced by) favorable climatic conditions at the beginning of this period, known as the Mid-Holocene Optimum.

The *Raymond Phase* (1700 YBP – 500 YBP) experienced a diminution in villages and population sizes and a fall-off in trade, but an increasing reliance on acorn processing in subsistence practices. This phase appears to correlate with sub-optimal climatic conditions that started with the so-called Medieval Climatic Anomaly, which was a period of drought, followed by the Little Ice Age, characterized by colder temperatures.

The *Madera Phase* (500 YBP – 150 YBP) represents the lifeways recorded for the Miwok ethnographically. It was marked large villages near rivers with smaller settlements dispersed in the hinterlands, large population size, intensive exploitation of the acorn, and the appearance of Brownware ceramics.

2.4 HISTORICAL BACKGROUND

Some of the earliest nonindigenous explorations of the Sierra Nevada mountains include Euro American explorers and fur trappers such as Jedediah Smith, Kit Carson, and Joseph Walker. The earliest of these nonindigenous expeditions and explorations took place in 1827 with Jedediah Smith and continued into the 1840s with small group expeditions trekking across the Sierra Nevada. Cartographers and explorers continued to explore the Sierra Nevada throughout the late nineteenth and early twentieth centuries, with Yosemite Valley becoming the first federally protected region of the Sierra in 1864 (Farquhar 1925).

The discovery of gold in northern California in 1848 resulted in a dramatic increase in population, consisting of a good portion of fortune seekers and gold miners who began to scour other parts of the state. After 1851, when gold was discovered in the Sierra Nevada mountains in eastern Kern County, the area's population snowballed. In California in 1848, with the exclusion of indigenous inhabitants, the population was 10,000 residents, and in just over five years, that number increased to 250,000 residents (Dilsaver 1983). Some new immigrants began ranching in the San Joaquin Valley to supply the miners and mining towns. Ranchers grazed cattle and sheep, and farmers dry-farmed or used limited irrigation to grow grain crops, leading to the creation of small agricultural communities throughout the valley (JRP Historical Consulting 2009).

The general area that would become Mariposa was originally encountered in September 1806 during the expedition of Lieutenant Gabriel Moraga of the Mexican Army, which bestowed the name Las Mariposas (The Butterflies) on the region because of the incredible number of Monarch butterflies they encountered. The Merced River, El Rio Nuestra Senora de la Merced (The River of Our Lady of Mercy), also was named by Lieutenant Moraga when he and his soldiers had just completed a 40-mile march (Cook 1960). The first American to make a mark in Mariposa County history was the frontier explorer, John C. Frémont. In 1847, Thomas O. Larkin inadvertently purchased the Rancho Las Mariposas instead of Rancho Santa Cruz for Frémont from the Mexican government. Frémont was at first upset with the accidental purchase of this seemingly worthless, isolated Indian land that lacked any farms or ranchlands; however, he changed his tune when gold was discovered the following year. Mariposa turned out to be at the southern end of the mother lode and settlers soon inundated the area (Yosemite 2022).

Mariposa was originally founded as a mining camp on Agua Fría Creek approximately 6-mi west of present-day Mariposa. The town was moved to its current location in 1850 due to dwindling gold returns in Agua Fría Creek and frequent fires and flooding. The Frémont adobe, built as Frémont’s office in 1850, was one of the first permanent structures in the new town that would become the county seat of Mariposa County the following year. The Mariposa courthouse was constructed in 1854 and is still in operation (Durham 1998). The town has many additional structures, a few of which are the Mariposa Meat Market (1859), the Bogan Building (1850s), the

International Order of Oddfellow's (I.O.O.F.) Hall (1855), and the Capitol Saloon (1867). The Masonic Hall was constructed in 1851 and after fires in 1858 and 1866, the hall was rebuilt again in 1917. It has been recently renovated. The present-day Mariposa Hotel was originally Gallison's Hotel housed in the Stolder Building from 1877 until it burned in 1887. It was rebuilt in 1901. (Gallucci n.d.).

While tourism has played a part in the economy of Mariposa since the 1870s, it wasn't until the route now known as Highway 140 was completed in 1926 that it really took off. For the first time, Yosemite travelers were passing through the heart of Mariposa. At the same time, the increasing affordability of automobiles meant that more people than ever were able to travel at their leisure (Yosemite 2022). Tourism still plays a major role in Mariposa's economy, with over 50 percent of the population employed in tourism related industries (DataUSA 2020).

3. ARCHIVAL RECORDS SEARCH

3.1 ARCHIVAL RECORDS SEARCH

In order to determine whether the study area had been previously surveyed for cultural resources, and/or whether any such resources were known to exist on any of them, an archival records search was conducted by the staff of the Central California Information Center (IC) on 14 June 2022. The records search was completed to determine: (i) if prehistoric or historical archaeological sites had previously been recorded within the study areas; (ii) if the project area had been systematically surveyed by archaeologists prior to the initiation of this field study; and/or (iii) whether the region of the field project was known to contain archaeological sites and to thereby be archaeologically sensitive. Records examined included archaeological site files and maps, the NRHP, Historic Property Data File, California Inventory of Historic Resources, and the California Points of Historic Interest.

According to the ICs record search, Records Search File No. 12208M, three surveys had been conducted within the study area (Table 1) and three cultural resources had been recorded within the study area (Table 2). An additional 13 studies had been completed within a 0.25-mi radius of the study area (Table 3), resulting in the recording of forty-eight cultural resources within that radius (Table 4). The records search and a map of previous reports and recorded cultural resources in and around the study area are presented in Confidential Appendix A.

Table 1. Survey Reports within the Mariposa Parkway Project Study Area

Report No.	Year	Author (s)/Affiliation	Title
MP-02227	1982	R. Mendershausen/ Mariposa County Historical Society	Historic Survey Project, Mariposa, California, March 1, 1981 to April 30, 1982, Final Completion Report (Mariposa County)
MP-04301	2001	S. Davis-King/ Davis-King & Associates for Mariposa County Dept. of Public Works	Historic Resources Survey Report (Positive) for the Mariposa Creek Parkway Phase 2 Pedestrian Improvements, Mariposa County, California
MP-08827	2018	J. Brady/ CalTrans	Finding of No Adverse Effect for the Mariposa Crosswalks Project, Mariposa County, California; 10-MPA-140, PM 21.20/22.80, EA:10-0Y600; Project ID 1300 0244

Table 2. Resources within the Project Study Area

Primary #	Type	Description
P-22-001393	Site	Bedrock mortar
P-22-002016	District	Mariposa Historic District
P-22-002068	Site	Mining features and refuse

Table 3. Survey Reports within the 0.25-mi of the Study Area

Report No.	Year	Author (s)/Affiliation	Title
MP-00537	1990	S. Page/ Susan E. Page	Negative Archaeological Survey Report, District 10, Mariposa County, Highway 49 Widening Project
MP-02796	1996	L.K. Napton/ L.K. Napton	Negative Archaeological Survey Report, 10-MP-Joe Howard-Fournier Road, Mariposa County
MP-04007	2000	R.S. Levy, E. Wulf, T. Keefe/ CalTrans District 10	Archaeological Survey Report for the Storm Damage Restoration Project on California State Highway 140 in Mariposa County, CA 10-MPA-140, KP 54.72-83.36 (PM 34.1/51.8)
MP-04700	2001	C.I. Busby/ Basin Research Associates & William Kostura, Historian	Historic Property Survey Report for Four Proposed Yosemite Area Regional Transportation System (YARTS) Staging Areas on State Route 140: Colorado Road, Midpines Post Office, Triangle Road, and State Route 49 Miners Inn, in Mariposa County
MP-06707	2008	D.M. Varner/ Varner Associates, for Lawson Construction	A Cultural Resource Study of Vacant Parcels in the Town of Mariposa, Mariposa County, California
MP-07346	2010	S. March/ Sierra National Forest High Sierra Ranger District	Mariposa Storage Shed Demolition; a Sierra National Forest Project Funded through the American Recovery and Reinvestment Act of 2009; Heritage Resource Management Report, R2010051551030
MP-07415	2001	T. Phillips/ Mariposa Historical Society	The Fremont Adobe: The Oldest Building in Mariposa. The Mariposa Sentinel, Vol. 44, No. 4: 5
MP-08710	2018	A. Whitaker, A. Ugan & T. Hildebrandt/ Far Western Anthropological Research Group, Inc. for Caltrans District 10	Director's Orders Hazard Tree Removal Survey and Site Assessment along State Routes 49 and 140, Mariposa County, California, EA 10-1G430
MP-08917	2018	H. Dallas & D. Ruzicka/ CalFire	An Archaeological Survey and Site Report for the Detwiler Incident in Mariposa County, California
MP-09011	2019	S.M. Hudlow/ Hudlow Cultural Resource Associates	A Phase I Cultural Resources Survey for Self-Help Enterprises, Mariposa Village Apartments, Mariposa, Mariposa County, California
MP-09112	2018	A. Ugan & A. Whitaker/ Far Western Anthropological Research Group, Inc. for Caltrans District 10	Archaeological Survey Report. 2018 Hazard Tree Removal Project, State Route 120, District 10, Tuolumne and Mariposa Counties, California
MP-09112A	2018	A. Parker and A. Whitaker/ Far Western Anthropological Research Group, Inc. for Caltrans District 10	Cultural Resources Monitoring Report. Hazard Tree Removal Project, State Route 140, District 10, Tuolumne and Mariposa Counties, California
MP-09112B	2019	A. Whitaker/ Far Western Anthropological Research Group, Inc. for Caltrans District 10	Historic Property Survey Report for CalTrans Hazard Tree Removal Project, District 10, Segment 2: Tuolumne Mariposa Counties, California, State Routes 108, 120 and 140; E-FIS 10-1800-0018, EA 10-1F6423 [Survey Area Extends in Alpine County]

Table 4. Resources within the 0.25-mi of the Study Area

Primary #	Type	Age
P-22-002017	Building	Historic
P-22-002018	Building	Historic
P-22-002067	Site	Prehistoric
P-22-002298	Building	Historic
P-22-002307	Building	Historic
P-22-002312	Building	Historic

Primary #	Type	Age
P-22-002320	Building	Historic
P-22-002322	Building	Historic
P-22-002329	Site	Multicomponent
P-22-002346	Building	Historic
P-22-002350	Building	Historic
P-22-002354	Building	Historic
P-22-002356	Building	Historic
P-22-002362	Building	Historic
P-22-002379	Building	Historic
P-22-002380	Building	Historic
P-22-002382	Building	Historic
P-22-002384	Building	Historic
P-22-002388	Building	Historic
P-22-002389	Building	Historic
P-22-002390	Building	Historic
P-22-002391	Building	Historic
P-22-002392	Building	Historic
P-22-002394	Building	Historic
P-22-002396	Building	Historic
P-22-002397	Building	Historic
P-22-002398	Building	Historic
P-22-002408	Building	Historic
P-22-002414	Building	Historic
P-22-002418	Building	Historic
P-22-002420	Building	Historic
P-22-002421	Building	Historic
P-22-002423	Building	Historic
P-22-002425	Building	Historic
P-22-002427	Building	Historic
P-22-002428	Building	Historic
P-22-002429	Building	Historic
P-22-002434	Building	Historic
P-22-002438	Building	Historic
P-22-002439	Building	Historic
P-22-002440	Building	Historic
P-22-002441	Building	Historic
P-22-002454	Building	Historic
P-22-002462	Building	Historic
P-22-002464	Building	Historic
P-22-002465	Building	Historic
P-22-003200	Building	Historic

3.2 TRIBAL OUTREACH

A search of the SLF by the NAHC was completed for the Project on 21 July 2022. The results of the search indicated that no known sacred sites or tribal cultural resources were located within the study area. Mariposa County sent outreach letters by certified mail on 29 July 2022 to the tribes listed on the NAHC contact list. Follow-up emails were sent to the tribes on 15 September 2022. No responses have been received as of the writing of this report. The SLF results and the outreach documentation are provided in Confidential Appendix A.

