SIERRA FOOTHILL CHARTER SCHOOL WATER WELL REPLACEMENT PROJECT

DRAFT INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

DECEMBER 2021

SCH NO.

PREPARED FOR:

Sierra Foothill Charter School
4952 School House Road
Catheys Valley, CA 95306

PREPARED BY:

Provost & Pritchard Consulting Group

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CHAPTER 1 INTRODUCTION

Provost & Pritchard Consulting Group (Provost & Pritchard) has prepared this Initial Study/Mitigated Negative Declaration (IS/MND) on behalf of Sierra Foothill Charter School to address the potential environmental effects of the Water Well Replacement Project (Project). This document has been prepared in accordance with the California Environmental Quality Act (CEQA), Public Resources Code Section 21000 et seq. The Mariposa County Unified School District (District) is the CEQA lead agency for this Project.

The site and the proposed 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 and three appendices. 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, 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 CalEEMod Output Files, Biological Evaluation, and Cultural Resources Class III Inventory/Phase I Survey, are provided as technical Appendix A, Appendix B, and Appendix C, respectively, at the end of this document.

CHAPTER 2 PROJECT DESCRIPTION

2.1 PROJECT BACKGROUND

2.1.1 Project Title

Sierra Foothill Charter School
Water Well Replacement Project

2.1.2 Lead Agency Name and Address

Mariposa County Unified School District
5082 Old Highway North, Mariposa, CA 95338

Lead Agency Contact

Linda Mayfield
Director of Maintenance and Operations
(209) 742-0210

CEQA Consultant

Provost & Pritchard Consulting Group
Briza Sholars, Environmental Project Manager
(559) 449-2700 x134

2.1.3 Project Location

The Project is located in Mariposa County, California, approximately 138 miles southwest of Sacramento and 171 miles north of Bakersfield (see Figure 2-1 and Figure 2-2). The Project site is located on Assessor's Parcel Number 016-280-005-000 which is approximately three (3) acres. The Area of Potential Effect (APE) for the project is .33 acres. The centroid of the Project site is 37° 25' 24.6" North, 120° 6' 6.01" West.

2.1.4 General Plan Designation and Zoning

Project Area	General Plan Designation	Zoning District
PROJECT SITE	Public Facilities and Services	TPAZ (Interim Community Center)

2.1.5 Description of Project

Project Background and Purpose

The Sierra Foothill Charter School (SFCS), previously known as the Cathey's Valley Elementary School, operates a water system with one active well. The single well solely serves the school property and is located at the southeast portion of the school site. The existing well contains a concrete slab and supporting infrastructure of three water tanks and a pumphouse. In June 2016, the single active well for the SFCS was taken offline after a sample for nitrate-N levels taken exceeded the Maximum Contaminant Level (MCL) of

7-10 mg/L nitrate-N regulated by the State Water Resources Control Board, Division of Drinking Water (DDW). The data for the nitrate-N levels were plotted with precipitation and results showed that nitrate spikes follow seasonal precipitation, which indicates nitrate is transported to the well following seasonal recharge. Based on this pattern, it is likely nitrate-N levels sampled in the well may have reduced to an acceptable quality, but the Mariposa County Unified School District would like a second well installed and constructed to avoid any future issues. The original well will remain in use for irrigation purposes.

Project Description

The proposed new well will be located on the SFCS school site (APN: 016-280-005-000), but at a different location from the existing well (400 feet apart). The proposed well will be drilled to an estimated 700 feet below ground surface (bgs) or less depending on the geology. Associated chlorination treatment and hydropneumatics pressure systems and other appurtenances necessary for the production and treatment of domestic water will be installed. The Project will also add two new 2,500-gallon water storage tanks, a pump house to house the booster pumps, and six (6) inch diameter pipeline connection of approximately 100 feet to the existing distribution system. Pipeline excavation will be limited to 3.5 feet deep or less.

Construction

Construction of the Project would require equipment including, but not limited to the following: cranes, excavators, backhoes, front-end loaders, dump trucks, skid loader, compactors, double transfer trucks for soil hauling, concrete trucks, concrete/industrial saws, rollers, and paving equipment. Equipment and staging areas would be located adjacent to the proposed well site on school property within the APE. Construction activities would generally be limited to weekdays from 6 a.m. to 6 p.m. Nighttime construction is not expected to be necessary. Construction is expected to begin Summer 2023 and take approximately three months including site preparation and restoration.

Project construction could involve the storage, use, and transport of small amounts of hazardous materials (e.g., asphalt, fuel, lubricants, and other substances) on roadways. Regulations governing hazardous materials transport are stated in Title 22 CCR and the California Vehicle Code (Title 13 CCR).

Operation and Maintenance

Operations and maintenance of the proposed Project would be consistent with that of the existing well. Due to the exceedances of water quality standards, water is currently delivered in 3,000 gallon increments every two (2) weeks by truck and then utilized from an on-site storage tank.

2.1.6 Site and Surrounding Land Uses and Setting

Table 2-1: Existing Uses, General Plan Designation, & Zone Districts of Surrounding Properties

Direction from Project Site	Existing Use	General Plan Designation	Zone District
NORTH	Rural Residential	Community Residential	TPAZ (Interim Community Center)
EAST	Rural Residential	Community Residential	TPAZ (Interim Community Center)
SOUTH	Rural Residential	Residential	TPAZ (Interim Community Center)
WEST	Rural Residential	Community Residential Public Facilities and Services	TPAZ (Interim Community Center)

2.1.7 Other Public Agencies Whose Approval May Be Required

- State Water Resources Control Board

- California Department of the State Architect (DSA)

2.1.8 Consultation with California Native American Tribes

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 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 Mariposa County Unified School District has not received any written correspondence from any Tribe pursuant to Public Resources Code Section 21080.3.1 requesting notification of proposed project.

2.1.9 "CEQA–Plus" Assessment

The District is applying to the California State Water Resources Control Board (SWRCB) for financial assistance to implement the Project through the Drinking Water State Revolving Fund (DWSRF) and/or Clean Water State Revolving Fund (CWSRF). These programs are low-interest financing programs partially funded by the U.S. Environmental Protection Agency (USEPA) which delegates administration and oversight to the SWRCB, Division of Finance.

In addition to meeting the requirements of CEQA, and because the financial assistance originates from the Federal government (USEPA, in this case), the Project is also subject to "federal cross-cutting authority" requirements of other federal laws and Executive Orders that apply in federal financial assistance programs, such as, in this case, the DWSRF and CWSRF. (This process is frequently referred to as "CEQA-Plus".) Therefore, the District must also complete certain studies and analyses to satisfy various federal environmental requirements. These federal cross-cutting analyses must be documented in the SWRCB-required "Environmental Package"[1]. Once the CEQA document is approved by the District, it is attached to the completed Environmental Package and submitted to the SWRCB. As the USEPA-designated, "non-federal" State agency representative responsible for consultation with appropriate federal agencies, the SWRCB will review materials for compliance with relevant federal cross-cutting topics.

[1] Website: https://www.waterboards.ca.gov/drinking_water/services/funding/documents/srf/dwsrf_policy/h4_dwsrf_application_const_environmental.pdf. Accessed November 2021.

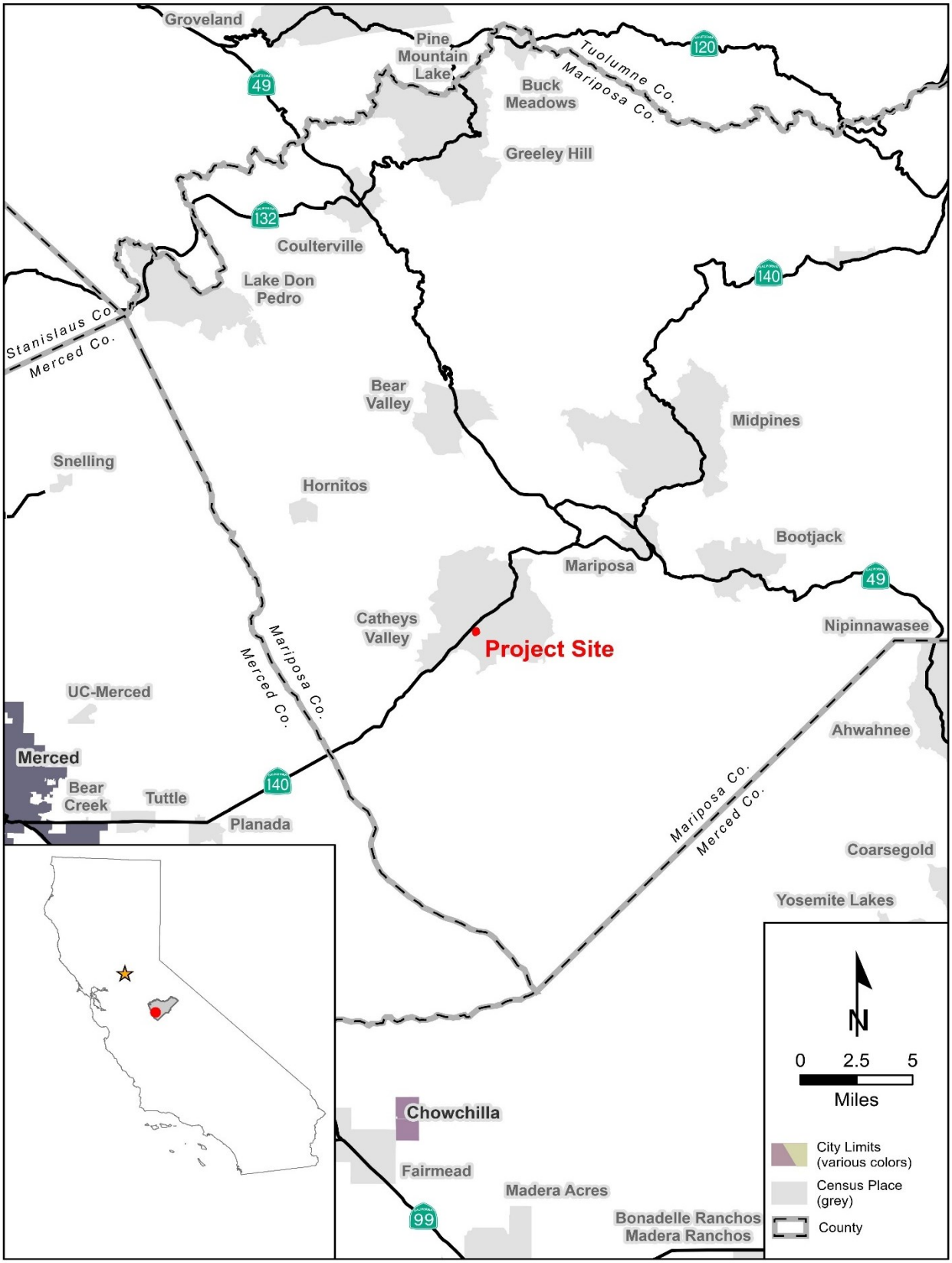

Figure 2-1: Regional Location Map

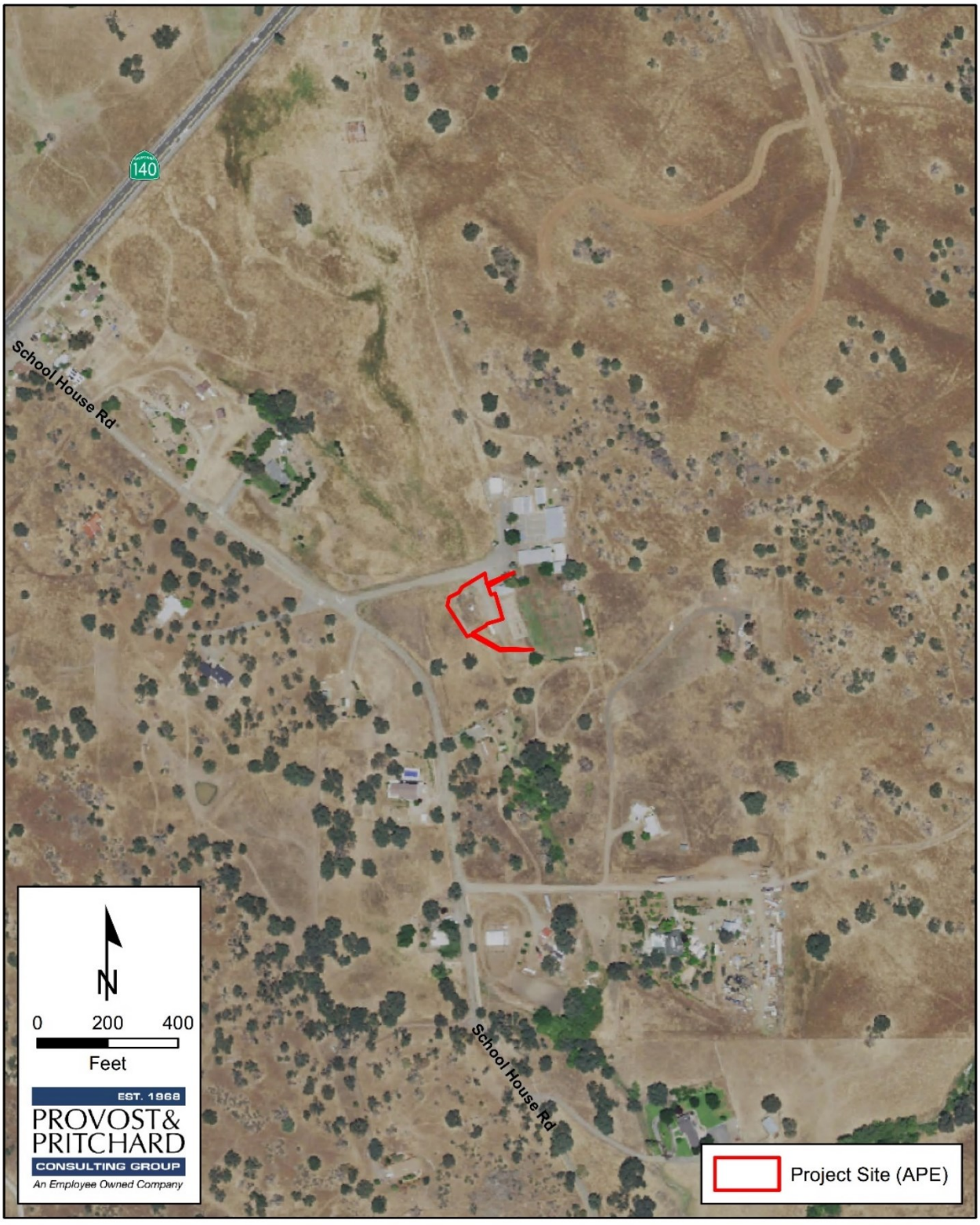

Figure 2-2: Area of Potential Effect Map

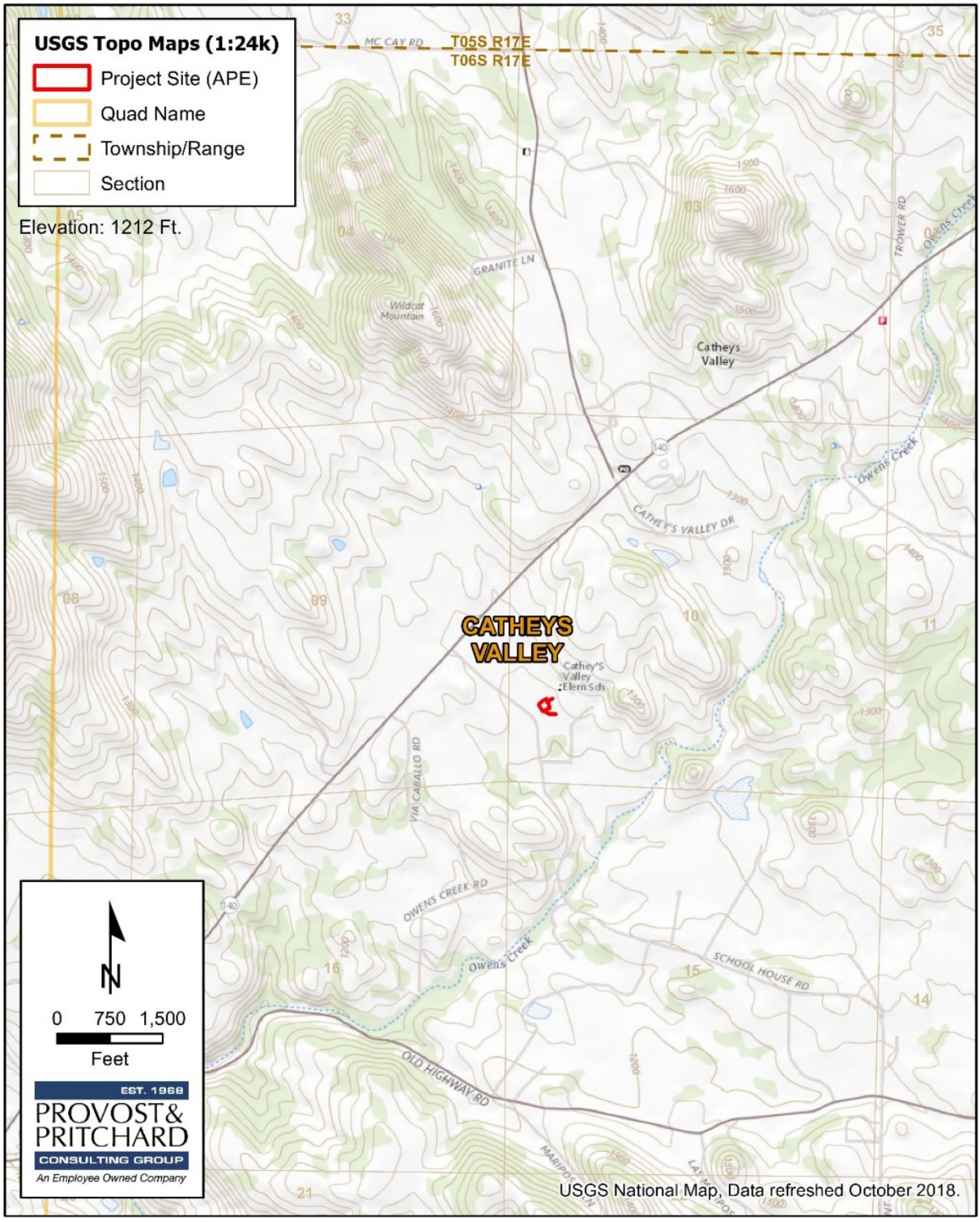

Figure 2-3: Topoquadrangle Map

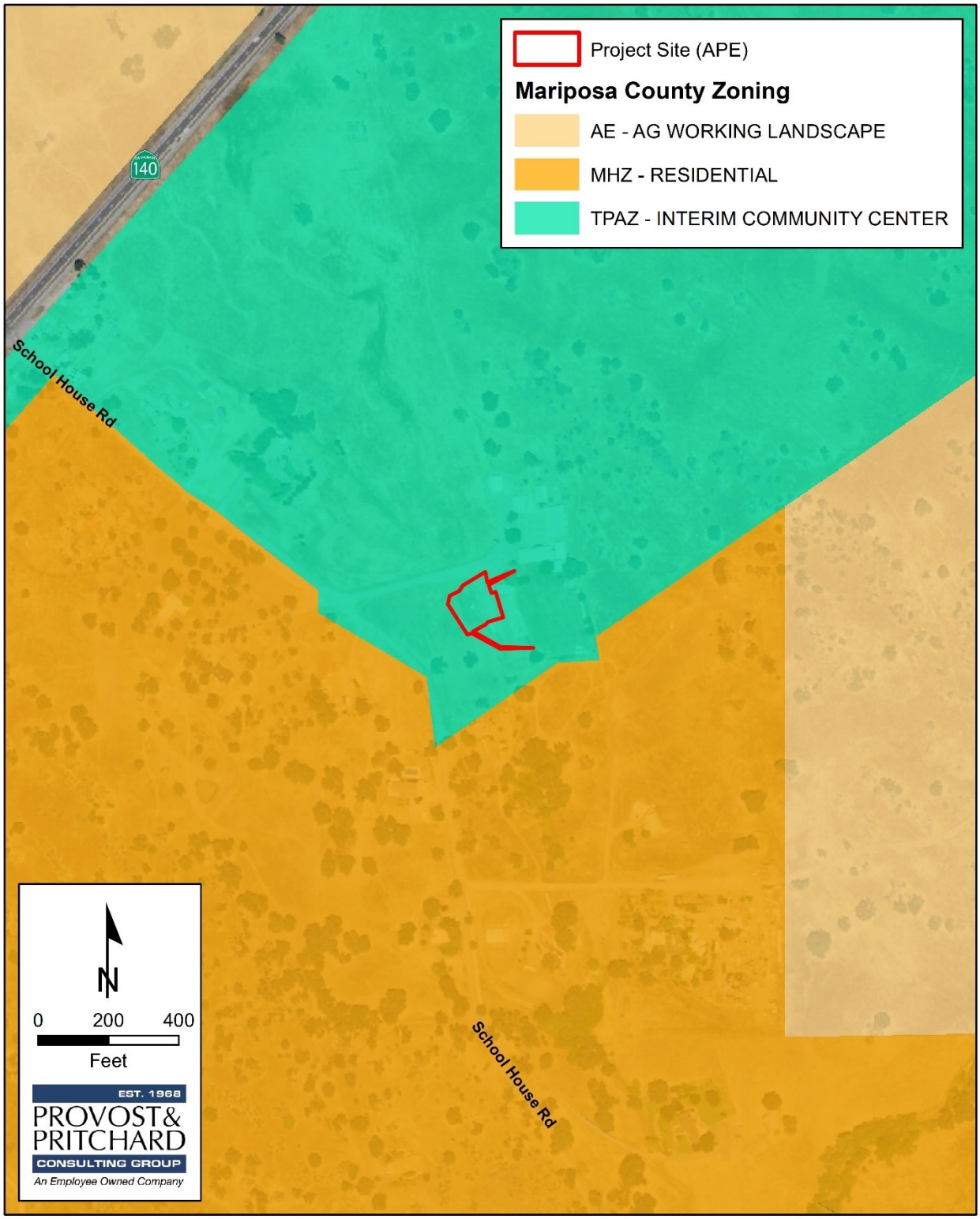

Figure 2-4: Zone District Map

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.