4. METHODS AND RESULTS

4.1 FIELD METHODS

An intensive Phase I survey of the Project study area was conducted by ASM Associate Archaeologist Robert Azpitarte, B.A., in August and October 2022. The field methods employed included intensive pedestrian examination of the ground surface for evidence of archaeological sites in the form of artifacts, surface features (such as bedrock mortars, historical mining equipment), and archaeological indicators (e.g., organically enriched midden soil, burnt animal bone); the identification and location of any discovered sites, should they be present; tabulation and recording of surface diagnostic artifacts; site sketch mapping; preliminary evaluation of site integrity; and site recording, following the California Office of Historic Preservation Instructions for Recording Historic Resources, using DPR 523 forms. Parallel survey transects spaced at 15-m apart were employed for the inventory.

4.2 SURVEY RESULTS

The Mariposa Parkway Project study area includes approximately 0.4-mi of Mariposa Creek (Figure 2) and a 0.2-mi connecting corridor of existing ROW along Highway 49 (Central Yosemite Highway; Figure 3). The project will include adjacent, undeveloped portions of land located between 8th Street to Joe Howard Street and developed land (paved) along Highway 49. The study area includes an existing section of a creek-side trail from 8th Street to Joe Howard Street, located on the west side of Mariposa Creek. At the time of the current survey the involved segment of Mariposa Creek was dry, with short sections of standing water noted mainly on the northeast.

Modern refuse (e.g., plastics, paper products, clothing, cans, bottles, building materials, wood debris) was observed along the entire stretch of Mariposa Creek within the study area. Vegetation in the area consists of Southern Sierra riparian flora and seasonal grasses. Heavy vegetation, primarily on the northeast end of the project, impeded effective survey in certain places. Visibility within the study area varied from poor to excellent.

The IC results indicated that three previous resources were known to exist within the study area: P-22-001393 (milling station), P-22-002016 (historic district), and P-22-002068 (mining features and refuse). Of the three previously recorded resources, P-22-001393 was inaccessible at the time of the survey due to overgrowth; no elements of P-22-002016 (historic district) were identified within the study area, and the portion of P-22-002068 within the study area was found to have been destroyed. Two new resources were identified during the Phase I survey and given the temporary field designations MARIPOSA-SITE-1 and MARIPOSA-SITE-2. MARIPOSA-SITE-1 consists of numerous bedrock mortar (BRM) features and a single petroglyph panel. MARIPOSA-SITE-2 consists of multiple water conveyance features.

More detailed information on the above sites is presented below. All site photographs and GIS location and sketch maps are provided in Confidential Appendix B. Note that no updates were performed on P-22-001393 and P-22-002016. A site record update for P-22-002068 was created to document that the site has been partially destroyed.

Figure 2. Project study area, looking south.

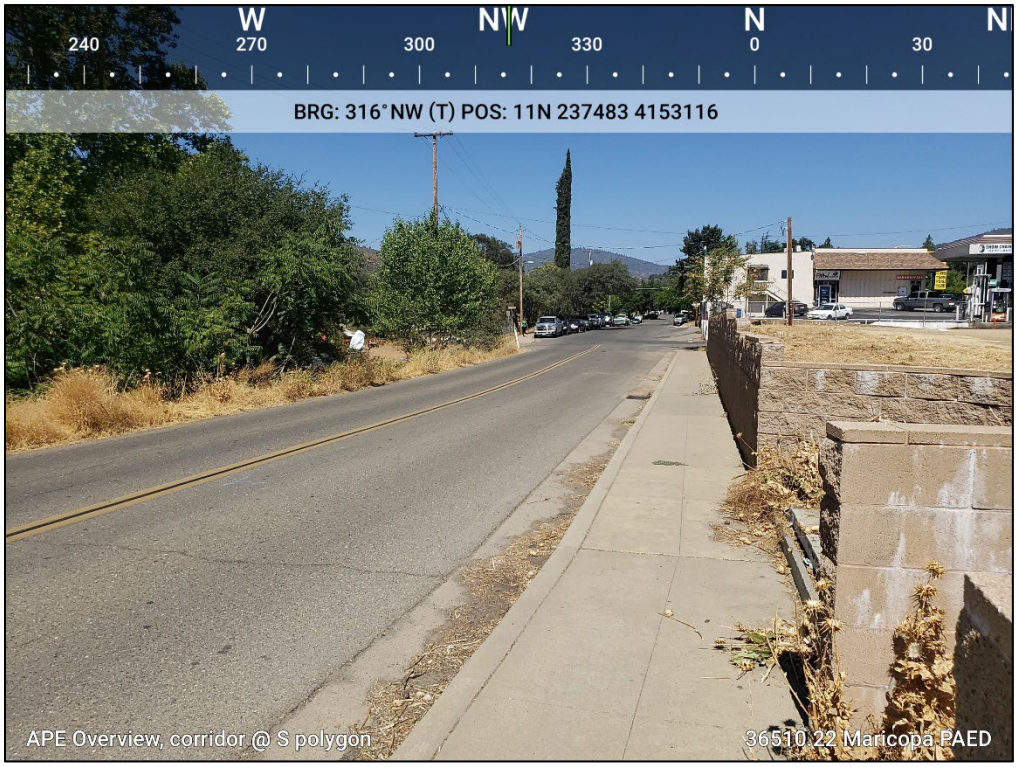

Figure 3. Project study area, looking northwest.

4.2.1 Previously Recorded Sites

P-22-001393/CA-MRP-1099

The resource consists of a bedrock milling feature with a single BRM situated on the north bank of Mariposa Creek. This site was originally identified by Mr. Mark Rowny (Mariposa Public Utilities) on an unknown date and subsequently recorded by Dr. L.K. Napton (CSUS) in 1991.

During the Phase I survey, the site area was completely overgrown with thornbush and could not be accessed. The resource may still exist within the overgrowth; however, unless the vegetation is cleared there is no way to properly investigate the area.

P-22-002016 (Town of Mariposa Historic District)

The resource consists of the Town of Mariposa Historic District. The district extends roughly between Highway 140 (Charles Street) and Jones Street, and 4th Street though 11th Street. The district was initially recorded in 1980 (J. Pitti and A. Castaneda) as part of a Chicano/Latino Survey. In 1982, B. Schroeder and R. Mendershausen completed a Historic Sites Survey of the district, and it was later revisited in 1990 (R. Mendershausen) as part of the Mariposa County Historic Resource Survey. In 1991, the Town of Mariposa Historic District was inducted into National Register of Historic Places at a state level.

ASM investigated a small portion of the district which falls within the current study area. This area is located immediately east of Jessie Street and west of Central Yosemite Highway between physical address 5106 (Don Ruben's Mexican Restaurant) and 5102 (Mariposa Smoke Shop). No historic buildings or features were observed within this portion of the study area.

P-22-002068

The resource consists of placer mining encampments and remains along Mariposa Creek. This site was originally recorded in 1997 (California Department of Transportation) and later updated in 2001 (Davis- King & Associates). A portion of the site had originally been recorded at Ben Hur Road on California State Highway 49. It was reported to consists of mining tailings, “Chinese and Mormon encampments, and a historic trash deposit.” In 2001, Davis- King & Associates updated the site to include “placer mining waste rock mixed with alluvium immediately adjacent to the town of Mariposa” along Stroming Road. Davis-King & Associates did not identify historic site remains at that time and reported severe alterations to the site resulting from building and road construction.

An investigation of the existing site record suggests that a small portion of the site once existed on the southeast end of the current Project study area at the point where Stroming Road turns into 8th Street. A concrete trail has been constructed on the west side of Stroming Road since the last recordation, effectively destroying any potential site constituents between the road and Mariposa Creek. ASM revisited the small portion of the site within the current study area and did not observe any historic artifacts or features. The site no longer exists within the Project study area.

4.2.2 Newly Recorded Sites

MARIPOSA-SITE-1

The resource consists of bedrock milling site with a petroglyph panel situated along Mariposa Creek. The site vicinity is overgrown and difficult to access. The accessible portion of the site measures 28-m (northwest-southeast) by 10-m (northeast-southwest) and is situated at an elevation of 1,978-ft amsl.

The site is comprised of eight identified features consisting of six bedrock milling stations (Feature 1, Feature 2, Feature 5- Feature 8), a petroglyph panel (Feature 3) and a very short linear rock alignment (Feature 4). The site is situated immediately beneath a man-made earthen embankment with a slope of 40 degrees. The embankment is the result of grading for the site of Pioneer Market, which occurred between 1983 and 1984.

Table 5. MARIPOSA-SITE-1 Feature Designations, Dimensions, and Descriptions

Feature No.	Dimensions	Description
Feature 1	180-cm (N-S) x 120 (E-W) x 80 cm tall	Tiered BRM milling feature on a single metavolcanic boulder. The top tier has two BRM's that measure: (1) 12-cm diameter x 4-cm deep; and (2) 10-cm diameter x 2.5-cm deep. The bottom tier also has two BRM's which measure: (1) 12-cm x 8.5-cm deep; and (2) 10-cm diameter x 4-cm deep. An Owens-Illinois glass bottle base was identified within the largest BRM on the bottom tier of the feature. The bottle base displays the date code "9" and plant code "20," indicating that the bottle base was manufactured in either Brackinridge, PA (c. 1930-1940), or Oakland, CA (1936-present) (Lockhart and Hoenig 2015).
Feature 2	180-cm N-S x 160-cm E-W by 180-cm tall.	Tiered BRM milling feature on a large metavolcanic boulder complex with nine BRMs identified. The top tier has six BRM's that measure: (1) 20-cm diameter x 25-cm deep; (2) 15-cm diameter x 13-cm deep; (3)13-cm diameter x 8-cm deep; (4) 9-cm diameter x 1.5-cm deep; (5) 4-cm diameter x 1-cm deep; and (6) 4-cm diameter x 1.5-cm deep. The bottom tier has three BRM's that measure: (1) 20-cm diameter x 25-cm deep; (2) 14-cm diameter x 8-cm deep; and (3) 8-cm diameter x 5-cm deep. The boulder is covered with heavy vegetation and thorns and additional BRMs may be present.
Feature 3	95-cm (N-S) x 150 (E-W)	Small petroglyph panel on a single metavolcanic boulder. At least 11 moderately deep incisions were noted in an area measuring 20-cm x 17-cm. No BRMs were identified on the boulder containing the petroglyph panel. Moss partially covered the incisions at the time of this study and other incisions may be present.
Feature 4	55-in x 15-in	Short linear rock wall between two short boulders. The wall is approximately three courses tall and is comprised of locally available stone. A small, rusted piece of crimped stove pipe sheet metal was observed on the feature. The purpose of this feature is unknown.
Feature 5	110-cm (N-S) x 130-cm (E-W) x 50-cm tall	Low metavolcanic boulder immediately west of Feature 3 containing at least two shallow BRMs. The two BRMs measure 4-cm diameter by 1.5-cm deep and 4-cm diameter by 2-cm deep.
Feature 6	65-cm (N-S) x 85-cm (E-W) x 45-cm tall	Low metavolcanic boulder immediately west of Feature 2 with at least one cupule. The visible cupule measures 3.5-cm diameter x 0.5-cm deep.
Feature 7	300-cm (N-S) x 250-cm (E-W)	Low metavolcanic outcrop within the Mariposa Creek bed with at least three moderately deep BRMs. From north to south the BRMs measure 15-cm diameter x 17-cm deep; 12-cm diameter x 8-cm deep; and 15-cm diameter by 12-cm deep. A natural crack in the outcrop was utilized to form the BRMs.
Feature 8	70-cm (N-S) x 90-cm (E-W) x 30-cm tall	Low metavolcanic boulder within the Mariposa Creek bed with one visible BRM. The BRM measures 10-cm diameter x 2.5-cm deep.

As noted above, the site is located immediately below Pioneer Market near the western side parking lot. As such, the site has been exposed to decades refuse dumping from upslope. The presence of a historic bottle base within one of the BRMs (Feature 1) also suggests a historic presence at the site. Evidence of a very recent encampment (e.g., cardboard box bedding, water bottles, etc.) was noted immediately north of Feature 7. Additional encampments and activities (e.g., burn pits, refuse piles, etc.) were noted just downstream (southeast) of the site along Mariposa Creek. The site as a whole is in fair condition, while the features themselves are in good condition.

At the time of the survey, the ground surface in the site vicinity was almost entirely covered by grasses and vegetation. Areas where the ground surface could be seen (e.g., disturbed areas, rodent holes, etc.) were intensively investigated to identify any surface artifacts. Despite this effort, no artifacts were identified. However, it is likely that artifacts are present given the site type.

Based on the features present, the site likely represents a processing and/or a habitation locale. The presence of the petroglyph panel and at least one cupule suggests the site may also have served a ceremonial or spiritual purpose. It is difficult to ascertain the age of the site in the absence of temporally diagnostic artifacts; however, based on the presence of numerous BRMs, common in acorn and seed processing sites, the site presumably dates to the *Raymond Phase* (1700 YBP– 500 YBP) or *Madera Phase* (500 YBP – 150 YBP).

MARIPOSA-SITE-2

The resource consists of water conveyance and possible mining features situated along Mariposa Creek and within the town of Mariposa. The site measures 97-ft (northwest-southeast) by 62-ft (northeast-southwest) and is situated at an elevation of 1,952-ft amsl. The site is in good condition.

The site is comprised of four identified features consisting of a linear water conveyance feature (Feature 1), a small concrete basin (Feature 2) and a short rock retaining wall (Feature 3). An abundance of modern refuse from was noted in the area. Recent burn piles were noted just southeast of basin.

Table 6. MARIPOSA-SITE-2 Feature Designations, Dimensions, and Descriptions

Feature No.	Dimensions	Description
Feature 1	96-ft long by 2-ft wide and between 1-ft and 3-ft deep	Linear water conveyance feature comprised of locally available stone and cement with no additional structural components (e.g., milled wood). The drain source is a heavily overgrown culvert at the base of an adjacent hill just northeast of the site. The feature terminates at Mariposa Creek.
Feature 2	18-ft long by 7-ft wide and 3-ft deep	Small concrete basin. The stem walls are approximately 6-in thick and are partially buried by adjacent slope deposits. No external components (i.e., pipes) were identified attached to the basin.
Feature 3	15-ft long by 4.5-ft tall	Short retaining wall comprised of locally available stone and cement. The retaining wall supports the terrace on which F2 (concrete basin) exists. The wall is partially buried and overgrow and be longer than the visible extent. Small segments of pipe and concrete were noted atop this feature.

The features no longer serve their primary purpose of water conveyance and they have evidently been out of use for a significant amount of time. The site, and the features specifically, have fallen

into disrepair and many parts are covered by vegetation, brush, or sediment. The site is in poor condition.

The exact age of the features is unknown; however, according to USGS topographic quadrangles, historic aerials, and Google Earth, portions of the site appear in place by mid-20th century. It is possible that the water conveyance features may have been associated with mining or the formation of Mariposa; however, a positive association is impossible to make since many of the presumed connecting features have since been destroyed, removed, and built upon. The only association that can be made is the association with local water conveyance and storage at some point in the past.

5. SUMMARY AND RECOMMENDATIONS

An intensive Phase I survey was conducted in August and October 2022 for the Mariposa Parkway Project study area, Mariposa, Mariposa County, California. A records search was conducted at the Central California Archaeological Information Center, California State University, Stanislaus. This indicated that only a small portion of the study area had previously been surveyed and that three cultural resources were known to exist within it. A search of the NAHC SLF was also conducted and the results were negative for sacred sites or tribal cultural resources. Outreach letters and follow-up emails were sent to tribes on the contact list and no responses have been received.

The IC results indicated that three previous resources were known to exist within the study area: P-22-001393 (milling station), P-22-002016 (historic district), and P-22-002068 (mining features and refuse). Of the three previously recorded resources, P-22-001393 was inaccessible at the time of the survey due to overgrowth, no elements of P-22-002016 (historic district) were identified within the study area, and the portion of P-22-002068 within the study area was found to have been destroyed. Two new resources were identified during the Phase I survey and given the temporary field designations MARIPOSA-SITE-1 and MARIPOSA-SITE-2. MARIPOSA-SITE-1 consists of numerous bedrock mortar (BRM) features and a single petroglyph panel. MARIPOSA-SITE-2 consists of multiple water conveyance features.

5.1 RECOMMENDATIONS

Since the location of site P-22-001393 could not be accessed due to vegetation overgrowth to confirm its presence or absence, it is recommended that the recorded site location be avoided and preserved in place. If avoidance is not possible, it is recommended that a qualified archaeologist monitor vegetation clearing in the area and update the site if it is identified. If the site is relocated and cannot be avoided, it is recommended the site be subject to a formal evaluation for eligibility to the California Register of Historical Resources (CRHR).

It is recommended that MARIPOSA-SITE-1 be avoided and preserved in place. To ensure the site is avoided, it is recommended that project activities do not occur within 10-m of the site boundary. If avoidance by project design is not possible, it is recommended that the site be subject to a formal evaluation for eligibility to the California Register of Historical Resources (CRHR).

Site MARIPOSA-SITE-2 is recommended as not eligible for inclusion in the CRHR due to a lack of integrity and research potential. Any development or use of the site locations will not have an adverse effect on significant or unique historical resources.

With the avoidance of sites P-22-001393 and MARIPOSA-SITE-1, any proposed future use or development within the 11.8-ac study area does not have the potential to result in adverse impacts to unique or significant historical resources. A determination of no significant impacts for cultural resources is therefore recommended. It is further recommended that, in the unlikely event that cultural resources are encountered during any construction or use of the study area, a qualified archaeologist be contacted to assess the discovery.

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CONFIDENTIAL APPENDICES

Appendix D: Aquatic Resources Delineation

LIVE OAK
ASSOCIATES, INC.

AQUATIC RESOURCES DELINEATION
MARIPOSA CREEK PARKWAY PROJECT
MARIPOSA COUNTY, CALIFORNIA

Prepared by:

LIVE OAK ASSOCIATES, INC.

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EXECUTIVE SUMMARY

Live Oak Associates, Inc. (LOA) conducted a delineation of aquatic features on an approximately 20-acre site ("study area") upon which certain components of the Mariposa Creek Parkway Project and 11th Street Paseo Graphic Enhancement Project will be implemented. The study area is located in the unincorporated community of Mariposa in Mariposa County, California.

Background information for the delineation was gathered during a March 2019 reconnaissance-level survey. The delineation was formally conducted over two additional site visits, one in June 2021 and the other in July 2022. The June 2021 survey targeted an approximately 18-acre portion of the current study area, while the July 2022 survey targeted an additional area of approximately 2 acres that was incorporated into the project. During the delineation surveys, field investigators examined the study area for aquatic features and gathered vegetation, soils and hydrology data at sampling locations within and adjacent to such features.

One aquatic resource, Mariposa Creek, was identified and delineated within the study area. This feature was delineated based on the boundaries of ordinary high water indicators. Aquatic resource boundaries mapped during LOA's field investigation total approximately 81,999 square feet or 1.88 acres.

Areas outside the boundaries of the delineated aquatic resource consisted of mixed riparian woodland habitat and ruderal/developed lands such as roads, parking lots, a county park, and several vacant lots.

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1.0 INTRODUCTION

This technical report presents the results of an aquatic resources delineation conducted by Live Oak Associates, Inc. (LOA) within an approximately 20-acre area ("study area") in the town of Mariposa, California. The study area is proposed for various improvements under the Mariposa Creek Parkway Project and 11th Street Paseo Graphic Enhancement Project. It is located northwest of State Route (SR) 140 and southeast of Joe Howard Street (Figure 1), and may be found in Township 5 South, Range 18 East of Rancho Las Mariposas, Mount Diablo Base and Meridian (Figure 2).