Linda Mayfield — Signature

12-16-2021 — Date

Linda Mayfield Director MOTFW — Printed Name/Pomion

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?	☐	☐	☒	☐
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 character and quality of Mariposa County is defined by its scenery being natural and constructed, with an overall rural character. The western edge of the County is characterized by gentle terrain and rolling hills blending into the San Joaquin Valley. The western edge can be described as sparsely populated grazing land. In the center of the County, the area is characterized with communities within foothill valleys and low mountain regions. Within the eastern portion of the County, the High Sierra region, are several small recreational and seasonal communities and the world-renowned Yosemite National Park. The school site itself is surrounded by rural land filled with spaced out trees with the occasional home scattered throughout the landscape. Within Mariposa County, there is one designated State Scenic Highway (Route 140 from Mariposa to Yosemite National Park), one designated National Scenic Byway (Highway 120 in Yosemite National Park), and two State Highway segments that are eligible for designation as State Scenic Highways under Caltrans guidelines (Highway 49 through the County and Highway 41 from Yosemite National Park to Oakhurst where only a short portion of the latter route is located in Mariposa County). Additional scenic views lie within the County along other State routes and county roads. The entrances to the County from the south and west (including Highway 140 and Highway 132) are significant for their scenic value, as are

the views across the agricultural/working landscape in the western part of the County. In the central part of the County, the vistas of forested rolling hills and valleys are also part of the County's scenic character.

4.1.2 Impact Analysis

a) Have substantial adverse effect on a scenic vista?

Less than Significant Impact. Scenic vistas are generally considered as long-range views of a scenic feature (oceans, mountains, open spaces). The primary scenic vista from the site would be of the Sierra Nevada Mountains to the east. The proposed well site would involve construction of a new well, two new storage tanks, a pump house with booster pumps, and additional connection to the existing water distribution system. The pump house is proposed to be 11' 6" tall. The pump house, along with other structures would be constructed on an existing school site that already contains structures larger than any of the proposed structures. The new well and the additional above-ground appurtenances would not obstruct public views of the Sierra Nevada mountain range or any other scenic vista. Therefore, impacts would be less than significant

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

No Impact. The nearest scenic highway is located approximately nine (9) miles northeast of the Project site near the community of Mariposa.[2] In addition, the Project would not impact any scenic resources including but not limited to trees, rock outcroppings, or historical buildings affiliated with a scenic highway. Therefore, 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?

Less than Significant Impact. The Project site is located within a somewhat urbanized area. Mariposa County is generally characterized as natural and scenic, but the Project well site is located on a school site which is considered urban. The proposed new well and appurtenant facilities will be low profile in comparison to the school site facilities and will not result in any scenic vista obstructions; less so than if a residence or a new school structure were to be constructed. The Project would not conflict with applicable zoning and other regulations that govern scenic value or quality. Therefore, impacts would be less than significant.

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. This Project is to construct a new well and appurtenant facilities on an existing school site to replace the existing well to improve the school's water system. Any proposed lighting will be downward facing or located within a building to prevent light spillage. Therefore, impacts would be less than significant.

[2] California Department of Transportation. State Scenic Highways. https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways Accessed September 2021.

4.1.3 Federal Cross-Cutting Topic

Wild, Scenic, and Recreational Rivers Act

The National Wild and Scenic Rivers Act was established in 1968, to maintain the natural beauty, biology, and wildness of federally designated "wild," "scenic," or "recreational" rivers that may be threatened by construction of dams, diversions, and canals. The act seeks to preserve these designated rivers in their free-flowing condition, and to protect their immediate environments for the benefit and enjoyment of present and future generations. There are no "wild" or "scenic" rivers within or proximate to the proposed project site.

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 site is designated Public Facilities and Services by the Mariposa County-adopted Catheys Valley Community Plan. The Project well site is located on an existing school site. The surrounding areas are designated for residential and agricultural/working landscape.

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 DOC's 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 4-1 the FMMP for Mariposa County designates the Project site as Other Land.[3]

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 site is deemed Other Land by the FMMP, thus the Project will not convert prime farmland, unique farmland, or farmland of statewide importance to a non-agricultural use. Therefore, there will be no impact.

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

No Impact. The Project site is not zoned for agricultural use, nor subject to a Williamson Act contract, therefore there will 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))?

[3] California Important Farmland Finder (FMMP). https://maps.conservation.ca.gov/DLRP/CIFF/. Accessed September 2021.

No Impact. The Project site is not zoned for forest land, timberland, or timberland production, nor does the Project propose a rezone. Therefore, there would be no impact.

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

No Impact. The Project site is currently an existing school site and the Project proposes to replace the existing well with a new well and appurtenant facilities. The Project is designated for public facilities and would not result in the loss of forest land, neither would it convert forest land to non-forest use. There would be no impact.

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?

No Impact. The Project proposes to replace the existing well with a new well and appurtenant facilities on an existing school site. The Project would not involve other changes in the existing environment which could result in the conversion of farmland to a non-agricultural use, or convert forest land to a non-forest use. There would be no impact.

4.2.3 Federal Cross-Cutting Topic

Farmland Protection Act

The Farmland Protection and Policy Act (FPPA) was enacted in 1981 to minimize the loss of prime farmland and unique farmlands because of federal actions that converted these lands to nonagricultural uses. The act assures that federal programs are compatible with state and local governments, and private programs and policies to protect farmland.

As defined by the FPPA, prime farmland is farmland that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops, and also is available for these uses. A unique farmland is land other than prime farmland that is used for production of specific, high-value food and fiber crops; it has the special combination of soil quality, location, growing season, and moisture supply needed to economically produce sustained high quality or high yields of specific crops.

As previously concluded, the proposed project is not located on land classified by the DOC as Prime Farmland, Farmland of Statewide Importance, Unique Farmland, and Farmland of Local Importance. These classifications recognize a land' s suitability for agricultural production by considering the physical and chemical characteristics of the soil, such as soil temperature range, depth of the groundwater table, flooding potential, rock fragment content, and rooting depth. The classifications also consider location, growing season, and moisture available to sustain high-yield crops. Together, Important Farmland and Grazing Land are defined by the DOC as "Agricultural Land."

The proposed project would be on land that is classified as "Other Lands," which consists of lands supporting miscellaneous uses, such as low-density rural developments; brush, timber, wetland, and riparian areas not suitable for livestock grazing; confined livestock, poultry or aquaculture facilities; and water bodies smaller than forty acres. Therefore, no farmland would be converted as a result of the Project. Therefore, the Project would not conflict with the Farmland Protection and Policy Act or adversely affect prime or unique farmland.

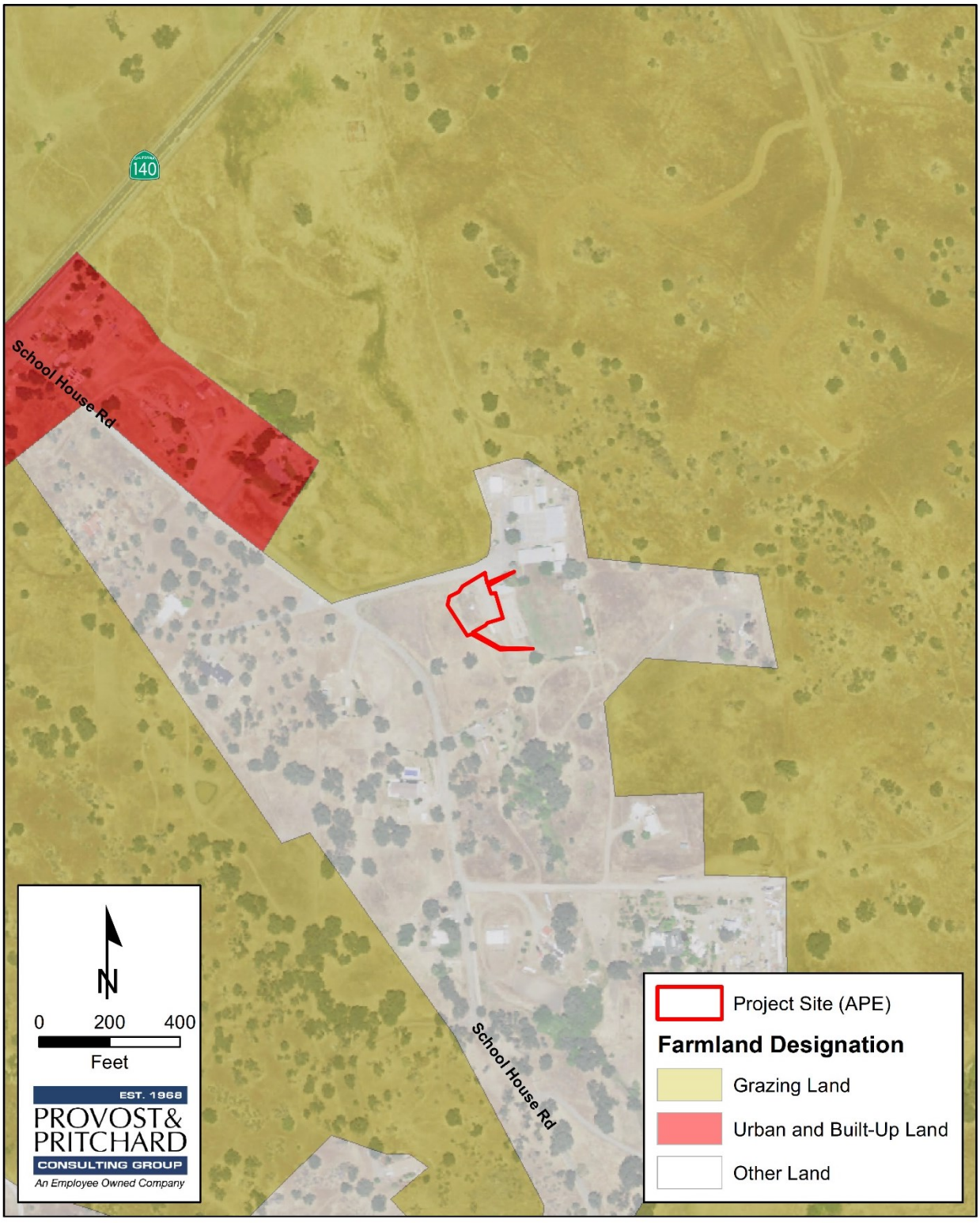

Figure 4-1: Farmland Designation Map

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 site currently possesses an electrically-powered groundwater extraction well in addition to existing school facilities. This well is currently operated and maintained by staff on an as-needed basis.

4.3.2 Thresholds

The Mariposa County Air Pollution Control District established the following thresholds:

- Criteria Air Pollutants in excess of 100 tons per year;
- Proposes uses with a record of verified odor complaints in a one-year period resulting in a Notice of Violation at another location;
- Emissions in excess of Mariposa County APCD risk significance thresholds.[4]

Table 4-5 below depicts the State and federal air quality standards.

[4] County of Mariposa General Plan Environmental Impact Report, as referenced by the Mariposa County Air Pollution Control District. Website: https://www.mariposacounty.org/DocumentCenter/View/59902/Mariposa-General-Plan-Air-Qualitypdf?bidId=. Accessed September 2021.

Table 4-4: Summary of Ambient Air Quality Standards and Attainment Designation

Pollutant	Averaging Time	California Standards*		National Standards*	
		Concentration*	Attainment Status	Primary	Attainment Status
Ozone (O_3)	1-hour	0.09 ppm	Nonattainment/ Severe	–	No Federal Standard
	8-hour	0.070 ppm	Nonattainment	0.075 ppm	Nonattainment (Extreme)**
Particulate Matter (PM_{10})	AAM	20 µg/m^3	Nonattainment	–	Attainment
	24-hour	50 µg/m^3		150 µg/m^3	
Fine Particulate Matter ($PM_{2.5}$)	AAM	12 µg/m^3	Nonattainment	12 µg/m^3	Nonattainment
	24-hour	No Standard		35 µg/m^3	
Carbon Monoxide (CO)	1-hour	20 ppm	Attainment/ Unclassified	35 ppm	Attainment/ Unclassified
	8-hour	9 ppm		9 ppm	
	8-hour (Lake Tahoe)	6 ppm		–	
Nitrogen Dioxide (NO_2)	AAM	0.030 ppm	Attainment	53 ppb	Attainment/ Unclassified
	1-hour	0.18 ppm		100 ppb	
Sulfur Dioxide (SO_2)	AAM	–	Attainment	--	Attainment/ Unclassified
	24-hour	0.04 ppm		--	
	3-hour	–		0.5 ppm	
	1-hour	0.25 ppm		75 ppb	
Lead (Pb)	30-day Average	1.5 µg/m^3	Attainment	–	No Designation/ Classification
	Calendar Quarter	–		--	
	Rolling 3-Month Average	–		0.15 µg/m^3	
Sulfates (SO_4)	24-hour	25 µg/m^3	Attainment	No Federal Standards	
Hydrogen Sulfide (H_2S)	1-hour	0.03 ppm (42 µg/m^3)	Unclassified		
Vinyl Chloride (C_2H_3Cl)	24-hour	0.01 ppm (26 µg/m^3)	Attainment		
Visibility-Reducing Particle Matter	8-hour	Extinction coefficient: 0.23/km-visibility of 10 miles or more due to particles when the relative humidity is less than 70%.	Unclassified		

** For more information on standards visit: https://ww3.arb.ca.gov/research/aaqs/aaqs2.pdf*
*** No Federal 1-hour standard. Reclassified extreme nonattainment for the Federal 8-hour standard.*
****Secondary Standard*
Source: CARB 2015; SJVAPCD 2015

4.3.3 Impact Analysis

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

Less than Significant Impact. Estimated construction-generated emissions are summarized in Table 4-5 below and will be less than the MCAQMD established thresholds of significance. Impacts will be less than significant.

Table 4-5. Unmitigated Short-Term Construction-Generated Emissions of Criteria Air Pollutants

Source	Annual Emissions (Tons/Year) [1]					
	ROG	NO_X	CO	PM10	$PM_{2.5}$	SO_x
Construction	0.042	0.4255	0.3952	0.0239	0.0168	<0.01
Significance Thresholds:	*100*	*100*	*100*	*100*	*100*	*100*
Exceed SJVAPCD Thresholds?	*No*	*No*	*No*	*No*	*No*	*No*

1. Refer to Appendix A for modeling results and assumptions. Totals may not sum due to rounding.

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. Under the California Clean Air Act of 1988, districts designated as non-attainment for state Clean Ambient Air Quality Standards (CAAQS) must submit a plan for attaining or maintaining state standards for these pollutants. Mariposa County is located within the Mountain Counties Air Basin (MCAB) and is under the jurisdiction of the Mariposa County Air Pollution Control District (MCAPCD). Mariposa County is classified as either attainment or unclassified status for all federal air quality standards, except ozone, therefore, the California Air Resources Board is not requiring such a plan be prepared. The MCAPCD has adopted regulation XI and amended rule 513 that address New Source Review for projects that will emit more than 100 tons of Ozone Precursors. As shown in Table 4-5 above, ozone precursors (NOx and ROG) are less than 100 tons. Furthermore, implementation of the Project would eliminate the need for water deliveries. Therefore, impacts will be less than significant.

c) Would the project expose sensitive receptors to substantial pollutant concentrations?

Less than Significant Impact. Implementation of the Project would not result in the long-term operation of any major onsite stationary sources of TACs. However, construction of the Project may result in temporary increases in emissions of diesel particulate matter (DPM) associated with the use of off-road diesel equipment. Health-related risks associated with diesel-exhaust emissions are primarily associated with long-term exposure and associated risk of contracting cancer. As such, cancer risks associated with exposure of to TACs are typically calculated based on a long-term (e.g., 70-year) period of exposure. However, the use of diesel-powered construction equipment would be temporary and episodic.

Construction activities would occur over approximately 2-3 months, which would constitute approximately 0.2 percent of the typical 70-year exposure period. Given the relatively high dispersive properties of DPM, exposure to construction-generated DPM would not be anticipated to exceed applicable thresholds (i.e., incremental increase in cancer risk of 10 in one million). Furthermore, implementation of the Project would eliminate the need for water deliveries conveyed by heavy duty vehicles. Impacts would therefore 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. Land uses that commonly emit odorous compounds include dairies, agricultural uses, wastewater treatment plants, chemical plants, food processing facilities, composting, refineries, and fiberglass molding facilities. The Project includes the construction of a well site, which would not result in the emission of odorous compounds. The operational phase of the Project would not emit any odorous compounds. Impacts would be less than significant.

4.3.4 Federal Cross-Cutting Topic

Clean Air Act (CAA)

Under the federal CAA, federal actions conducted in air basins that are not in attainment with the federal ozone standard (such as the SJVAB) must demonstrate conformity with the SIP. Conformity to a SIP is defined in the federal CAA as meaning conformity to a SIP's purpose of eliminating or reducing the severity and number of violations of the national standards and achieving an expeditious attainment of such standards. The SJVAPCD has published Regulation IX, Rule 9110 (referred as the General Conformity Rule) that indicates how most federal agencies can make such a determination.[5]

The SJVAPCD specifies that a project is conforming to the applicable attainment or maintenance plan if it:

- complies with all applicable SJVAPCD rules and regulations,
- complies with all applicable control measures from the applicable plans, and
- is consistent with the growth forecast in the applicable plans.

The SJVAPCD does not require a detailed quantification of construction emissions unless the project's indirect source emissions are expected to increase pollutant emissions of ROG or NOx in excess of 10 tons per year. Because proposed project construction would not exceed this threshold, the proposed project would comply with the conformity criteria.

[5] The SJVAPCD's Rule 9110 is consistent with USEPA 's General Conformity Rule, Determining Conformity of General Federal Actions to State or Federal Implementation Plans (40 CFR, Part 93), available online at http://www.valleyair.org/rules/currntrules/r9110.pdf.

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

As described in Appendix B, Biological Evaluation, a report prepared by a Provost & Pritchard Consulting Group, the Project area is dominated by pavement, bare ground, loose soil, and herbaceous vegetation. There are no naturally flowing waters within the Project area; however, there is a single upland ephemeral drainage formed from the collection of stormwater through two culverts. This drainage begins approximately 20 yards north of the Project area and terminates near the southeast boundary of the Project area. This drainage is very small and holds water only during storm event and dissipates within a few days after the storm ends. The drainage is overgrown with herbaceous vegetation and provides very little value to wildlife within the Project area.

Vegetation within the Project area includes blue oak (*Quercus douglasii*), maltase star thistle (*Centaurea melitensis*), narrowleaf milkweed (*Asclepias fascicularis*), squirreltail (*Elymus elymoides*), stinkwort (*Datura stramonium*), turkey mullein (*Croton Setigerus*), wild mustard (*Sinapis arvensis*), and winterfat (*Krascheninnikovia lanata*). The vegetation in and around the ephemeral drainage is nonhydric and consists of upland grasses.

The survey of the Project area resulted in the identification of numerus bird species including Acorn Woodpecker (*Melanerpes formicivorus*), House Finch (*Haemorhous mexicanus*), Lesser Goldfinch (*Spinus psaltria*), Mourning Dove (*Zenaida macroura*), Northern Mockingbird (*Mimus polyglottos*), Turkey Vulture (*Cathartes aura*), and White-breasted Nuthatch (*Sitta carolinensis*). Active bird nests were not observed within the APE. The survey also resulted in the identification of Western fence lizard (*Sceloporus occidentalis*).

Potential ground burrows were observed within the Project area. Due to the size of openings and lack of markings around the structures (e.g., scat, footprints, and tail drags), it was determined the burrows were likely created by California ground squirrels (*Otospermophilus beecheyi*) and Botta's pocket gophers (*Thomomys bottae*), and not special-status mammals such as certain kangaroo rats (sp. *Dipodomys*) and San Joaquin kit fox (*Vulpes macrotis mutica*).

Vegetation within the Project area is surrounded by pavement and maintained lawns. The lack of continuous tracts of vegetation and continued disturbance within the Project area offers very little value to wildlife, however surrounding areas may provide high quality habitat.

Two soil types were identified within the Project area. Both soils are primarily used for agriculture in the form of irrigated cropland or rangeland, and naturally feature annual grasses and forbs in uncultivated areas, as well as shrubs and blue oak trees. These soils can be found in Table 1 of Appendix B.

4.4.2 Applicable Regulations

Mariposa County General Plan

The Mariposa County General Plan sets forth the following goals policies that protect biological resources from "Significant Impact" and which have potential relevance to the Project's environmental review:

- There shall be no net loss of endangered, threatened, or rare wildlife or plant species.
- There shall be no net loss of occupied or designated endangered, threatened, or rare species habitat.
- There shall be no greater than 15 percent loss of known occurrences of CNPS List 2, 3, or 4 plants species.
- There shall be no net loss of raptor nests, migratory bird nests, or native wildlife nursery sites.
- There shall be no loss of greater than 25 percent of habitat for sensitive wildlife species.
- There shall be no loss of greater than 25 percent of native plant communities.
- There shall be no wildlife corridors blocked greater than 50 percent.
- There shall be no conflict with Habitat Conservation Plans, Natural Community Conservation plans, or other approved local, regional, State or federal conservation plan.

4.4.3 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.

Animal Species. Of the 17 regionally occurring special status animal species, all are considered absent from or unlikely to occur within the Project area due to past or ongoing disturbance and/or the absence of suitable habitat. Since it is highly unlikely that these species would occur onsite, implementation of the Project should have no impact on these special status species through construction mortality, disturbance, or loss of habitat. These species can be found in Table 2 of Appendix B.

Plant Species. All 25 of the special status plant species which have been documented in the Project vicinity are considered absent from or unlikely to occur within the Project Area due to past or ongoing disturbance and/or the absence of suitable habitat. Since it is highly unlikely that these species would occur onsite, implementation of the Project should have no impact on these special status species through construction mortality, disturbance, or loss of habitat. These species can be found in Table 3 of Appendix B.

Migratory Birds. The Project area contains some suitable nesting and/or foraging habitat for avian species. Ground nesting birds, such as Killdeer, could potentially nest on the bare ground or compacted dirt roads onsite, however, no nests were observed at the time of survey. Trees near the Project area could potentially host nests of smaller birds such as woodpeckers and perching birds. The Project area largely provides inadequate nesting habitat for Swainson's Hawk; however, it is possible they are observed flying over the Project area or using adjacent oak savannah habitat for foraging. At times of low disturbance (i.e., when school is not in session), birds would be more likely to use the Project area as nesting habitat and disturbance tolerant birds could potentially nest within the Project area throughout all of nesting bird season. Birds nesting within the Project area during construction may have the potential to be injured or killed by Project-related activities. In addition to the direct "take" of nesting birds, nesting birds within the Project site or adjacent areas could be disturbed by Project-related activities resulting in nest abandonment. Projects that adversely affect the nesting success of raptors and migratory birds or result in the mortality of individual birds is considered a violation of State and federal laws and are considered a potentially significant impact under CEQA. Implementation of mitigation measures BIO-1, BIO-2, and BIO-3 would ensure impacts remain less than significant.