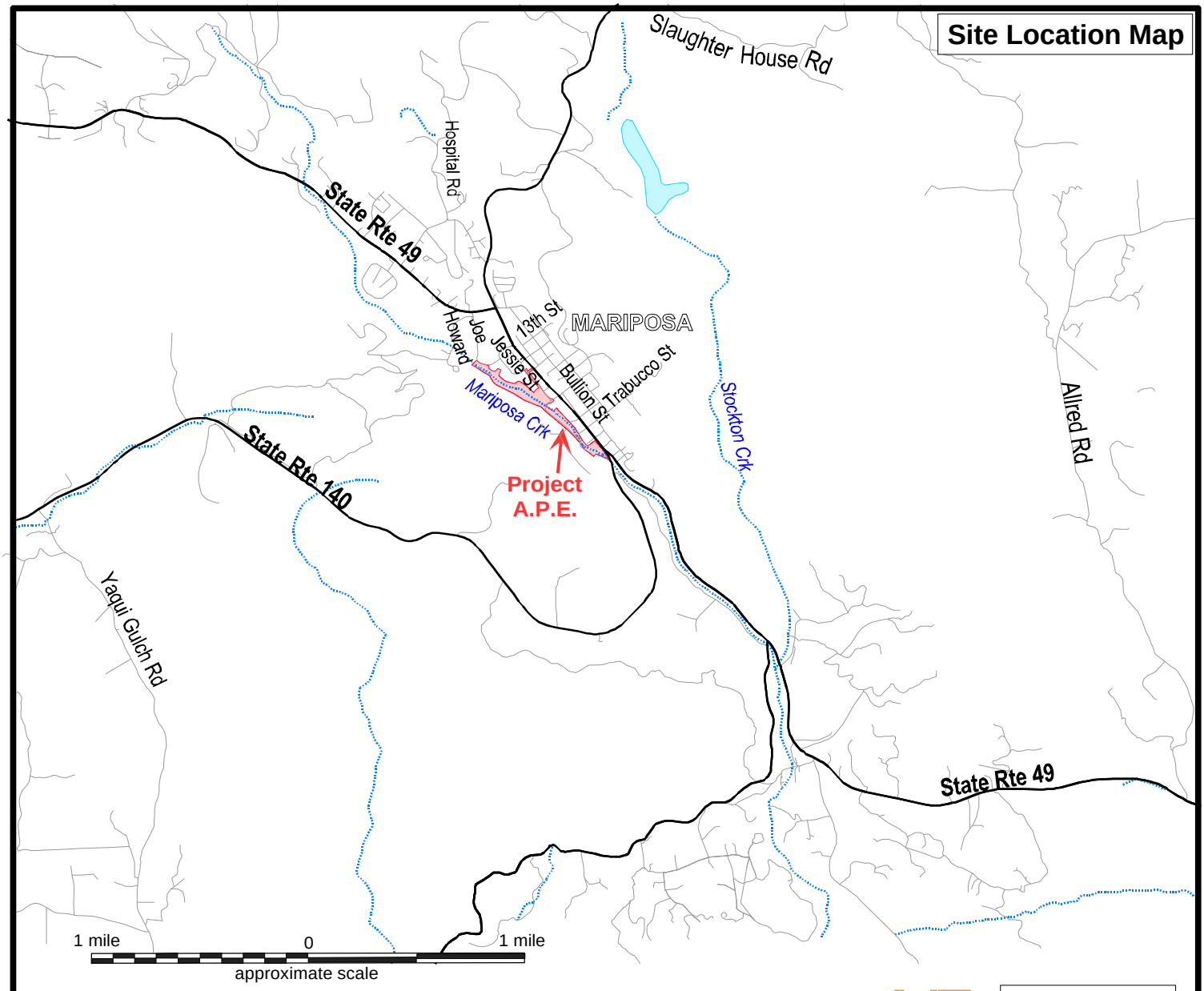
1.1 REGULATORY DEFINITION OF WATERS OF THE U.S.

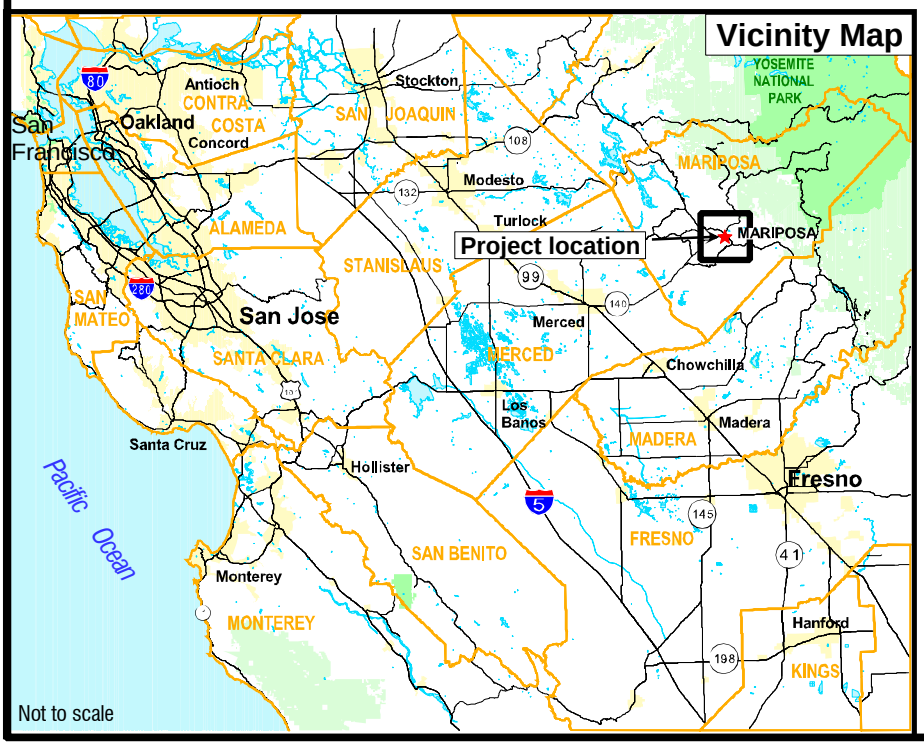
Section 404 of the federal Clean Water Act (CWA) regulates the discharge of dredged or fill material into "navigable waters" (33 U.S.C. §1344), defined in the CWA as "the waters of the United States, including the territorial seas" (33 U.S.C. §1362(7)). The CWA does not supply a definition for waters of the U.S., and that has been the subject of considerable debate since the CWA's passage in 1972. A variety of regulatory definitions have been promulgated by the two federal agencies responsible for implementing the CWA, the Environmental Protection Agency (EPA) and USACE. These definitions have been interpreted, and in some cases, invalidated, by federal courts.

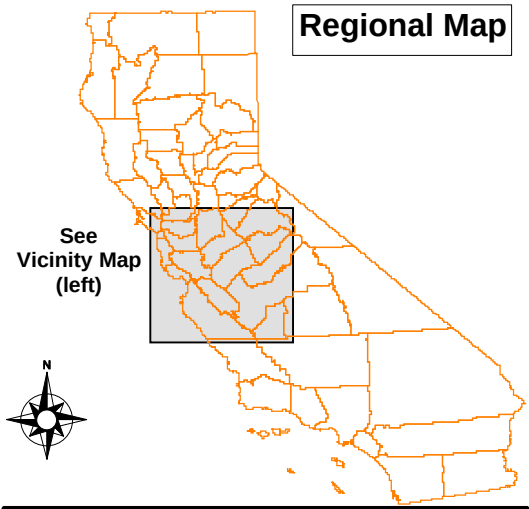
Most recently, waters of the U.S. were defined by the Navigable Waters Protection Rule (NWPR). The new rule was published in the Federal Register on April 21, 2020 and took effect on June 22, 2020. However, on August 30, 2021, in the case of *Pascua Yaqui Tribe v. U.S. Environmental Protection Agency*, the U.S. District Court for the District of Arizona vacated and remanded the NWPR. In light of this order, the EPA and USACE have halted implementation of the NWPR and, until further notice, are interpreting "waters of the United States" consistent with the pre-2015 regulatory regime.

The interpretation of waters of the U.S. prior to 2015 generally included:

Site Location Map







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Mariposa Creek Parkway A.R.D.

Site / Vicinity Map

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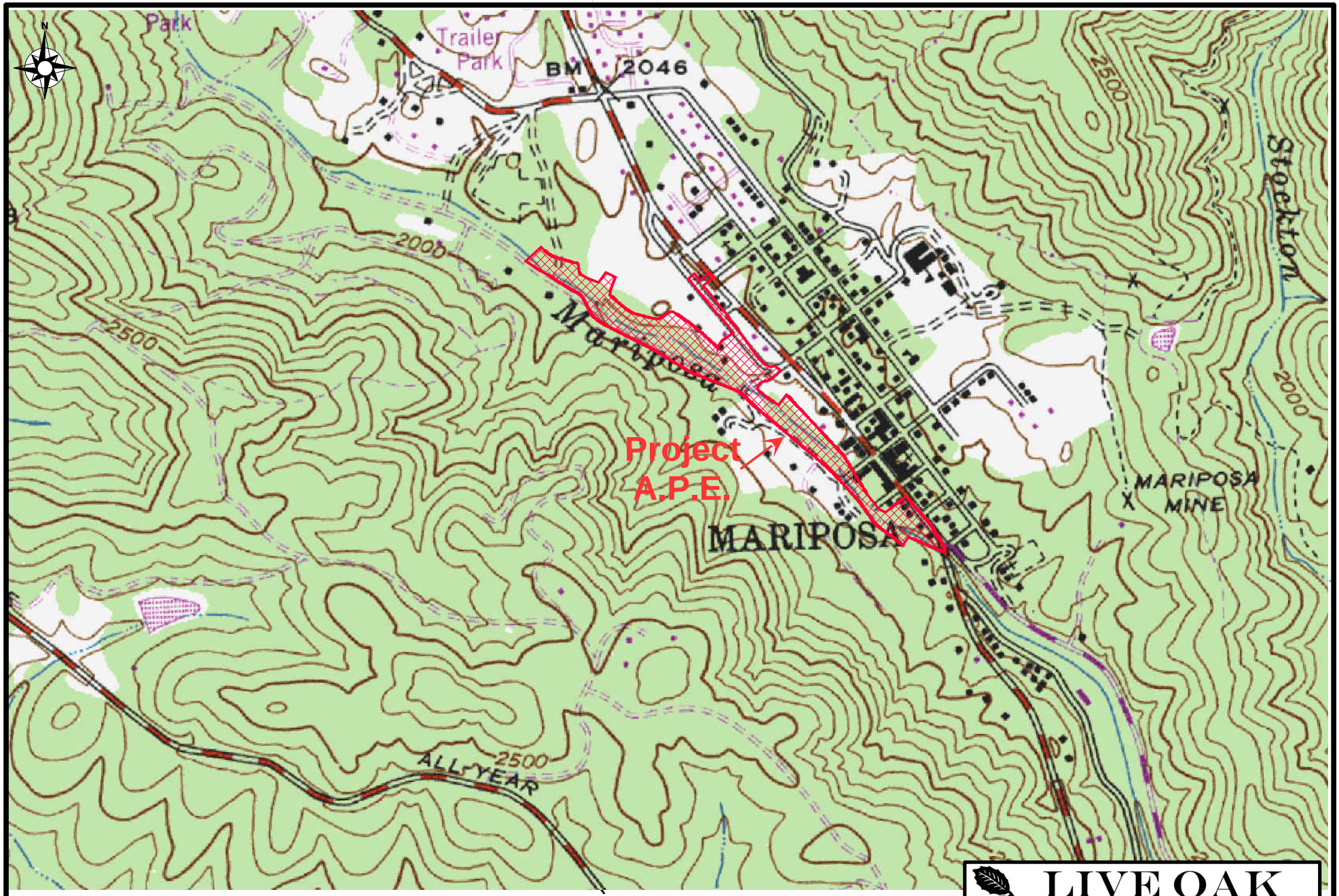

1/2 mile 0 1/2 mile

approximate scale

From USGS
Mariposa 7.5' Quadrangle 1981

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Mariposa Creek Parkway A.R.D.