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. There are no CNDDB-designated "natural communities of special concern" recorded within the Project area or surrounding lands. Therefore, 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. Potential Waters of the United States riparian habitat, typical wetlands, vernal pools, lakes, or streams, and other sensitive natural communities were not observed onsite at the

time of the biological survey. There are no naturally flowing waters within the Project area with Owens Creek identified as the nearest water source. There is a single upland ephemeral drainage formed from the collection of stormwater through two culverts located within the Project area. This drainage is very small and holds water only during storm event and dissipates within a few days after the storm ends. The drainage is overgrown with nonhydric, herbaceous vegetation and provides very little value to wildlife. Undoubtedly, some native wildlife species use the Project area in the absence of preferred habitat. However, because of the aforementioned disturbance and the presence of invasive species, the Project represents relatively low-quality habitat for native plants and animals.

The Project proponent may be required to obtain a Construction General Permit under the Construction Storm Water Program administered by the RWQCB. A prerequisite for this permit is the development of a SWPPP to ensure construction activities do not adversely affect water quality. Therefore, 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?

No Impact. The Project area does not contain features that would be likely to function as wildlife movement corridors. Furthermore, the Project is located at a school regularly disturbed by humans which would discourage dispersal and migration. Therefore, the Project will have no impact on wildlife movement corridors.

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

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?

Less than Significant Impact. No trees are proposed to be removed. The Project appears to be consistent with the goals and policies of the Mariposa County General Plan. There are no known habitat conservation plans (HCPs) or a Natural Community Conservation Plan (NCCP) in the Project vicinity. Impacts would be less than significant.

4.4.4 Mitigation

BIO-1 The Project's construction activities shall occur, if feasible, between September 16 and January 31 (outside of nesting bird season) in an effort to avoid impacts to nesting birds.

BIO-2 If activities must occur within nesting bird season (February 1 to September 15), a qualified biologist shall conduct pre-construction for nesting bird survey within 10 days prior to the start of construction. The survey shall include the proposed work area and surrounding lands within 50 feet. All raptor nests will be considered "active" upon the nest-building stage.

BIO-3 On discovery of any active nests near work areas, the biologist shall determine appropriate construction setback distances based on applicable CDFW and/or USFWS guidelines and/or the biology of the species in question. Construction buffers shall be identified with flagging, fencing, or other easily visible means, and shall be maintained

until the biologist has determined that the nestlings have fledged and are no longer dependent on the nest.

4.4.5 Federal Cross-Cutting Topic

Federal Endangered Species Act

Regulations in the federal Endangered Species Act of 1973 and subsequent amendments govern the conservation of endangered and threatened species and the ecosystems on which they depend. USFWS and the National Marine Fisheries Service (NMFS) oversee the act. USFWS has jurisdiction over plants, wildlife, and resident fish, and NMFS has jurisdiction over anadromous fish, marine fish, and mammals. Section 7 requires federal agencies to consult with USFWS and NMFS if they determine that a proposed project may affect a listed species or destroy or adversely modify designated critical habitat. Under Section 7, the federal lead agency must obtain incidental take authorization or a letter of concurrence, stating that the project is not likely to adversely affect federally listed species. Section 7 requirements do not apply to nonfederal actions. Because the USEPA is the source of SRF monies that may be distributed to Tulare County, its distribution is a federal action covered by Section 7.

Appendix B presents a Biological Evaluation intended to provide the basis for compliance with Section 7 of the ESA.

Section 9 prohibits take of any fish or wildlife species listed as endangered, including the destruction of habitat that prevents the species' recovery. "Take" is defined as any action or attempt to hunt, harm, harass, pursue, shoot, wound, capture, kill, trap, or collect a species. Section 9 prohibitions also apply to threatened species unless a special rule governing take was defined at the time the species became listed.

The take prohibition in Section 9 applies only to fish and wildlife species. However, Section 9 also prohibits the unlawful removal and possession, or malicious damage or destruction, of any endangered plant from federal land. Section 9 prohibits acts to remove, cut, dig up, damage, or destroy an endangered plant species in non-federal areas in knowing violation of any State law or in the course of criminal trespass. Candidate species and species that are proposed for or under petition for listing receive no protection under Section 9.

See discussion under checklist item a.

Fish and Wildlife Conservation Act

The Fish and Wildlife Conservation Act (Act), approved September 29, 1980, declares that fish and wildlife are of ecological, educational, esthetic, cultural, recreational, economic, and scientific value to the Nation. The Act acknowledges that historically, fish and wildlife conservation programs have focused on more recreationally and commercially important species within any particular ecosystem, without provisions for the conservation and management of nongame fish and wildlife. The purposes of this Act are to encourage all federal departments and agencies to utilize their statutory and administrative authority, to the maximum extent practicable and consistent with each agency's statutory responsibilities and to conserve and to promote conservation of non-game fish and wildlife and their habitats. The Act authorizes financial and technical assistance to the States for the development, revision, and implementation of conservation plans and programs for nongame fish and wildlife. The Act defines "nongame fish and wildlife" as wild vertebrate animals in an unconfined state, that are not ordinarily taken for sport, fur or food, not listed as endangered or threatened species, and not marine mammals within the meaning of the Marine Mammal Protection Act. The original Act authorized $5 million for each of Fiscal Years 1982 through 1985, for grants for

development and implementation of comprehensive State nongame fish and wildlife plans and for administration of the Act.

See discussions under checklist items a, b, and d above.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) (Title 16, Section 703 and following sections of the United States Code [16 USC 703 et seq.]), first enacted in 1918, provides protection of international migratory birds and authorizes the Secretary of the Interior to regulate the taking of migratory birds. The MBTA states that it is unlawful, except as permitted by regulations, to pursue, take, or kill any migratory bird, or any part, nest, or egg of any such bird. The current list of species protected by the MBTA is found under Title 50, Section 10.13 of the CFR (50 CFR 10.13). The list includes nearly all birds native to the United States.

In December 2017, the U.S. Department of the Interior's Office of the Solicitor issued a revised legal interpretation (Opinion M-37050) of the MBTA's prohibition on the take of migratory bird species. Opinion M-37050 concludes that "consistent with the text, history, and purpose of the MBTA, the statute's prohibitions on pursuing, hunting, taking, capturing, killing, or attempting to do the same apply only to affirmative actions that have as their purpose the taking or killing of migratory birds, their nests, or their eggs" (DOI 2017). According to Opinion M-37050, take of a migratory bird, its nest, or eggs that is incidental to another lawful activity does not violate the MBTA, and the MBTA's criminal provisions do not apply to those activities. Opinion M-37050 may affect how the MBTA is interpreted but does not legally change the regulation itself.

The U.S. Court of Appeals for the Ninth Circuit, the controlling federal appellate court for California, also has held that habitat modification that harms migratory birds "does not 'take' them within the meaning of the MBTA (Seattle Audubon Soc. v. Evans, 952 F.2d 297, 303, 1981).

See discussion under checklist item a.

Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act affords additional legal protection to bald eagles and golden eagles. This law prohibits the take, sale, purchase, barter, offer of sale, purchase, or barter, transport, export or import, at any time or in any manner of any bald or golden eagle, alive or dead, or any part, nest, or egg thereof (16 U.S. Code [USC] 668---668d). The Bald and Golden Eagle Protection Act also defines take to include "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest, or disturb," and includes criminal and civil penalties for violating the statute. USFWS further defines the term "disturb" as agitating or bothering an eagle to a degree that causes or is likely to cause injury, or either a decrease in productivity or nest abandonment by substantially interfering with normal breeding, feeding, or sheltering behavior.

See discussion under checklist item a).

Magnuson-Stevens Fishery Conservation and Management Act

The Magnuson-Stevens Fishery Conservation and Management Act, as amended (16 USC 180 l), requires that Essential Fish Habitat (EFH) be identified and described in federal fishery management plans. Federal agencies must consult with NMFS on any activity that they fund, permit, or carry out that may adversely affect EFH. The EFH regulations require that federal agencies obligated to consult on EFH also provide NMFS with a written assessment of the effects of any action on EFH (50 CFR 600.920). NMFS is required to provide

EFH conservation and enhancement recommendations to federal agencies. The statute also requires federal agencies receiving NMFS EFH conservation recommendations to provide a detailed written response to NMFS within 30 days of receipt, detailing how they intend to avoid, mitigate, or offset the impact of activity on EFH (Section 305[b][4][B]).

EFH is defined as those waters and substrates necessary to fish for spawning, breeding, feeding, or growth to maturity. For the purposes of interpreting the definition of EFH, "waters" includes aquatic areas and their associated physical, chemical, and biological properties that are used by fish, and may include areas historically used by fish where appropriate; "substrate" includes sediment, hard bottom, structures underlying the waters, and associated biological communities; "necessary" means habitat required to support a sustainable fishery and a healthy ecosystem; and "spawning, breeding, feeding, or growth to maturity" covers all habitat types used by a species throughout its life cycle. No EFH is on the project site.

Clean Water Act

Section 404

Section 404 of the CWA requires project proponents to obtain a permit from the United States Army Corps of Engineers before performing any activity involving a discharge of dredged or fill material into waters of the U.S. Waters of the U.S. include:

- Navigable waters of the U.S.;
- Interstate waters;
- All other waters where the use or degradation or destruction of the waters could affect interstate or foreign commerce;
- Tributaries to any of these waters; and
- Wetlands that meet any of these criteria, or that are adjacent to any of these waters or their tributaries.

Many surface waters and wetlands in California meet the criteria for waters of the U.S.

Section 402

CWA Section 402 regulates construction-related stormwater discharges to surface waters through the National Pollutant Discharge Elimination System program, which is administered by USEPA. In California, the State Water Resources Control Board is authorized by USEPA to oversee the program through the Regional Water Quality Control Boards (RWQCBs)-in this case, the Central Valley (Region 5) RWQCB.

Section 401

Under CWA Section 401(a)(1), the applicant for a federal license or permit to conduct an activity that may result in a discharge into waters of the U.S. must provide the federal licensing or permitting agency with a certification that any such discharge will not violate state water quality standards. The RWQCBs administer the Section 401 program to prescribe measures for projects that are necessary to avoid, minimize, and mitigate adverse effects on water quality and ecosystems.

No State or federally protected wetlands or waters are on the proposed project site.

4.5 CULTURAL RESOURCES

Table 4-7: 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

Records Search

On August 13, 2021, ASM Affiliates Inc. received Records Search 11864M from the Central California Information Center (IC) of the California Historical Resources Information System (CHRIS), located at California State University, Stanislaus. The records search encompassed the Project area as well as a 0.5-mile radius surrounding the various locations. IC staff examined site record files, maps, and other materials to identify previously recorded resources and prior surveys within the delineated area. Additional sources included the State Office of Historic Preservation (SHPO) Historic Properties Directory, Archaeological Determinations of Eligibility, and the California Inventory of Historic Resources. (See Appendix C)

Field Survey

On September 3, 2021, ASM Affiliates Inc. conducted an intensive Class III Inventory/Phase I Survey of the Project area. No cultural resources of any kind were observed in the Project area which consists of an existing graded parking lot.

Native American Outreach

In September of 2021, AEW contacted the Native American Heritage Commission (NAHC) in Sacramento and provided NAHC 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 study area. The results were negative. (See Appendix C) Two responses were received. The Tuolumne Me-Wuk Tribal Council sent a letter indicating that they have no concerns about the Project. Mr. Clay River from the Southern Sierra Miwuk Nation sent an email requesting tribal monitoring if the excavation would extend below 3.5-feet (ft). A response was sent to Mr. Clay River indicating that the pipeline trench would not extend below that depth.

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. A records search from the Central California Information Center (IC) of the California Historical Resources Information System (CHRIS) dated August 13, 2021, indicated ten previous studies have been completed in the vicinity of the Project area. However, the majority of the Project area had not be subject to intensive survey prior to the current study. A total of twelve cultural resources have been recorded within a 0.5-mi. search radius. These resources are primarily bedrock milling stations occurring on outcrops, especially closer to Owens Creek to the south. (See Appendix C)

A field survey found no cultural resources of any kind in the Project area. In the unlikely event that cultural resources are discovered during the construction and operation of the Project however, Mitigation Measure CUL-1 as outlined below has been incorporated into the Project and would result in impacts being 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. No formal cemeteries or other places of human internment are known to exist on the Project site; however, in accordance with Health and Safety Code Section 7050.5 and Public Resource Code Section 5097.98, if human remains are uncovered, Mitigation Measure CUL-2 as outlined below would be implemented.

4.5.3 Mitigation

CUL-1 In the event that archaeological resources are encountered at any time during construction, development or any ground-moving activities within the entire project area, all work in the vicinity of the find shall halt until a qualified archaeologist can assess the discovery. The School District shall implement all recommendations of the archaeologist necessary to avoid or reduce to a less than significant level potential impacts to cultural resource. Appropriate actions could include a Data Recovery Plan or preservation in place.

CUL-2 If human remains are uncovered, or in any other case when human remains are discovered during construction, the Mariposa County Coroner is to be notified to arrange proper treatment and disposition. If the remains are identified—on the basis of archaeological context, age, cultural associations, or biological traits—as those of a Native American origin, California Health and Safety Code 7050.5 and Public Resource Code 5097.98 require that the coroner notify the NAHC within 24 hours of discovery. The NAHC will then identify the Most Likely Descendent (MLD) who will determine the manner in which the remains are treated.

4.5.4 Federal Cross-Cutting Topic

National Historic Preservation Act

The National Historic Preservation Act of 1966 as amended created the National Register of Historic Places and extended protection to historic places of State, local, and national significance. It established the Advisory Council on Historic Preservation, State Historic Preservation Officer (SHPO), Tribal Preservation Officers, and a preservation grants-in-aid program. Section 106 directs federal agencies to take into account effects of their actions ("undertakings") on properties in or eligible for the National Register. Section 106 of the act is implemented by regulations of the Advisory Council on Historic Preservation (36 Code of Federal Regulations [CFR] Part 800).

The U.S. Department of the Interior criteria and procedures for evaluating a property's eligibility for inclusion in the National Register are at 36 CFR Part 60. The 36 CFR Part 800 regulations, implementing Section 106, call for consultation with the SHPO, Native American tribes, and interested members of the public throughout the Section 106 compliance process. The four principal steps are to:

- Initiate the Section 106 process (36 CFR Part 800.3);
- Identify historic properties, cultural resources that are eligible for inclusion in the National Register of Historic Places (36 CFR Part 800.4);
- Assess the effects of the undertaking to historic properties within the area of potential effect (36 CFR Part 800.5); and
- Resolve adverse effects (36 CFR Part 800.6).

Adverse effects on historic properties often are resolved through preparation of a Memorandum of Agreement (MOA), developed in consultation with Reclamation, the SHPO, Native American tribes, the Advisory Council on Historic Preservation, and interested members of the public. The MOA stipulates procedures that treat historic properties to mitigate adverse effects (36 CFR Part 800.14[b]).

No historic properties have been identified within the area of potential effects. Therefore, the proposed project would not have an adverse effect on historic properties.

4.6 ENERGY

Table 4-8: 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

Pacific Gas and Electric (PG&E) supplies electricity and natural gas 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 throughput 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 (CCR) 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. The Project's buildings and associated lighting would comply with Building Energy Efficiency Standards included in Title 24 of the California Code of Regulations, which requires new development to incorporate energy efficiency standards into Project designs. Construction equipment utilized are required to idle for no more than five minutes, pursuant to 13 CCR § 2485 and 13 CCR § 2480. Impacts would be less than significant.

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

Less than Significant Impact. The Project would provide clean, safe drinking water to end users whose current water sources do not meet safety standards. CARB's 2017 Scoping Plan (Scoping Plan) includes strategies to improve water efficiency and reduce fossil-fuel-based energy consumption associated with production of water (pumping, conveying, treating). As proposed, the Project is the most energy and resource effective solution as it does not require more energy-intensive water treatment solutions. Impacts would therefore be less than significant.

4.7 GEOLOGY AND SOILS

Table 4-9: 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

The USDA NRCS soil survey of the Project site reveals that soils in the Project area consist of Blansinga loam, 2 to 15% slopes and Clayey alluvial land. (See Appendix B). Characteristics of these soil types are described in Table 4-10 below.

Table 4-10. Soils of the Study Area

Soils Series	Runoff Class	Drainage Class	Percent of Project site
Blansinga loam, 2 to 15 % slopes	High	Well drained	46
Clayey alluvial land	Very high	Moderately well drained	54

Faults and Seismicity

The Project site is not located within an Alquist-Priolo Earthquake Fault Zone and no known faults cut through the local soil at the site.

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 USDA NRCS soil survey of Mariposa County, an analysis of the soils onsite was performed. The predominate soils in the Project area consist of Blansinga loam, 2 to 15% slopes and Clayey alluvial land (See Appendix B) and moderately well to well-drained. The Mariposa County General Plan deems the dangers of liquefaction in the County as minimal.[6]

Soil 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 Project site is dominated by Blansinga loam, 2 to 15% slopes and Clayey alluvial land, with a low to moderate risk of subsidence.

Dam and Levee Failure

The Project site is outside of the Stockton Creek Dam Failure Inundation Map.[7]

4.7.2 Applicable Regulations

California Alquist-Priolo Earthquake Fault Zoning Act: The Alquist-Priolo Earthquake Fault Zoning Act (originally enacted in 1972 and renamed in 1994) is intended to reduce the risk to life and property from surface fault rupture during earthquakes. The statute prohibits the location of most types of structures intended for human occupancy across the traces of active faults and regulates construction in the corridors along active faults.

California Building Standards Code: The California Code of Regulations (CCR) Title 24 is assigned to the California Building Standards Commission, which, by law, is responsible for coordinating all building standards. The California Building Code incorporates by reference the International Building Code with necessary California amendments. The International Building Code is a widely-adopted model building code

[6] Mariposa County. General Plan, Safety and Hazards Element. Website: https://www.mariposacounty.org/DocumentCenter/View/3104/Volume-III---13-Saftey--Hazards?bidId=. Accessed September 2021.
[7] California Department of Water Resources. Dam Breach Inundation Map Web Publisher. Website: https://fmds.water.ca.gov/webgis/?appid=dam_prototype_v2. Accessed September 2021.

in the United States published by the International Code Council. About one-third of the text within the California Building Standards Code has been tailored for California earthquake conditions.

4.7.3 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.

ii. Strong seismic ground shaking?

a-i and ii) Less than Significant Impact. The Project site and its vicinity are located in an area traditionally characterized by relatively low seismic activity. The site is not located in an Alquist-Priolo Earthquake Fault Zone as established by the Alquist-Priolo Fault Zoning Act (Section 2622 of Chapter 7.5, Division 2 of the California Public Resources Code). The Project involves water system improvements and construction of a new well at an existing well site, and thus does not propose the development of habitable residential, agricultural, commercial or industrial structures. Operation of the proposed Project would not require any additional maintenance beyond what is currently required. Implementation of the Project would not result in an increase of people on-site. Any impact would be less than significant.

iii. Seismic-related ground failure, including liquefaction?

Less than Significant Impact. As described above, the Mariposa General Plan previously reviewed the soils in the County for liquefaction risk and deemed them minimal. Impacts would be less than significant.

iv. Landslides?

Less than Significant Impact. The Project site is located approximately 300 feet away from the existing well site and is located on relatively flat land. The Project location is not found in the California Department of Conservation's Landslide Inventory and Deep Landslide Susceptibility Map.[8] Impacts would be less than significant.

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

Less than Significant Impact. There are no streams or rivers onsite or in the immediate vicinity. The Project does not propose significant alteration of the topography of the site. The Project may disturb more than one acre of soil and therefore could be required to obtain coverage under the Statewide General Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit Order 2009-0009-DWQ). Construction activity subject to this permit includes clearing, grading and disturbances to the ground such as stockpiling, or excavation, and construction of linear underground or overhead facilities associated with trail construction, but does not include regular maintenance activities performed to restore the original lines, grade, or capacity of the overhead or

[8] California Department of Conservation. Landslide Inventory and Deep Landslide Susceptibility Map. Website: https://maps.conservation.ca.gov/cgs/lsi/app/. Accessed September 2021.

underground facilities. The Construction General Permit requires the development of a Storm Water Pollution Prevention Plan (SWPPP) by a certified Qualified SWPPP Developer. Impacts will be less than significant.

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?

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?

c and d) Less than Significant Impact. Soil onsite is predominately Nord fine sandy loam, 0 to 2 percent slopes (see Appendix B) These soils are well-drained with very rare frequency of flooding. These soils are categorized as Prime Farmland if irrigated and either protected from flooding or not frequently flooding during the growing season. The Project site and surrounding areas do not contain substantial grade changes. Risk of landslides, lateral spreading, subsidence, liquefaction, and collapse are minimal. The Project does not propose significant alteration of the topography of the site. Furthermore, the Project will be consistent with the California Building Standards Code. Any impacts would be less than significant.

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?

No Impact. Septic installation or alternative wastewater disposal systems are not proposed or necessary for the Project. The proposed groundwater well is spaced a sufficient distance away (170 feet) from surrounding septic tanks. Therefore, there will 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. There are no known unique geological features on the Project site. However, given the Project proposes to drill a new well where one has not previously existed, there is a remote possibility that, as a result of excavation during construction activities, unique paleontological resources could be destroyed. This is a significant impact. Implementation of GEO-1 will ensure impacts remain less than significant.

4.7.4 Mitigation

GEO-1 If during construction a paleontological resource has been discovered, construction activities shall halt within a 50-foot radius of the discovery. A qualified paleontologist shall be consulted to determine if the paleontological resource is unique. If the resource is unique, the District shall cover all expenses to have the resource archived. If the resource is not unique, construction activity within the discovery shall be allowed to commence.

4.8 GREENHOUSE GAS EMISSIONS

Table 4-11: 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

The Project well site currently extracts and conveys groundwater to the existing school and its on-site facilities.

4.8.2 Thresholds

The Mariposa County Air Pollution Control District has an established CEQA significance threshold of 500 tons of CO2e per year, or approximately 453 metric tons CO2e (MT CO_2e).[9]

4.8.3 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. Construction of the Project would result in GHG emissions from operation of both on-road and off-road equipment. As discussed previously, Project operations would require routine maintenance conducted by existing staff and would not be a source of new emissions, and therefore are not addressed further.