U.S.G.S. Quadrangle

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- All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide.

- All interstate waters including interstate wetlands.

- All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce.

- All impoundments of waters otherwise defined as waters of the United States under the definition.

- Tributaries of waters identified in the bulleted items above.

As determined by the United States Supreme Court in its 2001 *Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers* (SWANCC) decision, channels and wetlands isolated from other jurisdictional waters cannot be considered jurisdictional on the basis of their use, hypothetical or observed, by migratory birds. Similarly, in its 2006 consolidated *Carabell/Rapanos* decision, the U.S. Supreme Court ruled that a significant nexus between a wetland and other navigable waters must exist for the wetland itself to be considered a jurisdictional water.

All activities that involve the discharge of dredge or fill material into waters of the U.S. are subject to Section 404 permit requirements of the USACE. Such permits are typically issued on the condition that the applicant agrees to provide mitigation that result in no net loss of wetland functions or values. No permit can be issued until the Regional Water Quality Control Board (RWQCB) issues a Section 401 Water Quality Certification (or waiver of such certification) verifying that the proposed activity will meet state water quality standards.

1.2 STATE OF CALIFORNIA JURISDICTION OVER AQUATIC FEATURES

Under the Porter-Cologne Water Quality Control Act of 1969, the State Water Resources Control Board has regulatory authority to protect the water quality of all surface water and groundwater in the State of California ("Waters of the State"). Nine RWQCBs oversee water quality at the local and regional level. The RWQCB for a given region regulates discharges of fill or pollutants into waters of the State through the issuance of various permits and orders. Discharges into waters of the State that are also waters of the U.S. require a Section 401 Water Quality Certification from the RWQCB as a prerequisite to obtaining certain federal permits, such as a Section 404 Clean Water Act permit. Discharges into all Waters of the State, even those that are not also waters of the U.S., require Waste Discharge Requirements (WDRs), or waivers of WDRs, from the RWQCB. The RWQCB also administers the Construction Storm Water Program and the federal National Pollution Discharge Elimination System (NPDES) program. Projects that disturb one or more acres of soil must obtain a Construction General Permit under the Construction Storm Water Program. A prerequisite for this permit is the development of a Storm Water Pollution Prevention Plan (SWPPP) by a certified Qualified SWPPP Developer. Projects that discharge wastewater, storm water, or other pollutants into a water of the U.S. may require a NPDES permit.

CDFW has jurisdiction over the bed and bank of natural drainages and lakes according to provisions of Section 1601 and 1602 of the California Fish and Game Code. Activities that may substantially modify such waters through the diversion or obstruction of their natural flow, change or use of any material from their bed or bank, or the deposition of debris require a Notification of Lake or Streambed Alteration. If CDFW determines that the activity may adversely affect fish and wildlife resources, a Lake or Streambed Alteration Agreement will be prepared. Such an agreement typically stipulates that certain measures will be implemented to protect the habitat values of the lake or drainage in question.

2.0 METHODS

LOA conducted three field surveys in support of this aquatic resources delineation. First, on March 11, 2019, LOA ecologist Jeff Gurule conducted a reconnaissance-level survey of the study area. The objective of this survey was to identify and characterize the study area's biotic habitats and generally note the presence of sensitive resources, including waters and wetlands. This survey was followed by a field delineation of aquatic resources, conducted by Mr. Gurule and LOA ecologist Arren Allegretti on June 24, 2021. These initial surveys targeted an approximately 18-acre portion of the current study area. When an additional 2-acre area was incorporated into the project, a follow-up delineation survey became necessary. This was conducted by LOA ecologist Colleen Del Vecchio on July 28, 2022.

The two delineation surveys were conducted on foot, and were aided by information collected by Mr. Gurule in 2019, GIS files of the study area projected over aerial photography, and a 1-ft contour topographic map generated from a digital terrain model created from drone flights over the study area in 2019. Aquatic resource boundaries, where accessible, were mapped to sub-meter accuracy using an EOS Arrow 100 GPS receiver paired with a mobile device running the ESRI Collector app. Some portions of the study area were inaccessible due to impenetrable thickets of Himalayan blackberry (*Rubus armeniacus*) (FAC) and/or steep terrain. Where access was problematic, a variety of data collection methods were used including an estimation of channel width where the channel was inaccessible but visible from the top of bank, collecting individual boundary points with the GPS receiver at accessible areas, and walking the centerline of the channel with the GPS unit while estimating widths at regular intervals where the center channel was accessible but overhanging blackberry vines inhibited access to the edge of the channel.

LOA's survey was consistent with guidelines found in the *Corps of Engineers Wetland Delineation Manual* (Environmental Laboratory 1987), *Minimum Standards for Acceptance of Aquatic Resources Delineation Reports* (USACE 2016), and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (USACE 2008).

2.1 SURVEY METHODS FOR DETERMINING AREAS MEETING THE TECHNICAL CRITERIA OF WETLANDS

Wetlands are defined as "those areas that are inundated or saturated by surface or ground water at a frequency and duration to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas" (Environmental Laboratory 1987). The diagnostic environmental characteristics of wetlands include hydrophytic vegetation, hydric soils and a hydrology characterized by an aquic or peraquic moisture regime. Accordingly, LOA surveyed the site for wetland indicator plants, positive indicators of hydric soils, and wetland hydrology.

Three sampling locations were selected within the investigation area to assess and collect vegetation, hydrology and soils information associated with observed hydrologic features and adjacent upland areas. The location of the sample points was selected to best represent the predominant characteristics of the hydrologic feature(s) or upland area(s). This information was entered onto standard data sheets patterned after those used by the USACE for the Arid West Region. The data sheet for each numbered sampling location can be found in Appendix A. The numbered sampling locations have been identified on the map depicting the study area's aquatic resources. Color photographs, presented in Appendix B, were taken at each sampling location.

Plants observed within an approximate two-meter radius of each sampling location were identified to species using *The Jepson Manual: Vascular Higher Plants of California, Second Edition* (Baldwin et al, 2012). The wetland indicator status of each species was obtained from *The National Wetland Plant List: 2018* (Lichvar et al. 2018). A plant's wetland indicator status is so designated according to its frequency of occurrence in wetlands, as follows.

OBLIGATE (OBL)	Probability to occur in wetland is >99%
FACULTATIVE WETLAND (FACW)	Probability to occur in wetland is between 67-99%
FACULTATIVE (FAC)	Probability to occur in wetland is between 33 to 67%
FACULTATIVE UPLAND (FACU)	Probability to occur in wetland is between 1 to <33%.
UPLAND (UPL)	Probability to occur in wetland is <1%

Hydrophytic vegetation is considered present when more than 50% of the dominant species at a given location are composed of obligate, facultative wetland and facultative plant species. However, the Arid West Supplemental Guidelines also incorporate an alternate prevalence index

to be calculated in determining the presence of wetland vegetation if the dominance test is not met. A complete list of vascular plants identified on the study area during the surveys can be found in Appendix C.

Each sampling location was also examined for positive indicators of wetland hydrology and hydric soils. Evidence of wetland hydrology consisted of primary indicators such as surface water, watermarks, drift lines, sediment deposits, etc. Secondary indicators of wetland hydrology include drainage patterns in wetlands, watermarks (Riverine), drift lines (Riverine), sediment deposits (Riverine), etc. In accordance with USACE guidelines, a soil pit 12 inches in depth was dug at all sampling locations. The soils excavated from each pit were also examined for hydric soil indicators such as low chromas, gleying, mottling, concretions, sulfidic odors, etc.

2.2 SURVEY METHODS FOR TRIBUTARY WATERS

In the absence of adjacent wetlands, the limit of jurisdiction in navigable rivers and their tributaries, whether inter- or intrastate, extends to "ordinary high water" (OHW). OHW refers to "that line on the shore established by the fluctuation of water and indicated by physical characteristics such as a clear natural line impressed on the bank, shelving, changes in the character of the soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas."

The term "channel" as used in this report refers to a drainage feature with a bed and defined bank. The field investigators visually inspected the study area for drainage channels and, if present, physical characteristics of an OHW mark. The OHW mark was then used to map the boundaries of the aquatic resource.

2.3 SURVEY METHODS FOR OTHER WATERS

During the field investigation, LOA inspected the study area for other aquatic features such as ditches, culverts, and artificial basins. Such features, if encountered, were mapped to their OHW mark or wetland boundaries, whichever were greater.

3.0 RESULTS

3.1 SETTING

The study area is situated within an urban landscape associated with the town of Mariposa. Climatic and topographic features of the study area are typical of those found in California's lower Sierra Nevada Mountains. The study area contains the drainage corridor of Mariposa Creek, associated riparian habitat, oak woodland, and developed land. Elevations of the study area range from approximately 1,900 to 2,000 feet National Geodetic Vertical Datum (NGVD) (see Figure 2).

Average annual precipitation in the general vicinity is approximately 30 inches, 85% of which falls between the months of October and March. Stormwater readily infiltrates into the soils, but when field capacity has been reached or bedrock is encountered, stormwater runs off into drainages. The primary drainage in the project vicinity is Mariposa Creek, which runs through the study area.

Soils within the study area consist of three soil mapping units: Loafercreek and Bonanza complex, 3 to 15 percent slopes; Riverwash and tailings; and Gardellones, Gopheridge, Motherlode complex, 30 to 60 percent slopes. (Figure 3). One of these mapping units, Riverwash and tailings, is classified as hydric, meaning it has the propensity to pond water and support the growth of wetland vegetation. Detailed information pertaining to the site's soil mapping units can be found in Appendix D.

3.2 AQUATIC RESOURCES DELINEATED

A single aquatic resource, Mariposa Creek, was identified within the study area. Mariposa Creek passes through the study area for a distance of approximately 4,050 linear feet and encompasses 81,999 square feet or 1.88 acres below OHW. The extent and location of this feature is presented in Figure 4.

Mariposa Creek carries seasonal flows from its headwaters through the northern portion of the town of Mariposa. It becomes a perennial stream near the downtown area, and the study area, due to spring activity and urban runoff (County of Mariposa 1992, County of Mariposa 2006).

LEGEND

7074	Loafercreek-Bonanza complex, 3 to 15% slopes
7089	Gardellones-Gopheridge-Motherlode complex, 30 to 60% slopes
7091	Trabuco-Jasperpeak-Rock outcrop complex, 8 to 30% slopes
Rb	Riverwash and tailings

Source:
U.S.D.A. Soil Conservation Service

500' 0 500 feet
approximate scale

Aerial Photo courtesy of
U.S.D.A. National Agriculture Imagery Program (NAIP)
Aerial Photo Field Office 8/27/2020

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Mariposa Creek Parkway A.R.D.
Soils

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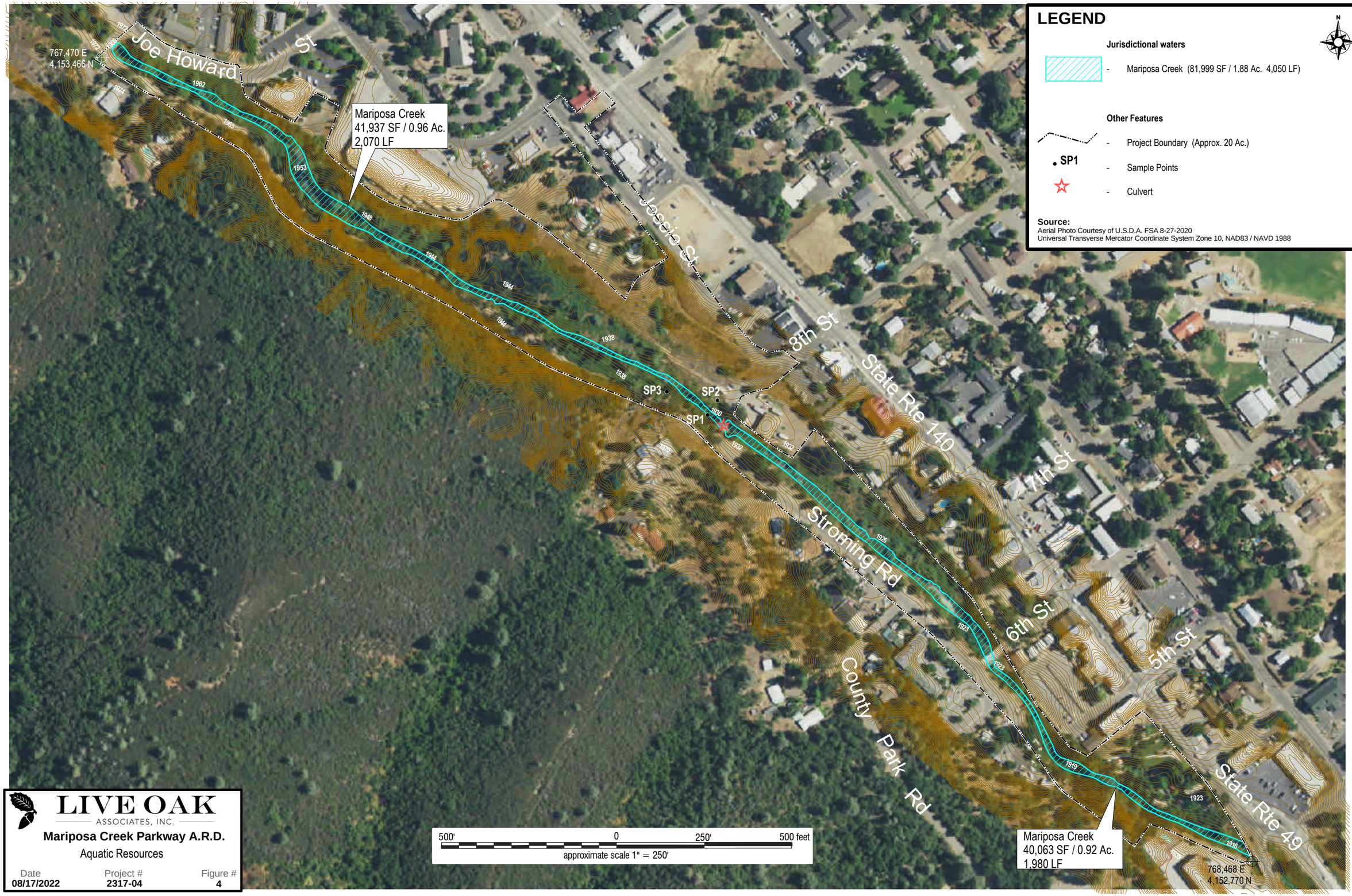

LEGEND

Jurisdictional waters

- Mariposa Creek (81,999 SF / 1.88 Ac. 4,050 LF)

Other Features

- Project Boundary (Approx. 20 Ac.)
- SP1 - Sample Points
- Culvert

Source:
Aerial Photo Courtesy of U.S.D.A. FSA 8-27-2020
Universal Transverse Mercator Coordinate System Zone 10, NAD83 / NAVD 1988

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Mariposa Creek Parkway A.R.D.

Aquatic Resources

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During LOA's surveys, the channel contained both dry and inundated sections. Some stretches of the creek were surrounded by an understory of dense Himalayan blackberry (FAC) that, in many places, overhung into the channel. The overstory of the creek in many places consisted of riparian trees that included valley oak (*Quercus lobata*) (FACU), California sycamore (*Platanus racemosa*) (FAC), red willow (*Salix laevigata*) (FACW), Fremont's cottonwood (*Populus fremontii*) (UPL), white alder (*Alnus rhombifolia*) (FACW), and tree of heaven (*Ailanthus altissima*) (FACU). Nearly all of these trees were rooted outside of Mariposa Creek OHW with the exception of some white alders and red willows that were rooted at the edge of OHW with visible roots extending into the rocky creek channel.

One sample point, Sample Point 1, was taken within the creek channel. The vegetation, hydrology, and soils characteristics at this sample point are discussed in more detail below.

Vegetation: Vegetation was mostly absent from the channel at Sample Point 1. The dominant species were rabbits foot grass (*Polypogon monspeliensis*) (FACW) and curly dock (*Rumex crispus*) (FAC). Tree and shrubs were absent from this area. The Dominance Test was used to determine that the hydrophytic vegetation criterion was met.

Soils: Soil development within the creek bed at Sample Point 1 was absent. The bed of the creek here consisted of a mixture of sand, gravel, and cobble sized rocks underlaid by bedrock or large rocks that precluded further digging. The creek bed did not meet any hydric soil indicator categories.

Hydrology: The creek at Sample Point 1 was dry during the 2021 survey, when sample data were collected. Hydrology indicators were present in the form of surface water-stained leaves and rocks and watermarks observed during the field investigation, as well as inundation visible on aerial photos and during the 2019 survey. Therefore, the wetland hydrology criterion was met at this sample location.

Due to the absence of hydric soils, the channel did not meet the criteria of a wetland. Hydrologic indicators of OHW including watermarks, scoured surfaces, and vegetation were used to map the limits of potential USACE jurisdiction.

3.3 OTHER AREAS

The remainder of the study area comprised mixed riparian woodland habitat and ruderal/developed lands. The latter included several vacant lots, roads, sidewalks, walking paths, portions of several parking lots, a native plant exhibit and county park, and other landscaped areas. No drainage features or potential wetland features were observed in any of these other areas of the site. Nevertheless, sample data were collected at two locations, Sample Points 2 and 3. The vegetation, hydrology, and soils characteristics at these sample points are discussed in more detail below.

Vegetation: Large portions of the study area were dominated by dense stands of Himalayan blackberry (FAC). The blackberry was rooted outside the OHW of Mariposa Creek, but in many areas the berry vines overhung the creek channel. Other portions of the study area outside of Mariposa Creek were dominated by upland and mostly non-native vegetation. Vegetation cover at Sample Points 2 and 3 contained herbaceous upland vegetation in the form of white horehound (*Marrubium vulgare*) (FACU), ripgut brome (*Bromus diandrus*) (UPL), black mustard (*Brassica nigra*) (UPL), rattail sixweeks grass (*Festuca myuros*) (FACU), and field hedge parsley (*Torilis arvensis*) (UPL); as well as shrubs and woody vines consisting of Himalayan blackberry (FAC) and California grape (*Vitus californica*) (FACU). While trees were not directly over the sample point areas, trees observed in the study area that were rooted outside the OHW of Mariposa Creek included valley oak (FACU), California sycamore (FAC), red willow (FACW), Fremont's cottonwood (UPL), white alders (FACW), interior live oak (*Quercus wislizeni*) (UPL), foothill pine (*Pinus sabiniana*) (UPL), California buckeye (*Aesculus californica*) (UPL), and tree of heaven (FACU).

Soils: No indicators of hydric soils were observed at Sample Points 2 or 3. Sample Point 2 exhibited a Munsell soil color notation of 10YR 3/3 and a sandy loam texture from 0 to 4 inches. Below 4 inches soil development ceased and cobbles dominated the substrate. Sample Point 3 exhibited a Munsell soil color notation of 10YR 3/2 and a sandy loam texture from 0 to 12 inches. Redox features and other hydric soil indicators were absent at both locations.

Hydrology: No indicators of wetland or tributary hydrology were observed at Sample Points 2 and 3 or any other portion of the study area outside of Mariposa Creek. All areas outside of

OHW exhibited soil development, at least within the first 4 to 6 inches; accumulation of leaf litter; and well-established dominant upland vegetation. These observations indicated that high water flows were absent from these areas.

4.0 DISCUSSION

The reach of Mariposa Creek that runs through the study area is situated at the upper end of the Creek's watershed. Because of the limited watershed feeding this reach of the creek, highwater flows are not expected to widely fluctuate as they could at lower reaches of the creek that carry flows generated from a much larger watershed. As a result, OHW indicators observed within the creek channel were well-established and unambiguous.

Mariposa Creek within the study area carries intermittent to perennial flows and was historically, and is assumed to currently be, tributary to the San Joaquin River, a traditionally navigable water. As a result, areas within the OHW of Mariposa Creek appear to meet the criteria of a water of the U.S.