Therefore, GHG emissions from Project construction are amortized over the 30-year lifetime of the Project and added to Project operational emissions. As shown in Table 4-12 below, the Project would be below County thresholds for total Project emissions and well below the thresholds after amortizing the construction emissions. Therefore, the GHG emissions from the proposed Project would not have significant impacts on climate change.

[9] County of Mariposa General Plan Environmental Impact Report, as referenced by the Mariposa County Air Pollution Control District. Website: https://www.mariposacounty.org/DocumentCenter/View/59902/Mariposa-General-Plan-Air-Qualitypdf?bidId=. Accessed September 2021.

Table 4-12. Unmitigated Short-Term Construction-Generated Greenhouse Gas Emissions

Source	Construction Emission (in $MTCO_2e$)
Construction	24
Amortized Construction Emissions	0.8
Significance Thresholds:	*453*
Exceed Thresholds?	*No*

1. Refer to Appendix A for modeling results and assumptions. Totals may not sum due to rounding.

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

Less than Significant Impact. Upon completion of construction, the Project would require routine maintenance conducted by existing staff and would not generate any new emissions during operations. As discussed previously, the Project would provide clean, safe drinking water to residences whose current water sources do not meet safety standards. The California Air Resources Board's 2017 Scoping Plan includes strategies to improve water efficiency and reduce fossil-fuel-based energy consumption associated with production of water (pumping, conveying, treating). Construction GHG emissions from the Project would be temporary and would not have a long-term impact on the state's ability to achieve the Scoping Plan's emission reduction targets for 2030 or beyond. Based on this, the Project would be consistent with CARB's 2017 Scoping Plan and would not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions; therefore, impacts would be less than significant.

4.9 HAZARDS AND HAZARDOUS MATERIALS

Table 4-13 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 (GC) Section 65962.5 requires the California Environmental Protection Agency (CalEPA) 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 (DOD) sites, and Land Disposal program. A search of the DTSC EnviroStor database and the SWRCB Geotracker performed on September 7, 2021 determined that there are no known active hazardous waste generators or hazardous material spill sites within the Project site or immediate surrounding vicinity.

Airports

The nearest active public airport is the Mariposa Yosemite Airport, approximately seven (7) miles northeast of the Project site.

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 rural residences, are located on lots adjacent to the Project.

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?

Less than Significant Impact. Project construction would involve the storage, use, and transport of small amounts of hazardous materials (e.g., asphalt, fuel, lubricants, and other substances) on roadways. Regulations governing hazardous materials transport are stated in Title 22 CCR and the California Vehicle Code (Title 13 CCR). The transportation of hazardous materials also is subject to other applicable local and federal regulations, which have been specifically designed to minimize the risk of upset during routine construction activities. The State agencies with primary responsibility for enforcing federal and State regulations, and for responding to hazardous materials transportation emergencies, are the California Highway Patrol and the California Department of Transportation (Caltrans). Together, these agencies determine container types to be used and license hazardous waste haulers for transportation of hazardous waste on public roads. Various local entities or agencies are generally delegated first responder responsibilities in the event of a hazardous material spill or release.

Construction and operation of the Project would be required by law to implement and comply with existing hazardous material regulations. Each of these regulations is specifically designed to protect public health through improved procedures for handling hazardous materials, better technology in equipment used to transport these materials, and a more coordinated, quicker response to emergencies. By implementing measures needed to be consistent with existing regulations, impacts would be less than significant.

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?

Less than Significant Impact. The Project consists of replacing an existing well and appurtenant facilities. Power sources for operational purposes would be all electric. This infrastructure is not designed to convey or store hazardous materials. Project construction would temporarily involve the storage, use, and transport of small amounts of hazardous materials (e.g., asphalt, fuel, lubricants, and other substances) on roadways. Therefore, in the event of a reasonably-foreseeable upset or accident during construction or operational maintenance activities, minimal hazardous materials may be released into the environment. Construction and operation of the Project would be required by law to implement and comply with existing hazardous material regulations. By implementing measures needed to be consistent with existing regulations, 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?

Less than Significant Impact. The Project well site is adjacent to an existing school. Although, the Project site is located within a quarter mile of an existing school, the Project will be required by law to implement and comply with existing hazardous material regulations. By implementing measures needed to be consistent with existing regulations, 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?

No Impact. The Project does not involve land that is listed as a hazardous materials site pursuant to Government Code Section 65962.5 and is not included on a list compiled by the DTSC. A search of the DTSC EnviroStor database and the SWRCB Geotracker performed in September 2021, determined that there are no known active hazardous waste generators or hazardous material spill sites within the Project site or immediate surrounding vicinity. There would be no impact.

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. Mariposa County has an adopted Airport Land Use Plan, however the Project site is not located within it. The Project site is not located within two miles of a public or public use airport. Therefore, there will be no impact.

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

Less than Significant Impact. The Project does not provide any physical barriers or propose to disturb any roadways in such a way that would impede emergency or hazards response or any roadwork in general If required for well construction, all work conducted in public rights-of-way will require an Encroachment Permit from the County of Mariposa and a traffic control plan. Temporary traffic controls are required to comply with the Federal Highway Administration's Manual on Uniform Traffic Control Devices. Therefore,

the proposed Project would not interfere with implementation of an emergency response plan or evacuation plan. Impacts would be less than significant.

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. The Project proposes to replace the SFCS' existing well with a new well and appurtenant facilities to improve the school's water system's water quality. Project components would not expose people or structures to a significant risk of loss, injury or death involving wildland fires. The impact would be less than significant.

4.10 HYDROLOGY AND WATER QUALITY

Table 4-14: 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

The school project site currently houses an existing groundwater extraction well. The existing well was estimated at 10 gpm during drilling but metered production says it is getting approximately 20 gpm where the pump is set currently (being in 2017).

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. Construction activities may result in a potential impact through the erosion of soils and the build-up of silt and debris in runoff areas, however under California General Construction Permit 2009-0009-DWQ (GCP) guidelines implementing a SWPPP, performed and approved by a qualified sediment practitioner (QSP) or a qualified sediment developer (QSD), would be required prior to construction, handling, and transportation of hazardous materials within the Project site area. In addition, construction activities could result in accidental spills of fuels, paints, and other hazardous materials entering storm drains and other runoff areas. Through a SWPPP carried out by the contractor and a QSP/QSD, the Project would design and utilize best management practices in order to stabilize any sedimentation and erosion from leaving the Project site. Construction is temporary and would result in a new well site that will improve overall water quality for the school. The Project would create a reliable and cleaner water source. Therefore, 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 proposes to replace an existing well. No additional water consumption is anticipated as a result of the Project. 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;

Less than Significant Impact. The Project is located in the immediate vicinity of a waterway and could result in direct infiltration of erosion or siltation during construction. Impact can be minimized by following California GCP 2009-0009-DWQ guidelines and implementing a SWPPP in accordance with the SWRCB prior to construction activities beginning. The Project may involve construction activities that include trenching, grading, and excavation over an area exceeding one (1) acre. Projects that have such activities over an area of 1 acre must develop and implement a SWPPP. The Project will improve water quality and adhere to drinking water standards set forth by the SWRCB. Because the Project area is located on flat land, with low potential for soil erosion, the Project complies with SWRCB requirements. By following GCP and SWRCB standards and the use of best management practices for any possible soil and erosion pollution, impacts would be less than significant.

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

Less than Significant Impact. The Project will likely result in a no net increase in impermeable surfaces, due to the replacement of the existing well at the school site. Impacts will be less than significant.

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?

Less than Significant Impact. There are no existing or planned storm drainage systems in the area. The Project will not impede or redirect flood flows. The increase in site permeability would be minimal. Therefore, impacts would be less than significant.

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

No Impact. The Project is not located within any flood hazard, tsunami, or seiche zones that would cause the risk of released pollutants due to inundations. The closest Flood Zone is approximately 3.6 miles west of the Project site. Therefore, there would be no impact.

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

No Impact. The Project proposes to replace an existing well for the purposes of the complying with water quality requirements, which would not conflict or obstruct with water quality control plans or sustainable groundwater management plans. Given that the Project does not propose to increase water consumption, there would be no impact.

4.10.3 Federal Cross-Cutting Topic

Flood Plain Management- Executive Order Numbers 11988, 12148, and 13690

The Federal Emergency Management Agency (FEMA) designates flood hazard and frequency for cities and counties on its Flood Insurance Rate Maps. The proposed project area is not within a designated 100-year floodplain, on a floodplain map, or otherwise designated by FEMA.

Rivers and Harbors Act

The Rivers and Harbors Act of 1899 prohibits construction of any bridge, dam, dike, or causeway over or in navigable waterways of the U.S., without Congressional approval. Under Section 10 of the Act, the building of any wharfs, piers, jetties, and other structures is prohibited without Congressional approval, and excavation or fill within navigable waters requires the approval of the Chief of Engineers. The U.S. Army Corps of Engineers (USACE) is authorized to issue permits for the discharge of refuse matter into or affecting navigable waters under Section 13 of the act.

The proposed project would not be constructed in a location that would affect a navigable waterway, requiring permit or approval by USACE.

Safe Drinking Water Act, Sole Source Aquifer Protection

The Safe Drinking Water Act (SOWA) required USEPA to establish criteria through which an aquifer may be declared a critical aquifer protection area. Since 1977, it has been used by communities to help prevent contamination of groundwater from federally funded projects. These aquifers are defined as "sole source aquifers." USEPA's Sole Source Aquifer (SSA) Program was established under Section 1424(e) of the SOWA. These are, essentially, aquifers that are the only drinking water supply for the population of a region.

SSA designation protects an area's groundwater resources by requiring USEPA to review all proposed projects within the designated area that will receive federal financial assistance. The SSA Program states that if USEPA determines an area to have an aquifer which is the sole or principal drinking water source for the area, that if contaminated would create a significant hazard to public health, a notice of that determination needs to be published in the Federal Register. After publication of any such notice, no commitment for federal financial aid may be applied for any project that the Administrator determines may contaminate the aquifer through a recharge zone, so as to create a significant hazard to public health (US EPA 2019).

The Project is not located in a Sole Source Aquifer.

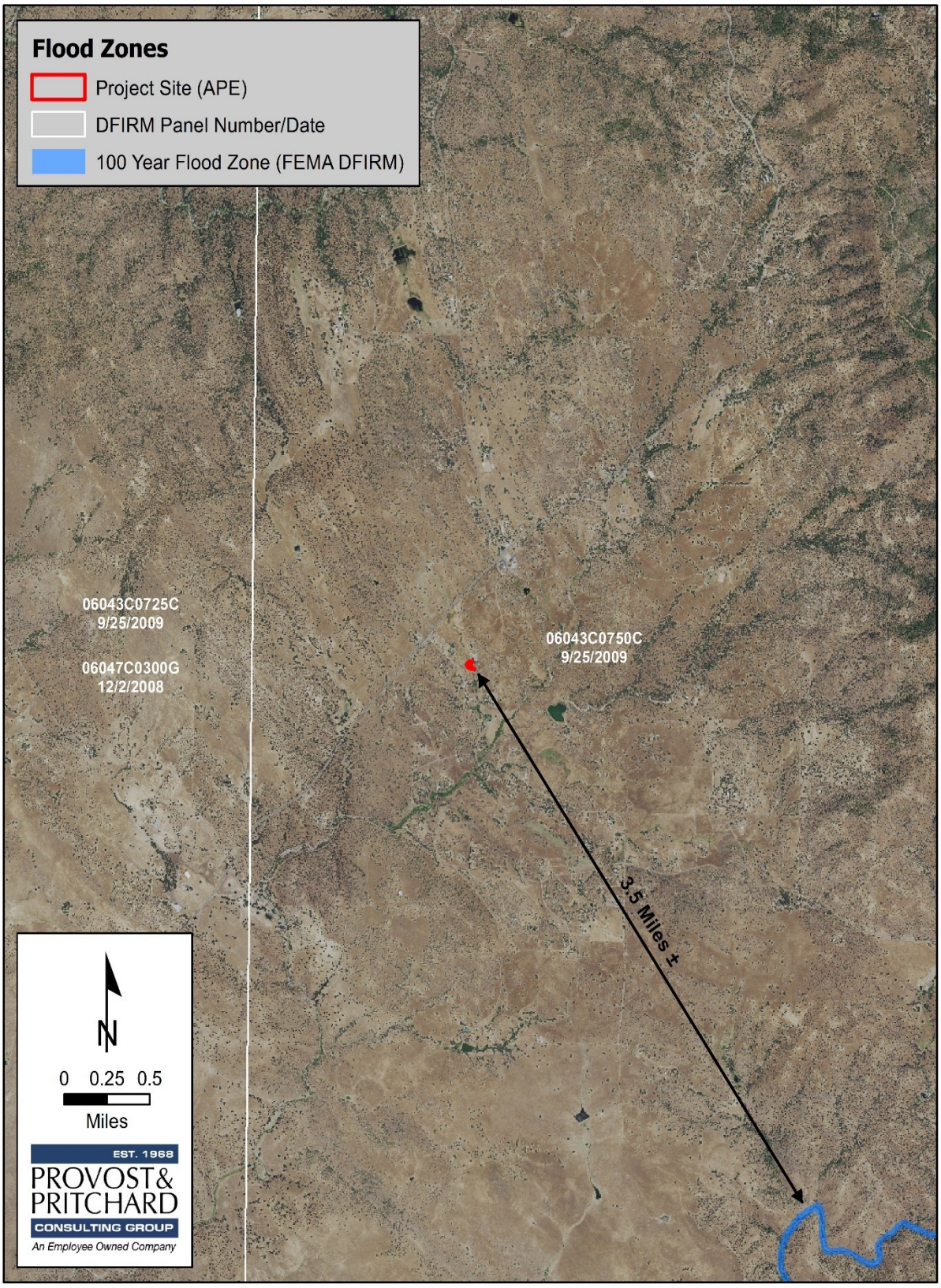

Figure 4-2: FEMA Flood Map

4.11 LAND USE AND PLANNING

Table 4-15: 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 in western Mariposa County. The Project is designated as Public Facilities and Services by the Mariposa County-adopted Catheys Valley Community Plan. The Catheys Valley Community Plan allows for the following uses:[10]

- Schools
- Parks
- Religious Facilities, including those with sports and entertainment facilities for organization members and/or the members of the community
- Public facilities

The Public Sites zone district is compatible with the land use designation of Public Facilities and Services.

4.11.2 Impact Analysis

a) Would the project physically divide an established community?

No Impact. The Project would occur on an existing school site. No new barriers that would prevent access to the site would be constructed, nor would access be obstructed in any way, therefore the Project would not physically divide an established 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 not cause a significant environmental conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. The Project would not be in conflict with any Mariposa County General Plan or the Mariposa County-adopted Catheys Valley Community Plan policies. Therefore, there would be no impact.

4.11.3 Federal Cross-Cutting Topic

[10] Catheys Valley Community Plan. KM_654e-20160419074832 (mariposacounty.org). Accessed September 2021.

Coastal Zone Management Act

The Coastal Zone Management Act was enacted in 1972. This act, administered by the National Oceanic and Atmospheric Administration, provides management of the nation' s coastal resources. The California coastal zone generally extends 1,000 yards inland from the mean high tide line. The Project site is more than 100 miles from the coastline. Therefore, the proposed project would not conflict with the Coastal Zone Management Act.

4.12 MINERAL RESOURCES

Table 4-16: 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 and it is believed that valuable deposits of ore still exist in the County.

Mariposa County has one active slate quarry — Yosemite Slate Quarry, located off of Highway 140 on Agua Fria Road approximately six (6) miles northeast of the Project site. 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?

No Impact. The Project site is not identified as containing any mineral resources. Moreover, the Project is replacing an existing well and installing water infrastructure on land that has already been disturbed. As a result, the Project will 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.

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?

No Impact. The Project site is not identified as containing any mineral resources. Moreover, the Project is replacing an existing well and installing water infrastructure on land that has already been disturbed. As a result, the Project will 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 4-17: 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

The Project site currently has an existing electric-powered well on an existing elementary school site.

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. The construction phase of the Project will involve temporary noise sources, originating predominantly from off-road equipment, such as backhoes, drilling rigs, scrapers, and tractors. The Project is located nearby rural residential development, however Mariposa County does not have a noise ordinance. Operational and maintenance activities would be on an as-needed basis with routine monitoring performed by existing staff and would not generate significant new noise. Any impacts would be mild and temporary and therefore, less than significant.

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

Less than Significant Impact. The construction phase of the Project will have excavation and grading as part of development of the new well and associated infrastructure. Conditions created by Project-related construction activities would not vary substantially from the baseline conditions routinely experienced on-site. Impacts would be less than significant.

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. Mariposa County has an adopted Airport Land Use Plan, however the Project site is not located within it. The Project site is not located within two miles of a public or public use airport. Therefore, there will be no impact.

4.14 POPULATION AND HOUSING

Table 4-18: 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 example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☒	☐
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☒	☐

4.14.1 Baseline Conditions

According to the U.S. Census Bureau, as of July 1, 2019, the estimated population for Mariposa County was 17,203.[11] The County is characterized as natural and scenic and is sparsely populated due to its characterization. The Project school and well site is surrounded by rural residences.

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)?

Less than Significant Impact. The Project would replace an existing well for the Sierra Foothill Charter School to provide more reliable and safe drinking water for the school. The Project would not directly induce population growth because it does not propose any new housing or land use changes, nor an increase in capacity. Any impacts would be less than significant.

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

Less than Significant Impact. No housing or habitable structures would be built, nor will any be removed. Construction and implementation of the Project will not result in displacement of people or existing housing. Therefore, there will be no impact.

[11] U.S. Census Bureau. Quick Facts. Website: U.S. Census Bureau QuickFacts: Mariposa County, California. Accessed September 2021.

4.14.3 Federal Cross-Cutting Topic

Environmental Justice Executive Order 12898

Executive Order (EO) 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, was issued in 1994. The EO directs federal agencies to identify and address the disproportionately high and adverse human health or environmental effects of their actions on minority and low-income populations, to the greatest extent practicable and permitted by law.

USEPA has developed a mapping and screening tool called EJSCREEN that uses nationally consistent data to identify minority or low-income communities. According to EJSCREEN, the proposed project site is not in an environmental justice community (US EPA 2015). In addition, the purpose of the project would be to supply clean, reliable water to residents of the District. Because the proposed project would directly benefit the local community only, no disproportional health of environmental effect would be imposed on minority or low income populations. The proposed project would not conflict with the purpose and objectives of EO 12898.

4.15 PUBLIC SERVICES

Table 4-19: 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

The Project site is currently served by Mariposa County Sheriff for policing, both Mariposa County Fire and Cal Fire for fire protection services. The nearest school to the Project site is the Sierra Foothill Charter School which is located on the site itself.

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; iii) Schools; iv) Parks; v) Other public facilities

a – i-v) No Impact. The Project proposes to replace an existing well and construct water infrastructure in for an existing school's water system. The infrastructure is not designed to increase capacity or serve future growth. No additional public services will be required in order to provide police or fire protection, nor educational or recreational opportunities, to the water infrastructure or its beneficiaries. There will be no impact.

4.16 RECREATION

Table 4-20: 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.[12]

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?

No Impact. The Project proposes to replace an existing well for the purposes of eliminating water quality issues. The replacement of the well would not increase the use of existing parks, and thus would not cause substantial deterioration of existing parks. There would be no impact.

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?

No Impact. The Project does not propose nor would require the construction or expansion of recreational facilities. There would be no impact.

[12] Mariposa County General Plan. Microsoft Word - #1 Mariposa General Plan Vol 1 - Adopted Dec 2006, updated thru reso 2016-102 (tot amendments) (mariposacounty.org). Accessed September 2021.

4.17 TRANSPORTATION

Table 4-21: 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 consists of an existing school site that takes access from School House Road. School House Road is connected to State Route 140. As noted in Section 4.1, the portion of SR 140 from Mariposa to Yosemite National Park is designated as a State Scenic Highway.

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 Project includes the construction and operation of a new well and associated infrastructure. Construction traffic associated with the proposed Project would be minimal and temporary, lasting approximately three months. Operational traffic would continue to consist of as-needed maintenance trips. There would not be a adverse effect to existing roadways in the area. There is no population growth associated with the Project, nor will implementation of the Project result in an increase of staff or drivers utilizing roadways in the area. Construction-related roadway interferences will be less than significant in nature.

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

Less than Significant Impact. The Project does not propose any additional classrooms or other vehicle mile-generating uses. Construction activity would be temporary and limited to those necessary to complete construction of the well Project. Impacts would be less than significant.

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 alter the roadway geometrics of existing roads or introduce incompatible uses to the existing community. There will be no impact.

d) Would the project result in inadequate emergency access?

Less than Significant Impact. The Project does not propose new roadway design features or alterations to roadways. All potential disturbances to the parking lot during construction will be temporary and repaired. Road closures and detours are not anticipated as part of the construction phase of the Project. There will not be any disturbances to traffic patterns. The operational phase of the well Project will have no effect on roadways or emergency access. Therefore, overall potential Project-related impacts to emergency access on local roadways would be considered less than significant.

4.18 TRIBAL CULTURAL RESOURCES

Table 4-22: 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

Records Search

On August 13, 2021, ASM Affiliates Inc. received a records search from the Central California Information Center (IC) of the California Historical Resources Information System (CHRIS), located at California State University, Stanislaus. The records search encompassed the Project area as well as a 0.5-mile radius surrounding the various locations. IC staff examined site record files, maps, and other materials to identify previously recorded resources and prior surveys within the delineated area. Additional sources included the State Office of Historic Preservation (SHPO) Historic Properties Directory, Archaeological Determinations of Eligibility, and the California Inventory of Historic Resources. (See Appendix C.)

Field Survey

On September 3, 2021, ASM Affiliates Inc. conducted an intensive Class III Inventory/Phase I Survey of the Project area. No cultural resources of any kind were observed in the Project area which consists of an existing graded parking lot.

Native American Outreach

In September of 2021, AEW contacted the Native American Heritage Commission (NAHC) in Sacramento and provided NAHC 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 study area. The results were negative. (See Appendix C) Two responses were received. The Tuolumne Me-Wuk Tribal Council sent a letter indicating that they have no concerns about the Project. Mr. Clay River from the Southern Sierra Miwuk Nation sent an email requesting tribal monitoring if the excavation would extend below 3.5-feet (ft). A response was sent to Mr. Clay River indicating that the pipeline trench would not extend below that depth.

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.