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APPENDIX A: WETLAND DATA SHEETS

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Mariposa Creek Restoration City/County: Mariposa Sampling Date: 6-24-21

Applicant/Owner: Mariposa County State: CA Sampling Point: 1

Investigator(s): Jeff Gurule + Arron Alligretti Section, Township, Range: T5S, R18E Ranchos Las Mariposas

Landform (hillslope, terrace, etc.): Drainage channel Local relief (concave, convex, none): Concave Slope (%): <2

Subregion (LRR): C Lat: 37.486464427 Long: -119.968896908 Datum: NAD83

Soil Map Unit Name: Rb Riverwash and Tailings NWI classification: Freshwater Forested/Shrub wetland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? N Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? N (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No ____	**Is the Sampled Area within a Wetland?** Yes ____ No ✓
Hydric Soil Present?	Yes ____	No ✓	
Wetland Hydrology Present?	Yes ✓	No ____	

Remarks: Area within OHW of Mariposa Creek channel. Creek bed dry and cobble-laden.

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 1m radius)			
1.			
2. None			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 1m radius)			
1.			
2.			
3. None			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 1m radius)			
1.			
2. Polypogon monspeliensis	1	Y	FACW
3.			
4. Rumex crispus	1	Y	FAC
5.			
6.			
7.			
8.			
	2	= Total Cover	
Woody Vine Stratum (Plot size: 1m radius)			
1.			
2. None			
		= Total Cover	

% Bare Ground in Herb Stratum 98 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals: (A)		(B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No ____

Remarks: Vegetation sparce at sample location.

SOIL

Sampling Point: 1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	Not Applicable						Mix of Sand, gravel, & cobble	
>4"	Not Applicable						Rock	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Rock

Depth (inches): 4 inches

Hydric Soil Present? Yes ___ No ✓

Remarks:

Soil development absent.

Hydric soil criteria not met.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ✓ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ✓ Inundation Visible on Aerial Imagery (B7)
- ✓ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ✓ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ✓ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): ___

Water Table Present? Yes ___ No ✓ Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No ✓ Depth (inches): ___

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Surface water present during Mar 2019 site inspection.

Remarks:

Many wetland hydrology indicators observed. Surface water present in other portions of creek bed.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Mariposa Creek Restoration City/County: Mariposa Sampling Date: 6-24-21

Applicant/Owner: Mariposa County State: CA Sampling Point: 2

Investigator(s): Jeff Gurule + Arren Alligretti Section, Township, Range: T5S, R18E Rancho Las Mariposas

Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): concave Slope (%): <2%

Subregion (LRR): C Lat: 37.48657795 Long: -119.96886758 Datum: NAD83

Soil Map Unit Name: Rb Riverwash and tailings NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? No Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No ✓	**Is the Sampled Area within a Wetland?** Yes ____ No ✓
Hydric Soil Present?	Yes ____	No ✓	
Wetland Hydrology Present?	Yes ____	No ✓	

Remarks: Area an upland terrace adjacent to Mariposa Creek.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 2m Radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3. None			
4.			
	0	= Total Cover	

Sapling/Shrub Stratum (Plot size: 2m Radius)			
1.			
2. Rubus armeniacus	>5	Y	FAC
3.			
4.			
5.			
	35	= Total Cover	

Herb Stratum (Plot size: 2m Radius)			
1.			
2. Marrubium vulgare	25	Y	FACU
3. Brassica nigra	15	Y	UPL
4. Bromus diandrus	7	N	UPL
5. Festuca myuros	8	N	FACU
6.			
7.			
8.			
	55	= Total Cover	

Woody Vine Stratum (Plot size: 2m Radius)			
1.			
2. None			
	0	= Total Cover	

% Bare Ground in Herb Stratum 10 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	1	x 3 =	3
FACU species	2	x 4 =	8
UPL species	2	x 5 =	10
Column Totals:	5 (A)		21 (B)

Prevalence Index = B/A = 4.2

Hydrophytic Vegetation Indicators:

- ✓ Dominance Test is >50%
- ✓ Prevalence Index is ≤3.0[1]
- ✓ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ✓ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No ✓

Remarks: Vegetation dominated by upland species.

SOIL

Sampling Point: 2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 3/3	100					Sandy loam	
4-12							Cobble	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) **(LRR C)**
- ___ 1 cm Muck (A9) **(LRR D)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR C)**
- ___ 2 cm Muck (A10) **(LRR B)**
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks: Hydric soil indicators absent. Soil formation in top 4 inches only.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- ___ Sediment Deposits (B2) **(Nonriverine)**
- ___ Drift Deposits (B3) **(Nonriverine)**
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) **(Riverine)**
- ___ Sediment Deposits (B2) **(Riverine)**
- ___ Drift Deposits (B3) **(Riverine)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Wetland hydrology indicators absent. No evidence of flowing water or saturation.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Mariposa Creek Restoration City/County: Mariposa Sampling Date: 6-24-21

Applicant/Owner: Mariposa County State: CA Sampling Point: 3

Investigator(s): Jeff Guryle & Arren Allegretti Section, Township, Range: T5S R18E Rancho Las Mariposas

Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): convex Slope (%): 2

Subregion (LRR): C Lat: 37.48665459 Long: -119.96935863 Datum: NAD83

Soil Map Unit Name: Rb Riverwash and tailings NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? N Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? N (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks: Area an upland terrace adjacent to Mariposa Creek

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 2m Radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 2m Radius)			
1.			
2. Rubus armeniacus	69	Y	FAC
3.			
4.			
5.			
	69	= Total Cover	
Herb Stratum (Plot size: 2m Radius)			
1.			
2.			
3. Bromus diandrus	1	N	UPL
4. Torilis arvensis	15	Y	UPL
5.			
6.			
7.			
8.			
	16	= Total Cover	
Woody Vine Stratum (Plot size: 2m Radius)			
1. Vitis californica	15	Y	FACU
2.			
	15	= Total Cover	

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	1	x 3 =	3
FACU species	1	x 4 =	4
UPL species	2	x 5 =	10
Column Totals:	4 (A)		17 (B)

Prevalence Index = B/A = 4.25

Hydrophytic Vegetation Indicators:

N Dominance Test is >50%

N Prevalence Index is ≤3.0[1]

N Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

N Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks: Vegetation dominated by upland species

SOIL

Sampling Point: 3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 3/2	100					Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) **(LRR C)**
- ___ 1 cm Muck (A9) **(LRR D)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR C)**
- ___ 2 cm Muck (A10) **(LRR B)**
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks: Hydric soil indicators absent.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- ___ Sediment Deposits (B2) **(Nonriverine)**
- ___ Drift Deposits (B3) **(Nonriverine)**
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) **(Riverine)**
- ___ Sediment Deposits (B2) **(Riverine)**
- ___ Drift Deposits (B3) **(Riverine)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Hydrology indicators absent. No evidence of flowing water or saturation.

APPENDIX B: SELECTED PHOTOGRAPHS OF THE STUDY AREA

Photo 1: Sample Point 1 location in Mariposa Creek bed. Photo direction: northwest.

Photo 2: Broader view of Sample Point 1 from 8th Street crossing. Photo direction: northwest.

Photo 3: Broad view of Sample Point 1 location from 8th Street crossing taken during a reconnaissance survey conducted in March 2019. Creek flows at that time were near high water levels. Photo direction: northwest.

Photo 4: Sample Point 2 east of OHW of Mariposa Creek. Photo direction: west.

Photo 5: Sample Point 3 west of OHW of Mariposa Creek channel. Photo direction: northwest.

Photo 6: Another view of Sample Point 3 looking toward the Mariposa Creek channel. Photo direction: southeast.

Photo 7: 8th Street crossing of Mariposa Creek channel. Photo direction: northeast.

Photo 8: Mariposa Creek channel south of 8th Street choked with Himalayan blackberry and other vegetation.

Photo 9: Another example of Himalayan blackberry choking creek channel.

Photo 10: Example of an inundated portion of the creek channel during June 2021 survey.

APPENDIX C: VASCULAR PLANTS OF THE STUDY AREA

APPENDIX C: VASCULAR PLANTS OF THE STUDY AREA

The vascular plant species listed below were observed on the project site during surveys conducted by Live Oak Associates, Inc. on March 11, 2019, June 24, 2021, and/or July 28, 2022. The U.S. Fish and Wildlife Service wetland indicator status of each plant has been shown following its common name.

OBL - Obligate
FACW - Facultative Wetland
FAC - Facultative
FACU - Facultative Upland
UPL - Upland
NR - No review
NA - No agreement
NI - No investigation

AGAVACEAE—Century-Plant Family		
Yucca sp.	Yucca	UPL
ANACARDIACEAE – Cashew Family		
Toxicodendron diversilobum	Poison Oak	FACU
APIACEAE – Carrot Family		
Sanicula bipinnatifida	Purple Sanicle	UPL
Torilis arvensis	Field Hedge Parsely	UPL
APOCYNACEAE – Dogbane Family		
Vinca sp.	Periwinkle	UPL
ARACEAE – Arum Family		
Lemna sp.	Duckweed	OBL
ASTERACEAE - Sunflower Family		
Artemisia douglasiana	Mugwort	FAC
Carduus pycnocephalus	Italian Thistle	UPL
Centaurea solstitialis	Yellow Star-thistle	UPL
Cirsium vulgare	Bull Thistle	FACU
Grindelia sp.	Gumweed	FACW
Lactuca serriola	Prickly Lettuce	FACU
Xanthium strumarium	Rough Cocklebur	FAC
BETULACEAE- Birch Family		
Alnus rhombifolia	White Alder	FACW
BRASSICACEAE- Mustard Family		
Brassica nigra	Black Mustard	UPL
Hirschfeldia incana	Short-pod Mustard	UPL
BUXACEAE – Box Family		
Buxus sp.	Boxwood	
CALYCANTHACEAE – Spicebush Family		
Calycanthus occidentalis	Spicebush	FAC
CUPRESSACEAE – Cedar Family		