Less than Significant Impact. The District, as a public lead agency has not received any formal requests for notification from any State tribes, pursuant to AB 52. However, on September 3, 2021, ASM Affiliates, Inc. completed the Class III inventory/Phase I survey fieldwork of the Project area.

In addition to the record search of the Sacred Lands File received September 13, 2021, NAHC provided a list of ten local Native American Tribes who may have knowledge of cultural resources in the vicinity or general interest in the Project. The following ten Tribes were contacted in writing via U.S. Mail with a letter dated September 14, 2021, informing them of the proposed Project and general consultation.

1. North Fork Rancheria of Mono Indians, Elaine Bethel Fink, Chairperson
2. North Valley Yokuts Tribe, Katherine Erolinda Perez, Chairperson and Timothy Perez, MLD Contact
3. Picayune Rancheria of Chukchansi Indians, Claudia Gonzales, Chairwoman
4. Southern Sierra Miwuk Nation, William Leonard, Chairperson
5. Tule River Indian Tribe, Neil Peyron, Chairperson
6. Tuolumne Band of Me-Wuk Indians, Andera Reich, Chairperson
7. Wuksache Indian Tribe/Eshom Valley Band, Kenneth Woodrow, Chairperson

A copy of Tribal correspondence has been made a part of Confidential Appendix A omitted from Appendix C.

No archaeological or other cultural resources were identified as a result of either cultural resources assessment. Analysis of soil characteristics for the proposed sites suggest there is a low probability of buried

archaeological deposits within the Project area. Therefore, it is unlikely that the Project will have an effect on important archaeological, historical, or other cultural resources. In the unlikely event that buried archaeological deposits are encountered within the project area, the finds must be evaluated by a qualified archaeologist.

Therefore, it is concluded, barring evidence to the contrary, that there is little or no chance the proposed Project will cause a substantial adverse change to the significance of a tribal cultural resource as defined. Nonetheless, Mitigation Measures CUL-1 and CUL-2, described above in Section 4.5.2, are recommended in the event cultural materials or human remains are unearthed during excavation or construction.

4.19 UTILITIES AND SERVICE SYSTEMS

Table 4-23: 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 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 itself is a water infrastructure replacement and redundancy project to improve water quality. Environmental impacts from the Project will be temporary or the same as existing conditions. 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?

No Impact. The Project proposes to replace a well that serves an existing school. No new water consumption is anticipated due to the implementation of the Project. There would be no impact.

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 generate wastewater, and thus no wastewater treatment capacity is necessary to implement the Project. There would be no impact.

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. The Project would generate solid waste during the construction process. Project operations are not anticipated to generate additional solid waste than what is already generated. The Project would be required to demonstrate compliance with all Mariposa County Solid Waste regulations, State regulations, and federal regulations. Impacts will be less than significant.

4.20 WILDFIRE

Table 4-24: 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 site is located within a State Responsibility Area[13] and it is in a fire hazard severity zone determined to be moderate.[14] The nearest very high fire hazard severity zone is located approximately 1.3 miles northwest of the Project site.

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?

No Impact. The Project proposes to replace the SFCS' existing well with a new well and appurtenant facilities to improve the school's water system's water quality. No habitable structures are proposed as part of the project. The Project would not substantially impair an adopted emergency response plan or emergency evacuation plan. There would be no impact.

[13] ArcGIS. State Responsibility Zones. Website: https://www.arcgis.com/apps/mapviewer/index.html?layers=5ac1dae3cb2544629a845d9a19e83991. Accessed September 2021.
[14] ArcGIS. Is Your Home in a Fire Hazard Severity Zone? Website: https://www.arcgis.com/apps/Styler/index.html?appid=5e96315793d445419b6c96f89ce5d153. Accessed September 2021.

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?

No Impact. The Project proposes to replace the SFCS' existing well with a new well and appurtenant facilities to improve the school's water system's water quality. The Project would not, due to slope, prevailing winds, or other factors, exacerbate wildfire risks. The Project would not expose Project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire. There would be no impact.

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?

Less than Significant Impact. The Project proposes to replace the SFCS' existing well with a new well and appurtenant facilities to improve the school's water system's water quality. Construction of the proposed project would involve materials that are considered flammable, such as fuels and epoxy. The handling and storage of such materials would be conducted in accordance with applicable regulations and BMPs would be implemented to prevent accidental spills and to dictate a response in the case of a spill. Additionally, contractors would have to comply with Public Resources Code (PRC) Sections 4427, 4428, 4431, and 4442. During construction, strict adherence to PRC sections would ensure that contractors are responsible for all monitoring and safety measures ensuring that any risk to exacerbate wildfire, and in turn, pollution due to wildfire are considered less than significant. Once construction is complete, the project site would be returned to pre-construction conditions, and the facilities would not be manned and would not store flammable materials. Impacts would be less than significant.

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?

Less than Significant Impact. The Project proposes to replace the SFCS' existing well with a new well and appurtenant facilities to improve the school's water system's water quality. The Project would not expose people or structures to significant risks due to runoff, post-fire slope instability, or drainage changes. There would be no impact.

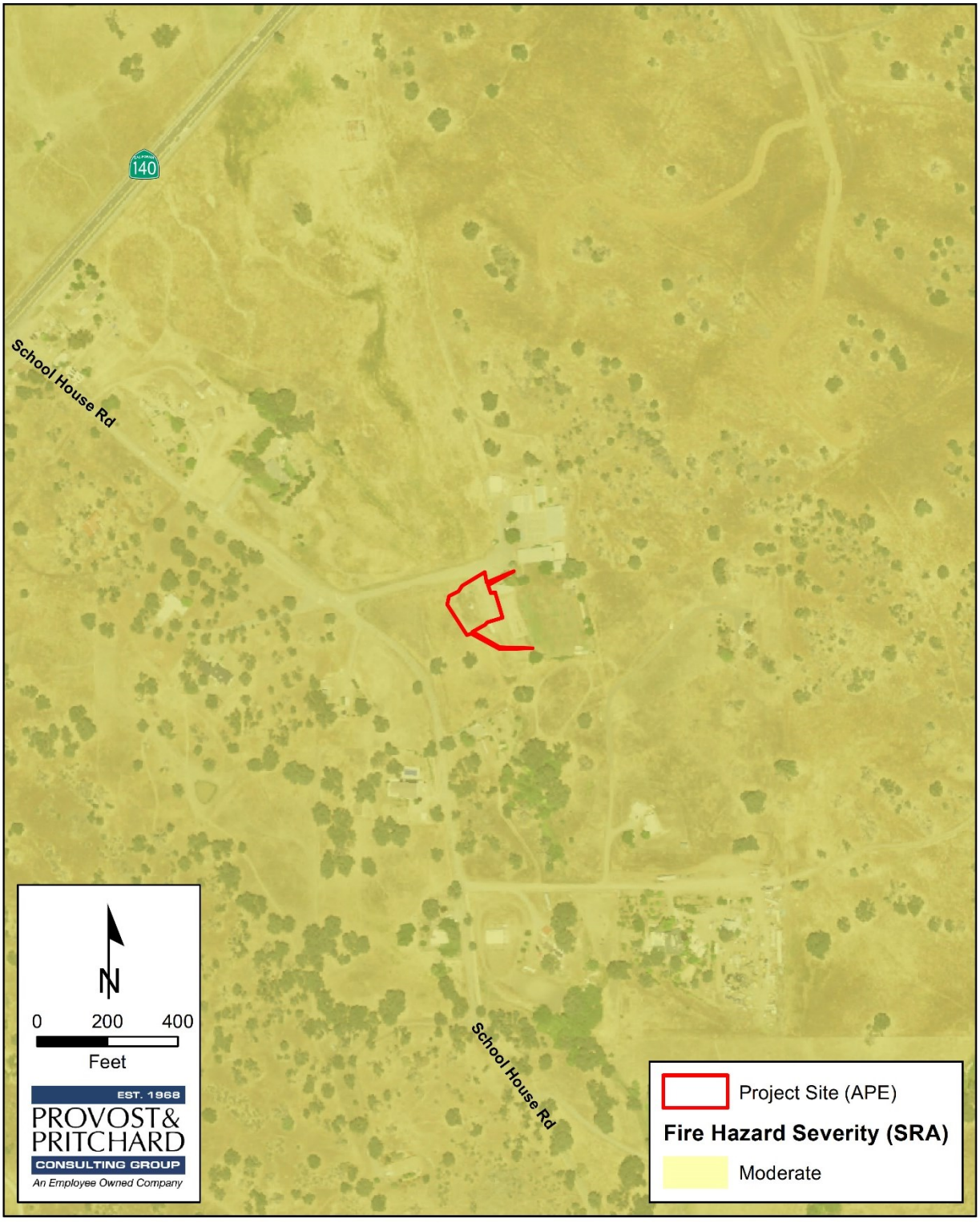

Figure 4-3: Fire Hazard Severity Map

4.21 CEQA MANDATORY FINDINGS OF SIGNIFICANCE

Table 4-25: 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, will have a less than significant effect on the environment. The potential for impacts to biological resources, cultural and tribal cultural resources, and geology and soils from the implementation of the Project will be less than significant with the incorporation of the mitigation measures discussed in Chapter 5 Mitigation, Monitoring, and Reporting Program. Accordingly, the Project will 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 Impact. 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 replace an existing well and associated appurtenant infrastructure. No additional roads would be constructed as a result of the Project, nor would any additional public services be required. The Project is intended to improve water quality and reliability and would not result in direct or indirect population growth. Therefore, implementation of the proposed 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 proposes to construct a new well to replace an existing well and water infrastructure to improve water quality and reliability. The Project in and of itself would not create a significant hazard to the public or the environment. Project implementation would improve water quality. Construction-related air quality/dust exposure 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 proposed 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 the Mariposa County Unified School District. 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
Biological Resources						
BIO-1	The Project's construction activities shall occur, if feasible, between September 16 and January 31 (outside of nesting bird season) in an effort to avoid impacts to nesting birds.	Prior to start of construction	Once	Mariposa Unified	Submittal of a report	
BIO-2	If activities must occur within nesting bird season (February 1 to September 15), a qualified biologist shall conduct pre-construction for nesting bird survey within 10 days prior to the start of construction. The survey shall include the proposed work area and surrounding lands within 50 feet. All raptor nests will be considered "active" upon the nest-building stage.	Prior to start of construction	One time at start of construction	Mariposa Unified	Submittal of a report	
BIO-3	On discovery of any active nests near work areas, the biologist shall determine appropriate construction setback distances based on applicable CDFW and/or USFWS guidelines and/or the biology of the species in question. Construction buffers shall be identified with flagging, fencing, or other easily visible means, and shall be maintained until the biologist has determined that the nestlings have fledged and are no longer dependent on the nest.	Prior to start of construction	One time at start of construction	Mariposa Unified	Submittal of a report	
Cultural and Tribal Cultural Resources						
CUL-1	In the event that archaeological resources are encountered at any time during construction, development or any ground-moving activities within the entire project area, all work in the vicinity of the find shall halt until a qualified archaeologist can assess the discovery. The District shall implement all recommendations of the archaeologist necessary to avoid or reduce to a less than significant level potential impacts to cultural resource. Appropriate actions could include a Data Recovery Plan or preservation in place.	During construction	Upon occurrence	Mariposa Unified	Submittal of a report	

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-2	If human remains are uncovered, or in any other case when human remains are discovered during construction, the Mariposa County Coroner is to be notified to arrange proper treatment and disposition. If the remains are identified—on the basis of archaeological context, age, cultural associations, or biological traits—as those of a Native American origin, California Health and Safety Code 7050.5 and Public Resource Code 5097.98 require that the coroner notify the NAHC within 24 hours of discovery. The NAHC will then identify the Most Likely Descendent (MLD) who will determine the manner in which the remains are treated.	During construction	Upon occurrence	Mariposa County Coroner	Submittal of a report upon occurrence	
Geology and Soils						
GEO-1	If during construction a paleontological resource has been discovered, construction activities shall halt within a 50-foot radius of the discovery. A qualified paleontologist shall be consulted to determine if the paleontological resource is unique. If the resource is unique, the District shall cover all expenses to have the resource archived. If the resource is not unique, construction activity within the discovery shall be allowed to commence.	During construction	Upon occurrence	Mariposa Unified	Submittal of a report upon occurrence	

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Appendix A: CalEEMod Output Files

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Well Replacement

Mariposa County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	1.00	1000sqft	0.02	1,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	1			**Operational Year**	2022
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 - Approximate area of ground disturbance (foundations and trenching)

Construction Phase - No demolition is necessary

Architectural Coating - Parking lot is not modified

Area Coating - Parking lot is not modified

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Parking	60.00	0.00
tblAreaCoating	Area_Parking	60	0

2.0 Emissions Summary

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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					
2021	0.0319	0.3297	0.2922	4.6000e-004	5.6600e-003	0.0182	0.0239	2.6200e-003	0.0168	0.0194	0.0000	40.7748	40.7748	0.0132	0.0000	41.1051
2022	0.0101	0.0958	0.1030	1.6000e-004	3.6000e-004	5.0400e-003	5.4000e-003	9.0000e-005	4.6600e-003	4.7600e-003	0.0000	14.3259	14.3259	4.3100e-003	2.0000e-005	14.4382
Maximum	**0.0319**	**0.3297**	**0.2922**	**4.6000e-004**	**5.6600e-003**	**0.0182**	**0.0239**	**2.6200e-003**	**0.0168**	**0.0194**	**0.0000**	**40.7748**	**40.7748**	**0.0132**	**2.0000e-005**	**41.1051**

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					
2021	0.0319	0.3297	0.2922	4.6000e-004	5.6600e-003	0.0182	0.0239	2.6200e-003	0.0168	0.0194	0.0000	40.7748	40.7748	0.0132	0.0000	41.1051
2022	0.0101	0.0958	0.1030	1.6000e-004	3.6000e-004	5.0400e-003	5.4000e-003	9.0000e-005	4.6600e-003	4.7600e-003	0.0000	14.3259	14.3259	4.3100e-003	2.0000e-005	14.4382
Maximum	**0.0319**	**0.3297**	**0.2922**	**4.6000e-004**	**5.6600e-003**	**0.0182**	**0.0239**	**2.6200e-003**	**0.0168**	**0.0194**	**0.0000**	**40.7748**	**40.7748**	**0.0132**	**2.0000e-005**	**41.1051**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**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	**9-10-2021**	**12-9-2021**	0.2946	0.2946
2	**12-10-2021**	**3-9-2022**	0.1781	0.1781
		Highest	0.2946	0.2946

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	7.0000e-005	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Energy	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
Mobile	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
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**7.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	7.0000e-005	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Energy	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
Mobile	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
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**7.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

	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	Site Preparation	Site Preparation	9/10/2021	9/10/2021	5	1	
2	Grading	Grading	9/11/2021	9/14/2021	5	2	
3	Building Construction	Building Construction	9/15/2021	2/1/2022	5	100	

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4	Paving	Paving	2/2/2022	2/8/2022	5	5	
5	Architectural Coating	Architectural Coating	2/9/2022	2/15/2022	5	5	

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 1.5

Acres of Paving: 0.02

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (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
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Building Construction	Cranes	1	4.00	231	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Grading	Graders	1	6.00	187	0.41
Site Preparation	Graders	1	8.00	187	0.41
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Grading	Rubber Tired Dozers	1	6.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37

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
Site Preparation	2	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Grading	3	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	5	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Preparation - 2021

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					2.7000e-004	0.0000	2.7000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.2000e-004	3.9100e-003	2.0100e-003	0.0000		1.5000e-004	1.5000e-004		1.4000e-004	1.4000e-004	0.0000	0.4276	0.4276	1.4000e-004	0.0000	0.4310
Total	**3.2000e-004**	**3.9100e-003**	**2.0100e-003**	**0.0000**	**2.7000e-004**	**1.5000e-004**	**4.2000e-004**	**3.0000e-005**	**1.4000e-004**	**1.7000e-004**	**0.0000**	**0.4276**	**0.4276**	**1.4000e-004**	**0.0000**	**0.4310**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Site Preparation - 2021

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	2.0000e-005	1.0000e-005	1.3000e-004	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0183	0.0183	0.0000	0.0000	0.0186
Total	**2.0000e-005**	**1.0000e-005**	**1.3000e-004**	**0.0000**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0183**	**0.0183**	**0.0000**	**0.0000**	**0.0186**

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					2.7000e-004	0.0000	2.7000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.2000e-004	3.9100e-003	2.0100e-003	0.0000		1.5000e-004	1.5000e-004		1.4000e-004	1.4000e-004	0.0000	0.4276	0.4276	1.4000e-004	0.0000	0.4310
Total	**3.2000e-004**	**3.9100e-003**	**2.0100e-003**	**0.0000**	**2.7000e-004**	**1.5000e-004**	**4.2000e-004**	**3.0000e-005**	**1.4000e-004**	**1.7000e-004**	**0.0000**	**0.4276**	**0.4276**	**1.4000e-004**	**0.0000**	**0.4310**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Site Preparation - 2021

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	2.0000e-005	1.0000e-005	1.3000e-004	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0183	0.0183	0.0000	0.0000	0.0186
Total	**2.0000e-005**	**1.0000e-005**	**1.3000e-004**	**0.0000**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0183**	**0.0183**	**0.0000**	**0.0000**	**0.0186**

3.3 Grading - 2021

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					5.3100e-003	0.0000	5.3100e-003	2.5700e-003	0.0000	2.5700e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.2900e-003	0.0143	6.3300e-003	1.0000e-005		6.4000e-004	6.4000e-004		5.9000e-004	5.9000e-004	0.0000	1.2384	1.2384	4.0000e-004	0.0000	1.2484
Total	**1.2900e-003**	**0.0143**	**6.3300e-003**	**1.0000e-005**	**5.3100e-003**	**6.4000e-004**	**5.9500e-003**	**2.5700e-003**	**5.9000e-004**	**3.1600e-003**	**0.0000**	**1.2384**	**1.2384**	**4.0000e-004**	**0.0000**	**1.2484**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Grading - 2021

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	6.0000e-005	5.0000e-005	4.3000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0586	0.0586	0.0000	0.0000	0.0596
Total	**6.0000e-005**	**5.0000e-005**	**4.3000e-004**	**0.0000**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0586**	**0.0586**	**0.0000**	**0.0000**	**0.0596**

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					5.3100e-003	0.0000	5.3100e-003	2.5700e-003	0.0000	2.5700e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.2900e-003	0.0143	6.3300e-003	1.0000e-005		6.4000e-004	6.4000e-004		5.9000e-004	5.9000e-004	0.0000	1.2384	1.2384	4.0000e-004	0.0000	1.2484
Total	**1.2900e-003**	**0.0143**	**6.3300e-003**	**1.0000e-005**	**5.3100e-003**	**6.4000e-004**	**5.9500e-003**	**2.5700e-003**	**5.9000e-004**	**3.1600e-003**	**0.0000**	**1.2384**	**1.2384**	**4.0000e-004**	**0.0000**	**1.2484**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Grading - 2021

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	6.0000e-005	5.0000e-005	4.3000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0586	0.0586	0.0000	0.0000	0.0596
Total	**6.0000e-005**	**5.0000e-005**	**4.3000e-004**	**0.0000**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0586**	**0.0586**	**0.0000**	**0.0000**	**0.0596**

3.4 Building Construction - 2021

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	0.0302	0.3114	0.2833	4.4000e-004		0.0175	0.0175		0.0161	0.0161	0.0000	39.0320	39.0320	0.0126	0.0000	39.3476
Total	**0.0302**	**0.3114**	**0.2833**	**4.4000e-004**		**0.0175**	**0.0175**		**0.0161**	**0.0161**	**0.0000**	**39.0320**	**39.0320**	**0.0126**	**0.0000**	**39.3476**

Well Replacement - Mariposa County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Building Construction - 2021

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	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
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**	**0.0000**	**0.0000**

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	0.0302	0.3114	0.2833	4.4000e-004		0.0175	0.0175		0.0161	0.0161	0.0000	39.0320	39.0320	0.0126	0.0000	39.3476
Total	**0.0302**	**0.3114**	**0.2833**	**4.4000e-004**		**0.0175**	**0.0175**		**0.0161**	**0.0161**	**0.0000**	**39.0320**	**39.0320**	**0.0126**	**0.0000**	**39.3476**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Building Construction - 2021

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	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
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**	**0.0000**	**0.0000**

3.4 Building Construction - 2022

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	7.5500e-003	0.0773	0.0787	1.3000e-004		4.0900e-003	4.0900e-003		3.7600e-003	3.7600e-003	0.0000	11.0163	11.0163	3.5600e-003	0.0000	11.1053
Total	**7.5500e-003**	**0.0773**	**0.0787**	**1.3000e-004**		**4.0900e-003**	**4.0900e-003**		**3.7600e-003**	**3.7600e-003**	**0.0000**	**11.0163**	**11.0163**	**3.5600e-003**	**0.0000**	**11.1053**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Building Construction - 2022

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	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
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**	**0.0000**	**0.0000**

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	7.5500e-003	0.0773	0.0787	1.3000e-004		4.0900e-003	4.0900e-003		3.7600e-003	3.7600e-003	0.0000	11.0162	11.0162	3.5600e-003	0.0000	11.1053
Total	**7.5500e-003**	**0.0773**	**0.0787**	**1.3000e-004**		**4.0900e-003**	**4.0900e-003**		**3.7600e-003**	**3.7600e-003**	**0.0000**	**11.0162**	**11.0162**	**3.5600e-003**	**0.0000**	**11.1053**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Building Construction - 2022

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	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
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**	**0.0000**	**0.0000**

3.5 Paving - 2022

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	1.6200e-003	0.0148	0.0176	3.0000e-005		7.4000e-004	7.4000e-004		6.9000e-004	6.9000e-004	0.0000	2.3492	2.3492	6.8000e-004	0.0000	2.3663
Paving	3.0000e-005					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.6500e-003**	**0.0148**	**0.0176**	**3.0000e-005**		**7.4000e-004**	**7.4000e-004**		**6.9000e-004**	**6.9000e-004**	**0.0000**	**2.3492**	**2.3492**	**6.8000e-004**	**0.0000**	**2.3663**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Paving - 2022

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	3.4000e-004	2.3000e-004	2.2000e-003	0.0000	3.6000e-004	0.0000	3.6000e-004	9.0000e-005	0.0000	1.0000e-004	0.0000	0.3222	0.3222	2.0000e-005	2.0000e-005	0.3272
Total	**3.4000e-004**	**2.3000e-004**	**2.2000e-003**	**0.0000**	**3.6000e-004**	**0.0000**	**3.6000e-004**	**9.0000e-005**	**0.0000**	**1.0000e-004**	**0.0000**	**0.3222**	**0.3222**	**2.0000e-005**	**2.0000e-005**	**0.3272**