Calocedrus decurrens	Incense Cedar	UPL
Sequoia sempervirens	Coast Redwood	UPL
CYPERACEAE – Sedge Family		
Carex nudata	Torrent Sedge	OBL
Cyperus eragrostis	Tall Flatsedge	FACW
ERICACEAE – Heath Family		
Arctostaphylos viscida ssp. *mariposa*	Mariposa Manzanita	UPL
EUPHORBIACEAE – Spurge Family		
Croton setiger	Turkey Mullein	UPL
FABACEAE - Pea Family		
Cytisus scoparius	Scotch Broom	
Hoita macrostachya	California Hemp	OBL
Melilotus albus	White Sweetclover	UPL
Vicia sp.	Vetch	
Trifolium sp.	Clover	
Wisteria sp.	Wisteria	
FAGACEAE - Oak Family		
Quercus douglasii	Blue Oak	UPL *Quercus*
kelloggii	California Black Oak	UPL
Quercus lobata	Valley Oak	FACU
Quercus wislizeni	Interior Live Oak	UPL
GERANIACEAE - Geranium Family		
Erodium cicutarium	Red-stemmed Filaree	UPL
Geranium mole	Crane's Bill Geranium	UPL
HYDROPHYLACEAE – Waterleaf Family		
Phacelia sp.	Phacelia	
JUNCACEAE- Rush Family		
Juncus effusus	Bog Rush	FACW
LAMIACEAE- Mint Family		
Lamium amplexicaule	Henbit	UPL
Marrubium vulgare	Horehound	FACU
Mentha spicata	Spearmint	FACW
MALVACEAE – Mallow Family		
Malva sp.	Mallow	UPL
MONTIACEAE- Miner's Lettuce Family		
Calandrinia ciliata	Red Maids	FACU
Claytonia perfoliata	Miner's Lettuce	FAC
MORACEAE- Mulberry Family		
Ficus carica	Common Fig	FACU
OLEACEAE—Lilac Family		
Ligustrum sp.	Privet	

PAPAVERACEAE- Poppy Family		
Eschscholzia californica	California Poppy	UPL
PINACEAE- Pine Family		
Cedrus deodara	Deodar Cedar	UPL
Pinus sabiniana	Gray Pine	UPL
Pinus halepensis	Aleppo Pine	UPL
PLANTAGINACEAE- Plantain Family		
Plantago lanceolata	Ribwort Plantain	FAC
PLATANACEAE- Plane-tree family		
Platanus racemosa	California Sycamore	FAC
POACEAE - Grass Family		
Avena fatua	Wild Oats	UPL
Bromus diandrus	Ripgut Brome	UPL
Bromus madritensis	Foxtail Brome	UPL
Cynoserus echinatus	Hedgehog Dogtail	UPL
Hordeum murinum	Barnyard Barley	FACU
Polypogon monspeliensis	Annual Rabbitsfoot Grass	FACW
Stipa sp.	Needlegrass	UPL
PODOCARPACEAE – Yellow-wood Family		
Afrocarpus sp.	Afrocarpus	
POLYGONACEAE - Buckwheat Family		
Rumex crispus	Curly Dock	FAC
PORTULACAEAE – Purslane Family		
Portulaca oleracea	Common Purslane	FAC
RHAMNACEAE- Buckthorn Family		
Ceanothus cuneatus	Buckbrush	UPL
Rhamnus crocea	Spiny Redberry	UPL
ROSACEAE – Rose Family		
Cercocarpus betuloides	Birch-leaf Mountain Mahogany	UPL
Heteromeles arbutifolia	Toyon	UPL
Prunus sp.	Fruit tree species	
Rosa californica	California Wild Rose	FAC
Rubus armeniacus	Himalayan Blackberry	FAC
SALICACEAE – Willow Family		
Populus fremontii	Fremont's Cottonwood	UPL
Salix exigua	Narrowleaf Willow	FACW
Salix laevigata	Red Willow	FACW
SAPINDACEAE- Soapberry Family		
Aesculus californica	California Buckeye	UPL
SIMAROUBACEAE- Quassia Family		
Ailanthus altissima	Tree of Heaven	FACU
VITACEAE- Grape Family		
Vitis californica	California Grape	FACU
ZYGOPHYLLACEAE—Creosote-bush Family		
Tribulus terrestris	Puncturevine	UPL

APPENDIX D: SOILS INFORMATION

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.

Mariposa County Area, California

7074—Loafercreek-Bonanza complex, 3 to 15 percent slopes

Map Unit Setting

National map unit symbol: 2x296
Elevation: 840 to 1,890 feet
Mean annual precipitation: 24 to 33 inches
Mean annual air temperature: 59 to 61 degrees F
Frost-free period: 235 to 325 days
Farmland classification: Not prime farmland

Map Unit Composition

Loafercreek and similar soils: 58 percent
Bonanza and similar soils: 25 percent
Minor components: 17 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Loafercreek

Setting

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

Typical profile

A - 0 to 5 inches: gravelly loam
Bt1 - 5 to 17 inches: gravelly loam
Bt2 - 17 to 24 inches: gravelly clay loam
Cr - 24 to 35 inches: bedrock
R - 35 to 79 inches: bedrock

Properties and qualities

Slope: 3 to 15 percent
Depth to restrictive feature: 20 to 49 inches to lithic bedrock; 20 to 39 inches to paralithic 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: Low (about 3.1 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: C
Ecological site: F018XI201CA - Moderately Deep Thermic Foothills 22-31 PZ
Hydric soil rating: No

Description of Bonanza

Setting

Landform: Hills
Landform position (two-dimensional): Shoulder, backslope
Landform position (three-dimensional): Nose slope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Residuum weathered from metavolcanics

Typical profile

Oi - 0 to 0 inches: slightly decomposed plant material
A - 0 to 2 inches: loam
Bt1 - 2 to 7 inches: loam
Bt2 - 7 to 12 inches: loam
Bt3 - 12 to 16 inches: loam
Cr - 16 to 22 inches: bedrock
R - 22 to 79 inches: bedrock

Properties and qualities

Slope: 3 to 15 percent
Depth to restrictive feature: 10 to 20 inches to paralithic bedrock; 14 to 30 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 2.9 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: D
Ecological site: F018XI200CA - Low Elevation Foothills 18-25 PZ
Hydric soil rating: No

Minor Components

Gopheridge

Percent of map unit: 10 percent
Landform: Hills
Landform position (two-dimensional): Summit, backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Ecological site: F018XI201CA - Moderately Deep Thermic Foothills 22-31 PZ
Hydric soil rating: No

Rock outcrop, metavolcanic

Percent of map unit: 5 percent
Landform: Hills
Hydric soil rating: No

Mined land

Percent of map unit: 2 percent
Landform: Hills
Down-slope shape: Concave, convex
Across-slope shape: Linear, convex
Hydric soil rating: No

7089—Gardellones-Gopheridge-Motherlode complex, 30 to 60 percent slopes

Map Unit Setting

National map unit symbol: 2n89g
Elevation: 980 to 2,440 feet
Mean annual precipitation: 25 to 34 inches
Mean annual air temperature: 57 to 61 degrees F
Frost-free period: 210 to 315 days
Farmland classification: Not prime farmland

Map Unit Composition

Gardellones and similar soils: 68 percent
Gopheridge and similar soils: 15 percent
Motherlode and similar soils: 15 percent
Minor components: 2 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Gardellones

Setting

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

Typical profile

Oi - 0 to 0 inches: slightly decomposed plant material
A - 0 to 4 inches: loam
Bt1 - 4 to 20 inches: very stony loam
Bt2 - 20 to 35 inches: clay
Bt3 - 35 to 46 inches: clay
Crt - 46 to 55 inches: bedrock
R - 55 to 79 inches: bedrock

Properties and qualities

Slope: 30 to 60 percent
Surface area covered with cobbles, stones or boulders: 0.0 percent

Depth to restrictive feature: 39 to 49 inches to paralithic bedrock; 39 to 79 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Low to moderately high (0.01 to 0.20 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 5.9 inches)

Interpretive groups

Land capability classification (irrigated): 7e
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: C
Ecological site: F018XI202CA - Deep Thermic Steep Hillslopes 28-35 PZ
Hydric soil rating: No

Description of Gopheridge

Setting

Landform: Hills
Landform position (two-dimensional): Shoulder, backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Colluvium over residuum derived from metavolcanics

Typical profile

Oi - 0 to 0 inches: slightly decomposed plant material
A - 0 to 3 inches: loam
BA - 3 to 6 inches: loam
Bt1 - 6 to 12 inches: loam
Bt2 - 12 to 23 inches: extremely gravelly clay loam
R - 23 to 79 inches: bedrock

Properties and qualities

Slope: 30 to 60 percent
Surface area covered with cobbles, stones or boulders: 0.0 percent
Depth to restrictive feature: 20 to 39 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Low to moderately high (0.01 to 0.20 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 3.0 inches)

Interpretive groups

Land capability classification (irrigated): 8
Land capability classification (nonirrigated): 8
Hydrologic Soil Group: D
Ecological site: F018XI201CA - Moderately Deep Thermic Foothills 22-31 PZ
Hydric soil rating: No

Description of Motherlode

Setting

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

Typical profile

A - 0 to 4 inches: loam
BA - 4 to 8 inches: loam
Bt1 - 8 to 20 inches: loam
Bt2 - 20 to 29 inches: very gravelly clay loam
Bt3 - 29 to 38 inches: gravelly loam
Bt4 - 38 to 48 inches: loam
BC - 48 to 56 inches: loam
R - 56 to 79 inches: bedrock

Properties and qualities

Slope: 30 to 60 percent
Surface area covered with cobbles, stones or boulders: 0.0 percent
Depth to restrictive feature: 39 to 59 inches to lithic bedrock; 39 to 59 inches to paralithic 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: Moderate (about 8.8 inches)

Interpretive groups

Land capability classification (irrigated): 7e
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: C
Ecological site: F018XI202CA - Deep Thermic Steep Hillslopes 28-35 PZ
Hydric soil rating: No

Minor Components

Rock outcrop, metavolcanic

Percent of map unit: 2 percent
Landform: Hills
Hydric soil rating: No

Rb—Riverwash and tailings

Map Unit Setting

National map unit symbol: hk2x
Elevation: 310 to 3,500 feet
Mean annual precipitation: 12 to 45 inches
Mean annual air temperature: 55 to 63 degrees F
Frost-free period: 150 to 275 days
Farmland classification: Not prime farmland

Map Unit Composition

Riverwash: 50 percent
Tailings: 49 percent
Minor components: 1 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Riverwash

Setting

Landform: Channels, flood plains
Parent material: Mixed alluvium

Typical profile

C - 0 to 6 inches: extremely gravelly sand
C - 6 to 60 inches: stratified gravelly sand to extremely gravelly coarse sand

Properties and qualities

Slope: 0 to 4 percent
Drainage class: Well drained
Runoff class: Very high
Depth to water table: About 0 to 24 inches
Frequency of flooding: FrequentNone

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8w
Ecological site: R017XY903CA - Stream Channels and Floodplains
Hydric soil rating: Yes

Description of Tailings

Setting

Landform: Stream terraces
Parent material: Mixed alluvium

Typical profile

C - 0 to 60 inches: fragmental material

Properties and qualities

Slope: 0 to 5 percent
Drainage class: Well drained
Runoff class: Very high
Frequency of flooding: Rare

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8s
Hydric soil rating: No

Minor Components

Rock wasteland

Percent of map unit: 1 percent
Landform: Stream terraces
Hydric soil rating: No