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	1.6200e-003	0.0148	0.0176	3.0000e-005		7.4000e-004	7.4000e-004		6.9000e-004	6.9000e-004	0.0000	2.3492	2.3492	6.8000e-004	0.0000	2.3663
Paving	3.0000e-005					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.6500e-003**	**0.0148**	**0.0176**	**3.0000e-005**		**7.4000e-004**	**7.4000e-004**		**6.9000e-004**	**6.9000e-004**	**0.0000**	**2.3492**	**2.3492**	**6.8000e-004**	**0.0000**	**2.3663**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Paving - 2022

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	3.4000e-004	2.3000e-004	2.2000e-003	0.0000	3.6000e-004	0.0000	3.6000e-004	9.0000e-005	0.0000	1.0000e-004	0.0000	0.3222	0.3222	2.0000e-005	2.0000e-005	0.3272
Total	**3.4000e-004**	**2.3000e-004**	**2.2000e-003**	**0.0000**	**3.6000e-004**	**0.0000**	**3.6000e-004**	**9.0000e-005**	**0.0000**	**1.0000e-004**	**0.0000**	**0.3222**	**0.3222**	**2.0000e-005**	**2.0000e-005**	**0.3272**

3.6 Architectural Coating - 2022

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.1000e-004	3.5200e-003	4.5300e-003	1.0000e-005		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	0.6383	0.6383	4.0000e-005	0.0000	0.6394
Total	**5.1000e-004**	**3.5200e-003**	**4.5300e-003**	**1.0000e-005**		**2.0000e-004**	**2.0000e-004**		**2.0000e-004**	**2.0000e-004**	**0.0000**	**0.6383**	**0.6383**	**4.0000e-005**	**0.0000**	**0.6394**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Architectural Coating - 2022

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	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
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**	**0.0000**	**0.0000**

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.1000e-004	3.5200e-003	4.5300e-003	1.0000e-005		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	0.6383	0.6383	4.0000e-005	0.0000	0.6394
Total	**5.1000e-004**	**3.5200e-003**	**4.5300e-003**	**1.0000e-005**		**2.0000e-004**	**2.0000e-004**		**2.0000e-004**	**2.0000e-004**	**0.0000**	**0.6383**	**0.6383**	**4.0000e-005**	**0.0000**	**0.6394**

Well Replacement - Mariposa County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Architectural Coating - 2022

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	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
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**	**0.0000**	**0.0000**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	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	0.0000	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
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	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

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
Other Asphalt Surfaces	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
Other Asphalt Surfaces	0.366471	0.084153	0.215570	0.172698	0.074530	0.013792	0.008329	0.004122	0.000804	0.000333	0.045177	0.003614	0.010407

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.0 Energy Detail

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	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
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 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					
Other Asphalt Surfaces	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					
Other Asphalt Surfaces	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 Applied

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	7.0000e-005	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Unmitigated	7.0000e-005	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	6.0000e-005					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Total	**6.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	6.0000e-005					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Total	**6.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

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 Applied

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**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 Applied

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	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 Applied

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

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

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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

Biological Evaluation

SELF-HELP ENTERPRISES

SIERRA FOOTHILL CHARTER SCHOOL WELL PROJECT

SEPTEMBER 1, 2021

Jacob A. Rogers, Biologist
PROVOST & PRITCHARD CONSULTING GROUP | 455 W. FIR ST, CLOVIS CA 93611

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I. Introduction

The following technical report, prepared by Provost & Pritchard Consulting Group, in compliance with the California Environmental Quality Act (CEQA) includes a description of the biological resources present or with potential to occur within the proposed Sierra Foothill Charter School New Well Project (Project) and surrounding areas, and evaluates potential Project-related impacts to those resources.

Project Description

Sierra Foothill Charter School (School), is a small, public, K–8 school of approximately 120 students and staff. The school is located in the community of Cathey's Valley, Mariposa County, California. SFCS currently operates a water system with one active well that serves the school property. In 2016, the nitrate levels in the active well exceeded the maximum containment levels regulated by the State Water Resources Control Board (SWRCB). Currently, the School ships water in every two months to provide safe drinking water to the School.

The Project consists of improving the existing water system by installing a new well to improve the water system. Project activities include the installation of a well, storage tanks, a pump house, booster pumps and a standby generator. The new infrastructure would be connected to the existing distribution system. The overall Project consists of approximately 0.33-acres. Trees would not be removed as part of construction activities, and vegetation removal is minimal. Figure 3 illustrated the Area of Potential Effect (APE), for the Project.

Report Objectives

Construction activities such as that proposed by the Project could potentially damage biological resources or modify habitats that are crucial for sensitive plant and wildlife species. In cases such as these, development may be regulated by State or federal agencies, and/or addressed by local regulatory agencies.

This report addresses issues related to the following:

1. The presence of sensitive biological resources onsite, or with the potential to occur onsite.
2. The federal, State, and local regulations regarding these resources.
3. Mitigation measures that may be required to reduce the magnitude of anticipated impacts and/or comply with permit requirements of state and federal resource agencies.

Therefore, the objectives of this report are:

1. Summarize all site-specific information related to existing biological resources.
2. Make reasonable inferences about the biological resources that could occur onsite based on habitat suitability and the proximity of the site to a species' known range.
3. Summarize all State and federal natural resource protection laws that may be relevant to the APE.
4. Identify and discuss Project impacts to biological resources likely to occur onsite within the context of CEQA and/or State or federal laws.
5. Identify and publish a set of avoidance and mitigation measures that would reduce impacts to a less-than-significant level (as identified by CEQA) and are generally consistent with recommendations of the resource agencies for affected biological resources.

Study Methodology

A reconnaissance-level field survey of the Project site and surrounding areas was conducted on August 3, 2021, by Provost & Pritchard biologist, Jacob Rogers. The survey consisted of walking the APE while identifying and

noting plant and animal species encountered, biological habitats and communities, and land uses. Furthermore, the site and surrounding areas were assessed for suitable habitats of various wildlife species.

The biologist conducted an analysis of potential Project-related impacts to biological resources based on the resources known to exist or with potential to exist within the APE. Sources of information used in preparation of this analysis included: the California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB); the California Native Plant Society (CNPS) Online Inventory of Rare and Endangered Vascular Plants of California; CalFlora's online database of California native plants; the Jepson Herbarium online database (Jepson eFlora); United States Fish and Wildlife Service (USFWS) Environmental Conservation Online System (ECOS); the NatureServe Explorer online database; the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Plants Database; CDFW California Wildlife Habitat Relationships (CWHR) database; the California Herps online database; and various manuals, reports, and references related to plants and animals of the San Joaquin Valley region.

The field investigation did not include focused surveys for special status species. The field survey conducted included the appropriate level of detail to assess the significance of potential impacts to sensitive biological resources resulting from the Project. Furthermore, the field survey was sufficient to generally describe those features of the Project that could be subject to the jurisdiction of federal and/or State agencies, such as the United States Army Corps of Engineers (USACE), CDFW, Regional Water Quality Control Board (RWQCB) and SWRCB and used to support CEQA documents.

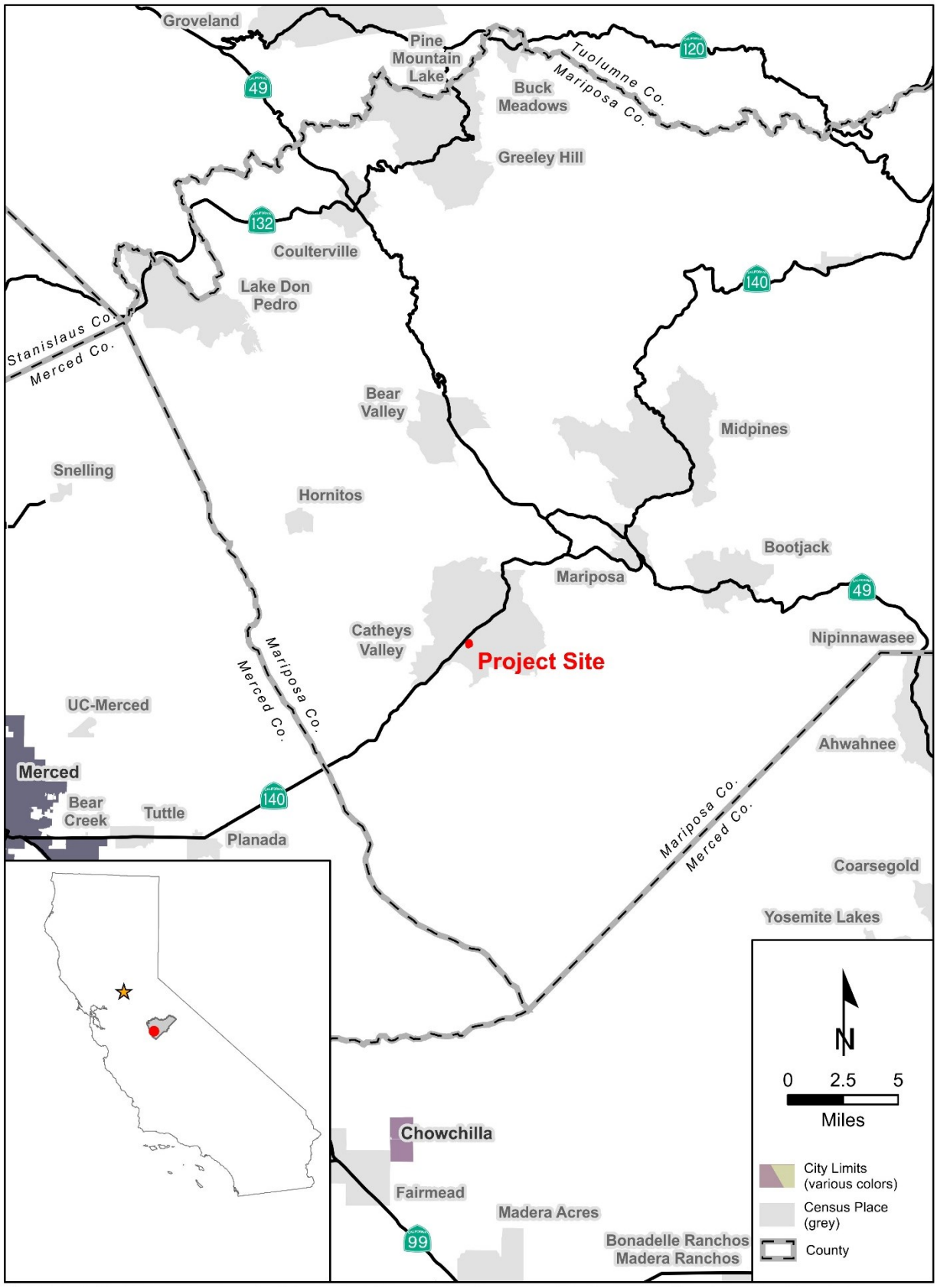

Figure 1. Regional Location Map

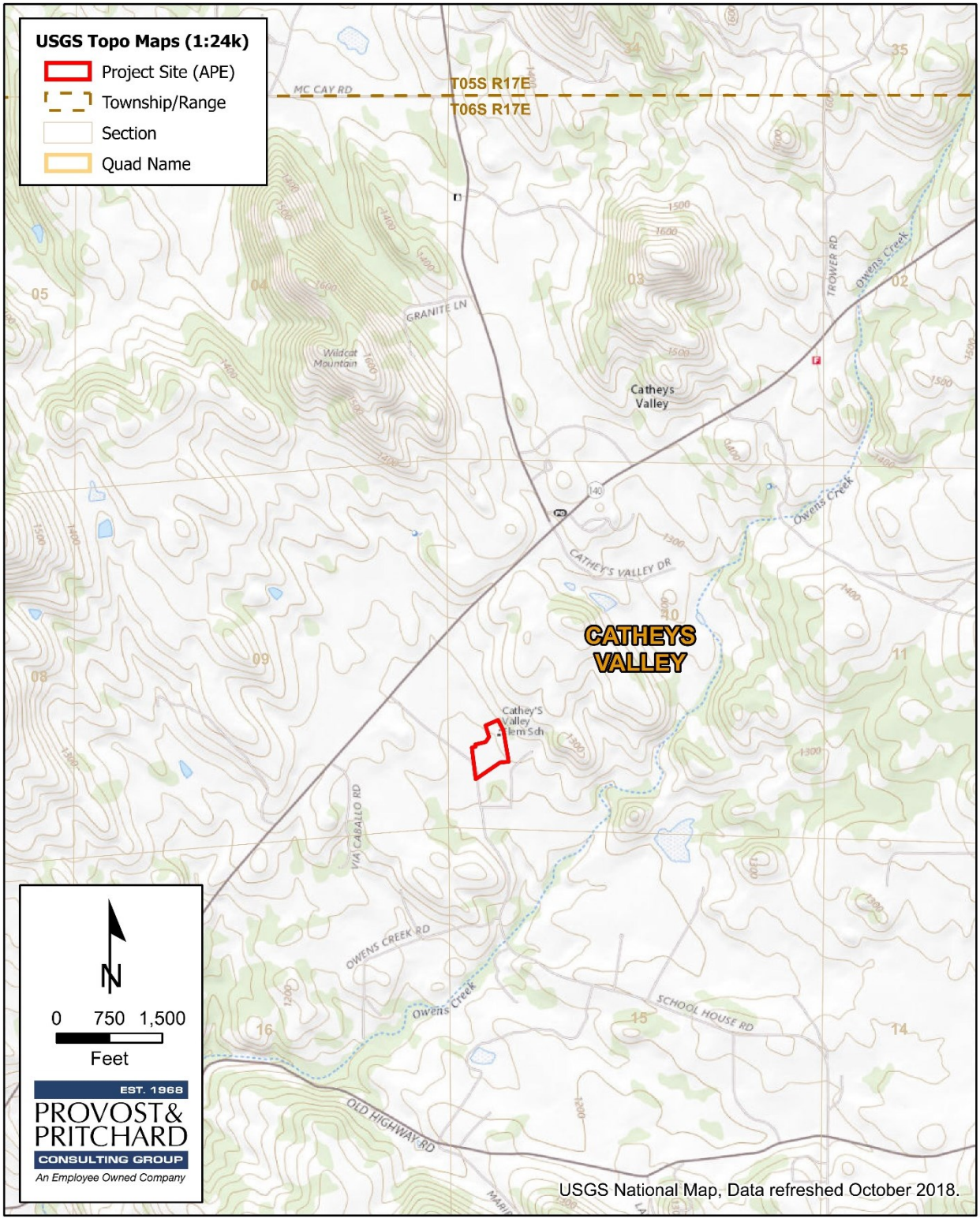

Figure 2. Topographic Quadrangle Map

Figure 3. Area of Potential Effect

II. Existing Conditions

Regional Setting

The Project site is located in the County of Mariposa, near Cathey's Valley, CA (see **Figure 1** and **Figure 2**). This area is within the San Joaquin Valley and lies west of the foothills of the Sierra Nevada Mountain Range. The topography is generally level with the underlying rock formations of sandstone and is located near an active portion of the San Andreas Fault.

Cathey's Valley experiences a Mediterranean climate. Warm, dry summers are followed by cool, moist winters. Summer temperatures range from 70 to 80 degrees Fahrenheit (F), but often exceeds 90 degrees F. Winter minimum temperatures are near 40 degrees F. Near Cathey's Valley, the average annual precipitation is approximately 30 inches, falling mainly from October to April.

The Project site lies within the Owens Creek watershed; Hydrologic Unit Code (HUC): 1804000117 and a single subwatershed: Upper Owens Creek; HUC: 180400011702.

The principal drainage comes from Owens Creek. Rainfall events from the west slopes of the Sierra Nevada Mountain Range, feed into the upportion of Owens Creek, which runs through Cathey's Valley. The creek is approximately 0.5 miles away from the APE.

Photographs of the APE and vicinity are available in **Appendix B**.

Project Site

Ruderal

As illustrated in **Figure 3**, the APE includes approximately 0.33-acres of school land within Cathey's Valley, CA. The APE is located Southeast of School House Road, south of Highway 144, and north of Owens Creek Road. The APE is primarily surrounded by oak woodland and uninhabited, open space terrain. Residential areas of Cathey's Valley sit approximately 0.6 miles north of the School.

The APE is dominated by pavement, bare ground, loose soil, and herbaceous vegetation. There are no naturally flowing waters within the APE; however, there is a single upland ephemeral drainage formed from the collection of stormwater through two culverts located within the APE. This drainage begins approximately 20 yards north outside of the APE and terminates near the southeast boundary within the APE. This drainage is very small and holds water only during storm event and dissipates within a few days after the storm ends. The drainage is overgrown with herbaceous vegetation and provides very little value to wildlife within the APE.

Vegetation within the APE includes blue oak (*Quercus douglasii*), maltase star thistle (*Centaurea melitensis*), narrowleaf milkweed (*Asclepias fascicularis*), squirreltail (*Elymus elymoides*), stinkwort (*Datura stramonium*), turkey mullein (*Croton Setigerus*), wild mustard (*Sinapis arvensis*), and winterfat (*Krascheninnikovia lanata*). The vegetation in and around the ephemeral drainage is nonhydric and consists of upland grasses. Representative photographs of the site at the time of the survey are presented in **Appendix B** at the end of this document.

The survey of the APE resulted in the identification of numerus bird species including Acorn Woodpecker (*Melanerpes formicivorus*), House Finch (*Haemorhous mexicanus*), Lesser Goldfinch (*Spinus psaltria*), Mourning Dove (*Zenaida macroura*), Northern Mockingbird (*Mimus polyglottos*), Turkey Vulture (*Cathartes aura*), and White-breasted Nuthatch (*Sitta carolinensis*). Active bird nests were not observed within the APE. The survey also resulted in the identification of Western fence lizard (*Sceloporus occidentalis*).

Potential ground burrows were observed within the APE. Due to the size of openings and lack of markings around the structures (e.g., scat, footprints, and tail drags), it was determined the burrows were likely created by California ground squirrels (*Otospermophilus beecheyi*) and Botta's pocket gophers (*Thomomys bottae*), and not special-status mammals such as certain kangaroo rats (sp. *Dipodomys*) and San Joaquin kit fox (*Vulpes macrotis mutica*).

Vegetation within the APE is surrounded by pavement and maintained lawns. The lack of continuous tracts of vegetation and continued disturbance within the APE, offers very little value to wildlife. However surrounding areas may provide high quality habitat. Mitigation measures designed to avoid impacts to special status species, though minimal, are discussed in Section III.

Soils

Two soil mapping units representing two soil types were identified within the APE. The soils are displayed with their core properties in Table 1 below, according to the Major Land Resource Area of California (MLRA) 2019 map area. Both soils are primarily used for agriculture in the form of irrigated cropland or rangeland, and naturally feature annual grasses and forbs in uncultivated areas, as well as shrubs and blue oak trees.

Table 1. Soils in the Area of Potential Effect.

Soil	*Soil Map Unit*	*Percent of APE*	*Hydric Unit*	*Hydric Minor Units*	*Drainage*	*Permeability*	*Runoff*
Blansingame -Las Posas	Blansinga loam, 2 to 15 % slopes	45.6%	No	No	Well drained	Moderately slow permeability	High runoff
Clayey	Clayey alluvial land	54.4%	No	No	Moderately well drained	Moderate permeability	Very high runoff

None of the major soil mapping units were identified as hydric. Hydric soils are saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions which, under sufficiently wet conditions, can support hydrophytic vegetation.

Natural Communities of Special Concern

Natural communities of special concern are those of limited distribution, distinguished by significant biological diversity, or home to special status species. CDFW is responsible for the classification and mapping of all-natural communities in California. Just as the special status plant and animal species, these natural communities of special concern can be found within CNDDB.

According to CNDDB, there are no recorded observations of natural communities of special concern with potential to occur within the APE or vicinity. Additionally, no natural communities of special concern were observed during the biological survey.

Designated Critical Habitat of the APE

The USFWS often designates areas of "Critical Habitat" when it lists species as threatened or endangered. Critical Habitat is a specific geographic area that contains features essential for the conservation of a threatened or endangered species and may require special management or protection. According to CNDDB and IPaC, designated critical habitat is absent from the APE and vicinity.

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.

The APE does not contain features that would be likely to function as wildlife movement corridors. Further, the Project is located in an area often disturbed by school activities, which would discourage dispersal and migration. Although there is not a specific corridor, the surrounding areas of the APE are open spaces which wildlife may move through freely.

Special Status Plants and Animals

California contains several "rare" plant and animal species. In this context, rare is defined as species known to have low populations or limited distributions. As human population grows, urban expansion encroaches on the already-limited suitable habitat. This results in sensitive species becoming increasingly more vulnerable to extirpation. State and federal regulations have provided CDFW and USFWS with a mechanism for conserving and protecting the diversity of plant and animal species native to California. Numerous native plants and animals have been formally designated as "threatened" or "endangered" under State and federal endangered species legislation. Other formal designations include "candidate" for listing or "species of special concern" by CDFW. The CNPS has a list of native plants considered rare, threatened, or endangered. Collectively these plants and animals are referred to as "special status species."

A thorough search of CNDDB for published accounts of special status plant and animal species was conducted for the *Cathey's Valley* 7.5-minute quadrangle, which contains the entire Project site, and for the eight surrounding quadrangles: *Hornitos, Bear Valley, Feliciana Mountain, Indian Gulch, Mariposa, Owens Reservoir, Illinois Hill,* and *Ben Hur*. These species, and their potential to occur within the APE, are listed in **Table 2** and **Table 3** on the following pages. Raw data obtained from CNDDB is available in **Appendix B**. All relevant sources of information, as discussed in the Study Methodology section of this report (above), were used to determine if any special status species are known to be within the Project APE. Figure 2 shows the Project's 7.5-minute quadrangle, according to United States Geological Survey Topographic Maps.

Table 2. List of Special Status Animals with Potential to Occur Onsite and/or in the Vicinity.

Species	*Status*	*Habitat*	*Occurrence on Project Site*
Bald Eagle (*Haliaeetus leucocephalus*)	CE, CFP	Resides in old growth forests as well as lower montane coniferous forests. Nests are generally found in large, old-growth trees within a mile of water. Nests and winters along ocean shores, lake margins, and rivers.	**Unlikely**. The disturbed habitat of the APE is unsuitable for this species. Trees within the APE would be unlikely to support nesting. An individual flying over the APE is possible, but unlikely.
California tiger salamander (*Ambystoma californiense*)	FT, CT, CWL	Requires vernal pools or seasonal ponds for breeding and small mammal burrows for aestivation. Generally found in grassland and oak savannah plant communities in central California from sea level to 1500 feet in elevation.	**Absent**. The disturbed habitats of the APE are unsuitable for this species. There have been no observations of this species within 5 miles of the APE, however the surrounding oak savannah habitat could offer high quality habitat for this species.
Hardhead (*Mylopharodon conocephalus*)	CSC	Occurs in low- to mid-elevation streams in the Sacramento-San Joaquin drainage. Clear, deep pools with sand-gravel-boulder bottoms and slow-moving water is required. This species is often sympatric with Sacramento pikeminnow and Sacramento sucker. Hardhead are typically absent form streams occupied by centrarchids and from heavily altered habitats.	**Absent**. The APE is unsuitable for this species, as there is no naturally flowing water within the APE. There have been no observations of this species within 5 miles of the APE.
Crotch bumblebee (*Bombus crotchii*)	CCE	Occurs throughout coastal California, as well as east to the Sierra-Cascade crest, and south to Mexico. Food plant genera include Antirrhinum, Phacelia, Clarkia, Dendromecon, Eschscholzia, and Eriogonum.	**Unlikely**. Flora required by this species are absent from the APE. However, this species was observed approximately 3.5 miles from the APE in 2020.
Foothill yellow-legged frog (*Rana boylii*)	CCT, CSC	Frequents rocky streams and rivers with rocky substrate and open, sunny banks in forests, chaparral, and woodlands. Occasionally found in isolated pools, vegetated backwaters, and deep, shaded, spring-fed pools.	**Absent**. The disturbed habitats of the APE are unsuitable for this species as there is no naturally flowing water within the APE. There have been no observations of this species within 5 miles of the APE.
Limestone salamander (*Hydromantes brunus*)	CWL	Limestone outcrops in foothill pine-chaparral belt along the Merced River and its tributaries, from 800-2600 feet in elevation.	**Absent**. The disturbed habitats of the APE are unsuitable for this species. Limestone outcrops are not present within the APE. There have been no observations of this species within 5 miles of the APE.
Merlin (*Falco columbarius*)	CWL	Found throughout North America in habitats ranging from tidal estuaries to open woodlands and valley grasslands. Generally roosts in clumps of trees or windbreaks.	**Unlikely**. The disturbed habitat of the APE is unsuitable for this species. Trees within the APE would be unlikely to support nesting. An individual flying over the APE is possible, but unlikely.

Species	*Status*	*Habitat*	*Occurrence on Project Site*
Pallid bat (*Antrozus pallidus*)	CSC	Found in grasslands, chaparral, and woodlands, where it feeds on ground- and vegetation-dwelling arthropods, and occasionally takes insects in flight. Prefers to roost in rock crevices, but may also use tree cavities, caves, bridges, and other man-made structures.	**Unlikely**. Roosting habitat is absent within the APE. At most, this species could forage on flying arthropods over the adjacent oak savannah habitats.
Sierra Nevada yellow-legged frog (*Rana sierrae*)	FE, CT	Always encountered within a few feet of water. Tadpoles may require 2 - 4 yrs to complete their aquatic development.	**Absent**. The APE is unsuitable for this species, as there is no naturally flowing water within the APE. There have been no observations of this species within 5 miles of the APE.
Spotted bat (*Euderma maculatum*)	CSC	Roosts in cliffs, rock crevices, and caves. Forages over water and along washes. Feeds almost exclusively on moths.	**Unlikely**. Roosting habitat is absent within the APE. At most, this species could forage on flying arthropods over the adjacent oak savannah habitats.
Swainson's Hawk *(Buteo swainsoni)*	CT	Nests in large trees in open areas adjacent to grasslands, grain or alfalfa fields, or livestock pastures suitable for supporting rodent populations.	**Unlikely**. The disturbed habitats of the APE are unsuitable for this species. Trees within the APE would be unlikely to support nesting. An individual flying over the APE is possible, but unlikely. There have been no observations of this species within 5 miles of the APE.
Vernal pool tadpole shrimp (*Lepidurus packardi*)	FE	Occurs in vernal pools, clear to tea-colored water, in grass or mud-bottomed swales, and basalt depression pools.	**Absent**. Suitable vernal pool habitat for this species is absent from the APE and surrounding lands. There have been no observations of this species within 5 miles of the APE.
Townsend's big-eared bat (*Corynorhinus townsendii*)	CSC	Occurs in a variety of habitats, but prefers cool, dark roost sites, and are often found in caves and mines. They roost in the open, hanging from walls and ceilings. Western populations typically forage on moths in areas of dense foliage.	**Unlikely**. Roosting habitat is absent within the APE. At most, this species could forage on flying arthropods over the adjacent agricultural areas.
Tricolored Blackbird *(Agelaius tricolor)*	CT, CSC	Nests colonially near fresh water in dense cattails or tules, or in thickets of riparian shrubs. Forages in grassland and cropland. Large colonies are often found on dairy farm forage fields.	**Unlikely**. The disturbed habitat of the APE is unsuitable for this species, as they are no cattails, tules, or riparian shrubs within the APE. Further there is no naturally flowing water within the APE, which this species requires.
Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*)	FT	Lives in mature elderberry shrubs of the Central Valley and foothills. Adults are active March to June.	**Absent**. Suitable elderberry habitat is absent within the APE. Further, the APE is not located within the presumed current distribution of this species. However, this species was observed approximately 6 miles from the APE in 2007.

Species	*Status*	*Habitat*	*Occurrence on Project Site*
Vernal pool fairy shrimp (*Branchinecta lynchi*)	FT	Occupies vernal pools, clear to tea-colored water, in grass or mud-bottomed swales, and basalt depression pools.	**Absent**. Suitable vernal pool habitat for this species is absent from the APE and surrounding lands.
Western pond turtle (*Emys marmorata*)	CSC	An aquatic turtle of ponds, marshes, slow-moving rivers, streams, and irrigation ditches with riparian vegetation. Requires adequate basking sites and sandy banks or grassy open fields to deposit eggs.	**Unlikely**. Breeding habitat is absent from the APE, and surrounding lands. However, oak savannah habitat surrounding the APE could be used for foraging.
Western spadefoot *(Spea hammondii)*	CSC	Prefers open areas with sandy or gravelly soils, in a variety of habitats including mixed woodlands, grasslands, coastal sage scrub, chaparral, sandy washes, lowlands, river floodplains, alluvial fans, playas, alkali flats, foothills, and mountains. Vernal pools or temporary wetlands, lasting a minimum of three weeks, which do not contain bullfrogs, fish, or crayfish are necessary for breeding.	**Unlikely**. Aquatic habitat required by this species is absent from the APE. The disturbed habitats of the APE are also unsuitable for this species. This species was last observed in the region in 1952, 2.5 miles south of the APE.

Table 3. List of Special Status Plants with Potential to Occur Onsite and/or in the Vicinity.

Species	*Status*	*Habitat*	*Occurrence on Project Site*
Beaked clarkia (*Clarkia rostrata*)	CNPS 1B	Found in woodlands and valley foothill grasslands on the west slope of the Sierra Nevada range, around 1,640 feet in elevation. Blooms April – May.	**Unlikely**. The disturbed habitats of the APE are unsuitable for this species. The surrounding oak savannah habitat could potentially host individuals. This species was last observed in 2009, 5.5 miles from the APE.
Big-scale balsamroot (*Balsamorhiza macrolepis*)	CNPS 1B	Chaparral, valley and foothill grassland, cismontane woodland.	**Unlikely**. The disturbed habitats of the APE are unsuitable for this species. Nearby open grasslands could provide habitat, but there have been no observations of this species within 5 miles of the APE.
Colusa grass (*Neostapfia colusana*)	FT, CE, CNPS 1B	Found in vernal pools in the San Joaquin Valley at elevations below 410 feet. Blooms May – August.	**Unlikely**. The disturbed habitats of the APE are unsuitable for this species. There are no vernal pools within the APE. Further, the APE is out of the elevation range for this species.
Dwarf downingia (*Downingia pusilla*)	CNPS 2B	Found in vernal pools in valley and foothill grassland communities at elevations below 1600 feet. Blooms March – May.	**Absent**. The disturbed habitats of the APE are unsuitable for this species. Suitable grassland habitat and vernal pools are absent from the APE. There have been no observations of this species within 5 miles of the APE.

Species	*Status*	*Habitat*	*Occurrence on Project Site*
Greene's tuctoria (*Tuctoria greenei*)	FE, CR, CNPS 1B	Found in the San Joaquin Valley and other parts of California in vernal pools within valley grassland, wetland, and riparian communities at elevations below 3500 feet. Blooms May – September.	**Absent**. The disturbed habitats of the APE are unsuitable for this species. Suitable grassland habitat is absent from the APE.
Koch's cord moss (*Entosthodon kochii*)	CNPS 1B	Found no moss growing on soil on riverbanks in cismontane woodland.	**Absent**. The disturbed habitats of the APE are unsuitable for this species. There are no riverbanks within the APE.
Hoover's cryptantha (*Cryptantha hooveri*)	CNPS 1A	Presumed extirpated in California. Found in valley and foothill grassland and inland dunes in coarse sand at elevations below 250 feet. Blooms Mar – May.	**Absent**. Suitable habitat required by this species is absent from the APE and surrounding lands. This species is assumed extirpated from California.
Madera leptosiphon (*Leptosiphon serrulatus*)	CNPS 1B	Found in openings in foothill woodland, often yellow-pine forest, and chaparral at elevations between 1000 feet and 4300 feet. Blooms April – May.	**Unlikely**. The disturbed habitats of the APE are unsuitable for this species. One observation was reported less than a mile from the APE, however this record is over 60 years old.
Mariposa clarikia (*Clarkia biloba ssp. australis*)	CNPS 1B	Found in chaparral and cismontane woodland. Several sites occur in the foothill woodland-riparian ecotone.	**Absent**. Suitable habitat required by this species is absent from the APE and surrounding lands. Oak woodland surrounding the APE may have potential to support this species, but there have been no observations within 5 miles of the APE.
Mariposa cryptantha (*Cryptantha mariposae*)	CNPS 1B	Found in chaparral and serpentine outcrops.	**Absent**. Suitable habitat required by this species is absent from the APE and surrounding lands. The APE does not support chapparal or serpentine outcrop habitat.
Mariposa daisy (*Erigeron mariposanus*)	CNPS 1A	Found in cismontane woodland.	**Absent**. This species has been presumed extinct from California for over 100 years.
Mariposa lupine (*Lipinus citrinus var. deflexus*)	CT, CNPS 1B	Found in chaparral and cismontane woodland. Specifically within decomposed granitic sand on hilltops and hillsides on western slope of the Sierra Nevada.	**Unlikely**. The disturbed habitats of the APE are unsuitable for this species. The surrounding oak woodland areas could potentially host this species. It was last observed in the region in 2009 approximately 9 miles east of the APE.
Mariposa pussypaws (*Calyptridium pulchellum*)	FT, CNPS 1B	Found in chaparral and cismontane woodland. Specifically on granite domes.	**Unlikely**. The disturbed habitats of the APE are unsuitable for this species. The surrounding oak woodland areas could potentially host this species. It was last observed in the region in 1998 approximately 8 miles east of the APE.
Parry's horkelia (*Horkelia parryi*)	CNPS 1B	Found in openings within chaparral and cismontane woodland.	**Unlikely**. The disturbed habitats of the APE are unsuitable for this species. The surrounding oak woodland areas could potentially host this species; however, this species has not been observed within 5 miles of the APE.

Species	*Status*	*Habitat*	*Occurrence on Project Site*
Rawhide Hill onion (*Allium tuolumnense*)	CNPS 1B	Restricted to serpentine soil, usually in grey pine chaparral. steep, rocky, south-facing slopes or small drainages.	**Absent**. The disturbed habitats of the APE are unsuitable for this species. The APE does not support serpentine soil or grey pine chapparal. This species has not been observed within 5 miles of the APE.
Shaggyhair lupine (*Lupinus spectabilis*)	CNPS 1B	Found on open rocky slopes of serpentine. Mostly on serpentine chaparral surrounded by grey pine woodland.	**Absent**. The disturbed habitats of the APE are unsuitable for this species. The APE does not support gray pine woodland. This species has not been observed within 5 miles of the APE.
Shining navarretia (*Navarretia nigelliformis ssp. radians*)	CNPS 1B	Found in cismontane woodland and valley and foothill grassland communities, sometimes in vernal pools. Occurs at elevations between 200 feet and 3200 feet. Blooms May – July.	**Absent**. The disturbed habitats of the APE are unsuitable for this species. Oak woodland surrounding the APE may have potential to support this species, but there have been no observations within 5 miles of the APE.
Pincushion navarettia (*Navarretia myersii* spp. *myersii*)	CNPS 1B	Found in vernal pools in clay soils at elevations between 65-295 feet. Often associated with non-native grasslands. Blooms in May.	**Absent**. Suitable habitat required by this species is absent from the APE and surrounding lands. There are no vernal pools within the APE. Further, the APE is out of the elevation range for this species.
Pleasant Valley mariposa-lily (*Calochortus clavatus* var. *avius*)	CNPS 1B	Found in the lower montane coniferous forests of the Sierra Nevada range, often in rocky areas at elevations between 2,950-5,900 feet. Blooms May – July.	**Absent**. The disturbed habitats of the APE are unsuitable for this species. The APE is not within the elevational range of this species.
San Joaquin Valley Orcutt grass (*Orcuttia inaequalis*)	FT, CE, CNPS 1B	Found in the eastern San Joaquin Valley and the Sierra Nevada foothills in vernal pools within valley grassland, freshwater wetland, and wetland-riparian communities at elevations below 2600 feet. Blooms April – September.	**Absent**. The disturbed habitats of the APE are unsuitable for this species. There are no vernal pools within the APE.
Sanford's arrowhead (*Sagittaria sanfordii*)	CNPS 1B	Found in the San Joaquin Valley and other parts of California in freshwater-marsh, primarily ponds and ditches, at elevations below 1000 feet. Blooms May–October.	**Unlikely**. The disturbed habitats of the APE are unsuitable for this species. There are no bodies of water within the APE and the APE is not within the elevational range of this species.
slender-stalked monkeyflower (*Erythranthe gracilipes*)	CNPS 1B	Found in disturbed areas, such as right of ways and burns. Can also be found in the cracks of large granitic rocks in chaparral habitats. Grows at elevations between 1640 and 4265 feet. Blooms April – May.	**Absent**. The disturbed habitats of the APE are unsuitable for this species. The APE is not within the elevational range of this species.

Species	*Status*	*Habitat*	*Occurrence on Project Site*
Spiny-sepaled button-celery (*Eryngium spinosepalum*)	CNPS 1B	Found in the Sierra Nevada Foothills and the San Joaquin Valley. Occurs in vernal pools, swales, and roadside ditches. Often associated with clay soils in vernal pools within grassland communities. Occurs at elevations between 50 feet and 4160 feet. Blooms April–July.	**Unlikely**. The disturbed habitats of the APE are unsuitable for this species. There are no vernal pools or water bodies within the APE.
Succulent owl's-clover (*Castilleja campestris var. succulenta*)	FT, CE, CNPS 1B	Found in vernal pools, often in acidic soils at elevations below 2500 feet. Blooms April – July.	**Absent**. The disturbed habitats of the APE are unsuitable for this species. There are no vernal pools within the APE.
Yellow-lip pansy monkeyflower (*Diplacus pulchellus*)	CNPS 1B	Found in Lower montane coniferous forest, meadows and seeps.	**Absent.** The disturbed habitats of the APE are unsuitable for this species. The APE or surrounding area does not support coniferous forest, meadows, or seeps.

EXPLANATION OF 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 due to absence of suitable habitat.

STATUS CODES

FE	Federally Endangered
FT	Federally Threatened
FPE	Federally Endangered (Proposed)
FPT	Federally Threatened (Proposed)
FC	Federal Candidate

CE	California Endangered
CT	California Threatened
CCT	California Threatened (Candidate)
CFP	California Fully Protected
CSC	California Species of Concern
CWL	California Watch List
CCE	California Endangered (Candidate)
CR	California Rare

CNPS LISTING

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

III. Impacts and Mitigation

Significance Criteria

CEQA

General plans, area plans, and specific projects are subject to the provisions of CEQA. The purpose of CEQA is to assess the impacts of proposed projects on the environment prior to project implementation. Impacts to biological resources are just one type of environmental impact assessed under CEQA and vary from project to project in terms of scope and magnitude. Projects requiring removal of vegetation may result in the mortality or displacement of animals associated with this vegetation. Animals adapted to humans, roads, buildings, and pets may replace those species formerly occurring on a site. Plants and animals that are State and/or federally listed as threatened or endangered may be destroyed or displaced. Sensitive habitats such as wetlands and riparian woodlands may be altered or destroyed. Such impacts may be considered either "significant" or "less than significant" under CEQA. According to CEQA, Statute and Guidelines (AEP 2012), "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. Specific project impacts to biological resources may be considered "significant" if they would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS;
- 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 CDFW or USFWS;
- 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;
- 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; or
- 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) states that a project may trigger the requirement to make a "mandatory finding of significance" if the project has 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, reduce the number or restrict the range of an endangered, rare or threatened species, or eliminate important examples of the major periods of California history or prehistory."

Relevant Goals, Policies, and Laws

Mariposa County General Plan

The Mariposa County General Plan sets forth the following goals policies that protect biological resources from "Significant Impact" and which have potential relevance to the Project's environmental review:

- There shall be no net loss of endangered, threatened, or rare wildlife or plant species.
- There shall be no net loss of occupied or designated endangered, threatened, or rare species habitat.
- There shall be no greater than 15 percent loss of known occurrences of CNPS List 2, 3, or 4 plants species.
- There shall be no net loss of raptor nests, migratory bird nests, or native wildlife nursery sites.
- There shall be no loss of greater than 25 percent of habitat for sensitive wildlife species.
- There shall be no loss of greater than 25 percent of native plant communities.
- There shall be no wildlife corridors blocked greater than 50 percent.
- There shall be no conflict with Habitat Conservation Plans, Natural Community Conservation plans, or other approved local, regional, state or federal conservation plan.

Threatened and Endangered Species

Permits may be required from the USFWS and/or CDFW if activities associated with a project have the potential to result in the "take" of a species listed as threatened or endangered under the federal and/or state Endangered Species Acts. Take is defined by the State of California as "to hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture or kill" (California Fish and Game Code, Section 86). Take is more broadly defined by the federal Endangered Species Act to include "harm" (16 United States Code (USC), Section 1532(19), 50 Code of Federal Regulation (CFR), Section 17.3). CDFW and USFWS are responsible agencies under CEQA and National Environmental Policy Act (NEPA). Both agencies review CEQA and NEPA documents in order to determine the adequacy of their treatment of endangered species issues and to make project-specific recommendations for their conservation.

Designated Critical Habitat

When species are listed as threatened or endangered, the USFWS often designates areas of "Critical Habitat" as defined by Section 3(5)(A) of the federal Endangered Species Act (ESA). Critical Habitat is a term defined in the ESA as a specific geographic area that contains features essential for the conservation of a threatened or endangered species and that may require special management and protection. Critical Habitat is a tool that supports the continued conservation of imperiled species by guiding cooperation with the federal government. Designations only affect federal agency actions or federally funded or permitted activities. Critical Habitat does not prevent activities that occur within the designated area. Only activities that involve a federal permit, license, or funding and are likely to destroy or adversely modify Critical Habitat will be affected.

Migratory Birds

The Federal Migratory Bird Treaty Act (MBTA) (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 covers nearly all bird's native to the United States, even those that are non-migratory. The MBTA encompasses whole birds, parts of birds, nests, and eggs. Additionally, California Fish and Game Code makes it unlawful to take or possess any non-game bird covered by the MBTA (Section 3513), as well as any other native non-game bird (Section 3800).

Birds of Prey

Birds of prey are protected in California under provisions of Fish and Game Code (Section 3503.5), which states that it is unlawful to take, possess, or destroy any birds in the order Falconiformes (hawks and eagles) or Strigiformes (owls), as well as their nests and eggs. The Bald Eagle and Golden Eagle are afforded additional protection under the federal Bald and Golden Eagle Protection Act (16 USC 668), which makes it unlawful to kill birds or their eggs.

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.

Wetlands and other "Jurisdictional Waters"

Natural drainage channels and adjacent wetlands may be considered "waters of the United States." or "jurisdictional waters" subject to the jurisdiction of the USACE. The extent of jurisdiction has been defined in the Code of Federal Regulations but has also been subject to interpretation of the federal courts. As of April 2020, jurisdictional waters generally include:

- The territorial seas, and waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including waters which are subject to the ebb and flow of the tide;
- Traditional Navigable Waters: Perennial and Intermittent tributaries that contain surface water flow to such waters;
- Lake and ponds, and impoundments of jurisdictional waters; and
- Wetlands adjacent to jurisdictional waterways.

On June 22, 2020, the United States Environmental Protection Agency (USEPA) and the USACE (together, "the agencies") published the Navigable Waters Protection Rule defining the scope of waters subject to federal regulation under the Clean Water Act (CWA). In this final rule, the agencies interpret the term "waters of the United States" to encompass: The territorial seas and traditional navigable waters; perennial and intermittent tributaries that contribute surface water flow to such waters; certain lakes, ponds, and impoundments of jurisdictional waters; and wetlands adjacent to other jurisdictional waters.

The USACE regulates the filling or grading of Waters of the United States. under the authority of Section 404 of the CWA. The extent of jurisdiction within drainage channels is defined by "ordinary high-water marks" on opposing channel banks. All activities that involve the discharge of dredge or fill material into Waters of the United States 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 results 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 SWRCB 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 United States require a Section 401 Water Quality

Certification from the RWQCB as a prerequisite to obtaining certain federal permits, such as a Section 404 CWA permit. Discharges into all Waters of the State, even those that are not also Waters of the United States, 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 acre or more 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 United States. 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 a 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.

Potentially Significant Project-Related Impacts and Mitigation

Species identified as candidate, sensitive, or special status species in local or regional plans, policies, or regulations by CDFW or USFWS that have the potential to be impacted by the Project are identified below with corresponding mitigation measures.

Project-Related Mortality and/or Disturbance of Nesting Raptors, Migratory Birds, and Special Status Birds.

The APE contains some suitable nesting and/or foraging habitat for avian species. Ground nesting birds, such as Killdeer, could potentially nest on the bare ground or compacted dirt roads onsite, however, no nests were observed at the time of survey. Trees within and near the APE could potentially host nests of smaller birds such as woodpeckers and perching birds. The APE largely provides inadequate nesting habitat for Swainson's Hawk; however, it is possible they are observed flying over the APE or using adjacent oak savannah habitat for foraging. At times of low disturbance (i.e., when school is not in session), birds would be more likely to use the APE as nesting habitat and disturbance tolerant birds could potentially nest within the APE throughout all of nesting bird season. Birds nesting within the APE during construction may have the potential to be injured or killed by Project-related activities. In addition to the direct "take" of nesting birds, nesting birds within the Project site or adjacent areas could be disturbed by Project-related activities resulting in nest abandonment. Projects that adversely affect the nesting success of raptors and migratory birds or result in the mortality of individual birds is considered a violation of State and federal laws and are considered a potentially significant impact under CEQA.

Mitigation. The following measures will be implemented prior to the start of construction:

> *Mitigation Measure BIO-1 (Avoidance):* The Project's construction activities shall occur, if feasible, between September 16 and January 31 (outside of nesting bird season) in an effort to avoid impacts to nesting birds.
>
> *Mitigation Measure BIO-2 (Pre-construction Surveys):* If activities must occur within nesting bird season (February 1 to September 15), a qualified biologist shall conduct pre-construction for nesting bird survey within 10 days prior to the start of construction. The survey shall include the proposed work

area and surrounding lands within 50 feet. All raptor nests will be considered "active" upon the nest-building stage.

Mitigation Measure BIO-3 (Establish Buffers): On discovery of any active nests near work areas, the biologist shall determine appropriate construction setback distances based on applicable CDFW and/or USFWS guidelines and/or the biology of the species in question. Construction buffers shall be identified with flagging, fencing, or other easily visible means, and shall be maintained until the biologist has determined that the nestlings have fledged and are no longer dependent on the nest.

Less Than Significant Project-Related Impacts

Project-Related Impacts to Special Status Animal Species Absent From, or Unlikely to Occur on, the Project Site

Of the 17 regionally occurring special status animal species, all are considered absent from or unlikely to occur within the APE due to past or ongoing disturbance and/or the absence of suitable habitat. Since it is highly unlikely that these species would occur onsite, implementation of the Project should have no impact on these special status species through construction mortality, disturbance, or loss of habitat. Mitigation measures are not warranted.

Project-Related Impacts to Special Status Plant Species

All 25 of the special status plant species which have been documented in the Project vicinity are considered absent from or unlikely to occur within the APE due to past or ongoing disturbance and/or the absence of suitable habitat. Since it is highly unlikely that these species would occur onsite, implementation of the Project should have no impact on these special status species through construction mortality, disturbance, or loss of habitat. Mitigation measures are not warranted.

Project-Related Impacts to Riparian Habitat and Natural Communities of Special Concern

There are no CNDDB-designated "natural communities of special concern" recorded within the APE or surrounding lands. Mitigation is not warranted.

Project-Related Impacts to Regulated Waters, Wetlands, and Water Quality.

Potential Waters of the United States riparian habitat, typical wetlands, vernal pools, lakes, or streams, and other sensitive natural communities were not observed onsite at the time of the biological survey. There are no naturally flowing waters within the APE with Owens Creek identified as the nearest water source. There is a single upland ephemeral drainage formed from the collection of stormwater through two culverts located within the APE. This drainage is very small and holds water only during storm event and dissipates within a few days after the storm ends. The drainage is overgrown with nonhydric, herbaceous vegetation and provides very little value to wildlife. Undoubtedly, some native wildlife species use the APE in the absence of preferred habitat. However, because of the aforementioned disturbance and the presence of invasive species, the APE represents relatively low-quality habitat for native plants and animals.

The Project proponent may be required to obtain a Construction General Permit under the Construction Storm Water Program administered by the RWQCB. A prerequisite for this permit is the development of a SWPPP to ensure construction activities do not adversely affect water quality.

Project-Related Impacts to Wildlife Movement Corridors and Native Wildlife Nursery Sites.

The APE does not contain features that would be likely to function as wildlife movement corridors. Furthermore, the Project is located in a school regularly disturbed by humans which would discourage dispersal and migration. Therefore, the Project will have no impact on wildlife movement corridors, and no additional mitigation measures are necessary.

Project-Related Impacts to Critical Habitat.

Designated critical habitat is absent from the APE and surrounding lands. Therefore, there will be no impact to critical habitat, and mitigation is not warranted.

Local Policies or Habitat Conservation Plans.

The Project appears to be consistent with the goals and policies of the Mariposa County General Plan. There are no known habitat conservation plans (HCPs) or a Natural Community Conservation Plan (NCCP) in the Project vicinity and mitigation is not warranted.

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Appendix A: Photos of the Project Area

SELF-HELP ENTERPRISES

SIERRA FOOTHILL CHARTER SCHOOL WELL PROJECT

Photograph 1

Photograph was taken facing southwest, toward APE, from eastern boundary. Photograph shows overview of new well installation site.

Photograph 2

Photograph was taken facing west, toward APE from southeastern boundary. Photograph shows overview of new well installation site and surrounding habitat outside of APE.

Photograph 3

Photograph was taken facing south from center of APE. Photograph shows southern portion of APE and overview of large blue oak trees outside of the APE boundary.

Photograph 4

Photograph was taken facing southeast, toward APE, from northern boundary of APE. Photograph shows eastern boundary of APE and blue oak trees outside of APE boundary.

Photograph 5

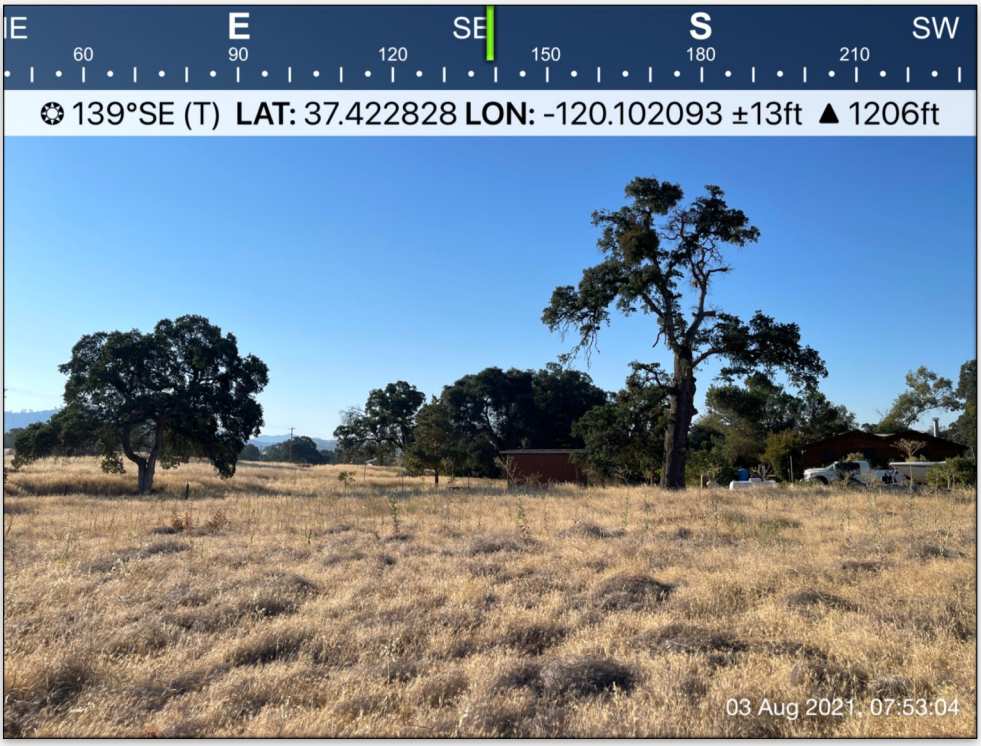
Photograph was taken facing southeast, toward APE, from northern boundary of APE. Photograph shows a general overview of vegetation within APE and proximity to school parking lot.

Photograph 6

Photograph was taken facing northeast, from center of APE, looking past east boundary of APE. Photograph shows vegetation within APE and proximity to school.

Photograph 7

Photograph was taken facing northeast, outside of APE, from northern boundary of APE. Photograph surrounding oak savannah north of APE.



Photograph 8

Photograph was taken facing southeast, outside of APE, at southern boundary of APE. Photograph shows large blue oak trees outside of the APE boundary.

Photograph 9

Photograph was taken facing south, within APE, near northern boundary of APE. Photograph shows culverts at location of new well installation site.

Photograph 10

Photograph was taken facing southeast, toward APE, near northern boundary of APE. Photograph shows upland ephemeral drain within APE.

Photograph 11

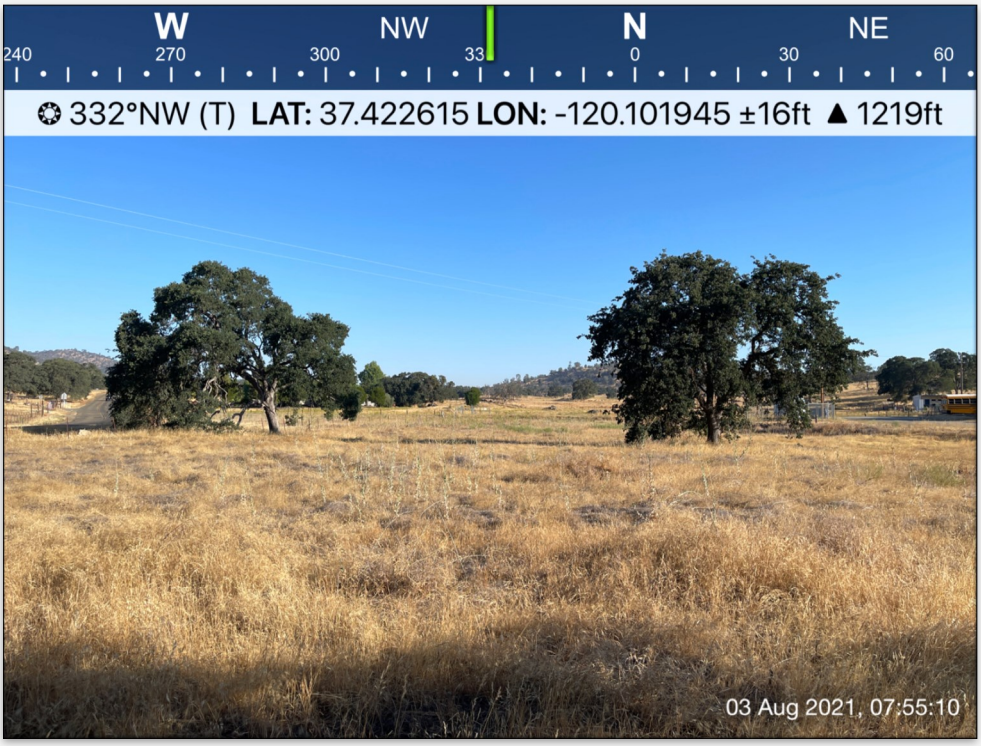
Photograph was taken facing southwest, looking away from APE, from southwestern boundary of APE. Photograph shows oak savannah habitat southwest of the APE.

Photograph 12

Photograph was taken facing west looking away from APE, from western boundary of APE. Photograph shows oak savannah habitat west of APE.

Photograph 13

Photograph was taken facing south looking away from APE, from southern boundary of APE. Photograph shows oak savannah habitat south of the APE.



Photograph 14

Photograph was taken facing northwest looking away from APE, from northwestern boundary of APE. Photograph shows oak savannah habitat northwest of APE.

Photograph 15

Photograph was taken facing northeast, within center of APE near northern boundary, looking beyond eastern boundary of APE. Photograph shows proximity of new well installation site to school, an area of high disturbance.

Appendix B: CNDDB 9-Quad Search

SELF-HELP ENTERPRISES

SIERRA FOOTHILL CHARTER SCHOOL WELL PROJECT

Selected Elements by Common Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Hornitos (3712052) OR Bear Valley (3712051) OR Feliciana Mtn. (3711958) OR Indian Gulch (3712042) OR Catheys Valley (3712041) OR Mariposa (3711948) OR Owens Reservoir (3712032) OR Illinois Hill (3712031) OR Ben Hur (3711938))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
bald eagle *Haliaeetus leucocephalus*	ABNKC10010	Delisted	Endangered	G5	S3	FP
beaked clarkia *Clarkia rostrata*	PDONA050Y0	None	None	G2G3	S2S3	1B.3
big-scale balsamroot *Balsamorhiza macrolepis*	PDAST11061	None	None	G2	S2	1B.2
Boharts' blue butterfly *Philotiella speciosa bohartorum*	IILEPG3011	None	None	G3G4T1	S1	
California linderiella *Linderiella occidentalis*	ICBRA06010	None	None	G2G3	S2S3	
California tiger salamander - central California DPS *Ambystoma californiense pop. 1*	AAAAA01181	Threatened	Threatened	G2G3	S2S3	WL
Central Valley Drainage Hardhead/Squawfish Stream *Central Valley Drainage Hardhead/Squawfish Stream*	CARA2443CA	None	None	GNR	SNR	
Colusa grass *Neostapfia colusana*	PMPOA4C010	Threatened	Endangered	G1	S1	1B.1
Congdon's lomatium *Lomatium congdonii*	PDAPI1B0B0	None	None	G2	S2	1B.2
Conservancy fairy shrimp *Branchinecta conservatio*	ICBRA03010	Endangered	None	G2	S2	
Crotch bumble bee *Bombus crotchii*	IIHYM24480	None	Candidate Endangered	G3G4	S1S2	
dwarf downingia *Downingia pusilla*	PDCAM060C0	None	None	GU	S2	2B.2
foothill yellow-legged frog *Rana boylii*	AAABH01050	None	Endangered	G3	S3	SSC
Greene's tuctoria *Tuctoria greenei*	PMPOA6N010	Endangered	Rare	G1	S1	1B.1
hardhead *Mylopharodon conocephalus*	AFCJB25010	None	None	G3	S3	SSC
Hoover's calycadenia *Calycadenia hooveri*	PDAST1P040	None	None	G2	S2	1B.3
Koch's cord moss *Entosthodon kochii*	NBMUS2P050	None	None	G1	S1	1B.3
Leech's skyline diving beetle *Hydroporus leechi*	IICOL55040	None	None	G1?	S1?	

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
limestone salamander *Hydromantes brunus*	AAAAD09010	None	Threatened	G2G3	S2S3	FP
Madera leptosiphon *Leptosiphon serrulatus*	PDPLM09130	None	None	G3	S3	1B.2
Mariposa clarkia *Clarkia biloba ssp. australis*	PDONA05051	None	None	G4G5T3	S3	1B.2
Mariposa cryptantha *Cryptantha mariposae*	PDBOR0A1Q0	None	None	G2G3	S2S3	1B.3
Mariposa daisy *Erigeron mariposanus*	PDAST3M5L0	None	None	GX	SX	1A
Mariposa lupine *Lupinus citrinus var. deflexus*	PDFAB2B102	None	Threatened	G2T1T2	S1S2	1B.2
Mariposa pussypaws *Calyptridium pulchellum*	PDPOR09060	Threatened	None	G1	S1	1B.1
Merced kangaroo rat *Dipodomys heermanni dixoni*	AMAFD03062	None	None	G4T2T3	S2S3	
Merced phacelia *Phacelia ciliata var. opaca*	PDHYD0C0S2	None	None	G5TH	SH	3.2
merlin *Falco columbarius*	ABNKD06030	None	None	G5	S3S4	WL
midvalley fairy shrimp *Branchinecta mesovallensis*	ICBRA03150	None	None	G2	S2S3	
North American porcupine *Erethizon dorsatum*	AMAFJ01010	None	None	G5	S3	
Northern Hardpan Vernal Pool *Northern Hardpan Vernal Pool*	CTT44110CA	None	None	G3	S3.1	
pallid bat *Antrozous pallidus*	AMACC10010	None	None	G4	S3	SSC
Parry's horkelia *Horkelia parryi*	PDROS0W0C0	None	None	G2	S2	1B.2
pincushion navarretia *Navarretia myersii ssp. myersii*	PDPLM0C0X1	None	None	G2T2	S2	1B.1
Pleasant Valley mariposa-lily *Calochortus clavatus var. avius*	PMLIL0D095	None	None	G4T2	S2	1B.2
Rawhide Hill onion *Allium tuolumnense*	PMLIL022W0	None	None	G2	S2	1B.2
San Joaquin pocket mouse *Perognathus inornatus*	AMAFD01060	None	None	G2G3	S2S3	
San Joaquin Valley Orcutt grass *Orcuttia inaequalis*	PMPOA4G060	Threatened	Endangered	G1	S1	1B.1
Sanford's arrowhead *Sagittaria sanfordii*	PMALI040Q0	None	None	G3	S3	1B.2

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
shaggyhair lupine *Lupinus spectabilis*	PDFAB2B3P0	None	None	G2	S2	1B.2
shining navarretia *Navarretia nigelliformis ssp. radians*	PDPLM0C0J2	None	None	G4T2	S2	1B.2
Sierra Nevada yellow-legged frog *Rana sierrae*	AAABH01340	Endangered	Threatened	G1	S1	WL
slender-stalked monkeyflower *Erythranthe gracilipes*	PDSCR1B1C0	None	None	G2	S2	1B.2
spiny-sepaled button-celery *Eryngium spinosepalum*	PDAPI0Z0Y0	None	None	G2	S2	1B.2
spotted bat *Euderma maculatum*	AMACC07010	None	None	G4	S3	SSC
stinkbells *Fritillaria agrestis*	PMLIL0V010	None	None	G3	S3	4.2
succulent owl's-clover *Castilleja campestris var. succulenta*	PDSCR0D3Z1	Threatened	Endangered	G4?T2T3	S2S3	1B.2
Swainson's hawk *Buteo swainsoni*	ABNKC19070	None	Threatened	G5	S3	
Townsend's big-eared bat *Corynorhinus townsendii*	AMACC08010	None	None	G4	S2	SSC
tricolored blackbird *Agelaius tricolor*	ABPBXB0020	None	Threatened	G1G2	S1S2	SSC
valley elderberry longhorn beetle *Desmocerus californicus dimorphus*	IICOL48011	Threatened	None	G3T2	S3	
vernal pool fairy shrimp *Branchinecta lynchi*	ICBRA03030	Threatened	None	G3	S3	
vernal pool tadpole shrimp *Lepidurus packardi*	ICBRA10010	Endangered	None	G4	S3S4	
western pond turtle *Emys marmorata*	ARAAD02030	None	None	G3G4	S3	SSC
western spadefoot *Spea hammondii*	AAABF02020	None	None	G2G3	S3	SSC
yellow-lip pansy monkeyflower *Diplacus pulchellus*	PDSCR1B280	None	None	G2	S2	1B.2
Yosemite Mariposa sideband *Monadenia yosemitensis*	IMGASZ3010	None	None	G1	S1S2	
Yuma myotis *Myotis yumanensis*	AMACC01020	None	None	G5	S4	

Record Count: 58

Appendix C: NRCS Soils Report

SELF-HELP ENTERPRISES

SIERRA FOOTHILL CHARTER SCHOOL WELL PROJECT

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

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

Custom Soil Resource Report for Mariposa County Area, California

August 5, 2021

Preface

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

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

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

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

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

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

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Contents

How Soil Surveys Are Made

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

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

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

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

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

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

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

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

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

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

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

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

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

Soil Map

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

Custom Soil Resource Report
Soil Map

Map Scale: 1:1,390 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 20 40 80 120

Feet: 0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

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

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

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

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

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

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

Soil Survey Area: Mariposa County Area, California
Survey Area Data: Version 13, May 29, 2020

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

Date(s) aerial images were photographed: Jun 24, 2016—Sep 15, 2017

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
BgD	Blasingame-Las Posas loams, 2 to 15 percent slopes	2.1	45.6%
CaC	Clayey alluvial land	2.5	54.4%
Totals for Area of Interest		**4.6**	**100.0%**

Map Unit Descriptions

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

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

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

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

onsite investigation is needed to define and locate the soils and miscellaneous areas.

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

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

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

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

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

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

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

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

Mariposa County Area, California

BgD—Blasingame-Las Posas loams, 2 to 15 percent slopes

Map Unit Setting

National map unit symbol: hk1k
Elevation: 800 to 2,000 feet
Mean annual precipitation: 15 to 22 inches
Mean annual air temperature: 59 to 61 degrees F
Frost-free period: 175 to 200 days
Farmland classification: Not prime farmland

Map Unit Composition

Blasingame and similar soils: 65 percent
Las posas and similar soils: 30 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Blasingame

Setting

Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Metabasic, weathered residuum weathered from metamorphic rock and/or weathered residuum weathered from basic igneous rock

Typical profile

A - 0 to 3 inches: loam
B - 3 to 36 inches: clay loam
Cr - 36 to 40 inches: weathered bedrock

Properties and qualities

Slope: 2 to 15 percent
Depth to restrictive feature: 24 to 40 inches to paralithic bedrock
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Low (about 6.0 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: C
Ecological site: F018XI200CA - Low Elevation Foothills 18-25 PZ
Hydric soil rating: No

Description of Las Posas

Setting

Landform: Hills
Landform position (two-dimensional): Backslope, footslope
Landform position (three-dimensional): Side slope, base slope
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Residuum weathered from basic igneous rock

Typical profile

A - 0 to 9 inches: loam
Bt - 9 to 22 inches: clay loam
Bt - 22 to 36 inches: clay
Cr - 36 to 40 inches: weathered bedrock

Properties and qualities

Slope: 2 to 15 percent
Depth to restrictive feature: 24 to 40 inches to paralithic bedrock
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Moderate (about 6.2 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: C
Ecological site: F018XI200CA - Low Elevation Foothills 18-25 PZ
Hydric soil rating: No

Minor Components

Unnamed, moderately steep

Percent of map unit: 5 percent
Landform: Hills
Hydric soil rating: No

CaC—Clayey alluvial land

Map Unit Setting

National map unit symbol: hk1x
Elevation: 350 to 850 feet
Mean annual precipitation: 15 to 20 inches
Mean annual air temperature: 61 to 64 degrees F

Frost-free period: 180 to 220 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Clayey alluvial land: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Clayey Alluvial Land

Setting

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

Typical profile

A - 0 to 10 inches: clay
C - 10 to 48 inches: clay
Cr - 48 to 52 inches: weathered bedrock

Properties and qualities

Slope: 2 to 9 percent
Depth to restrictive feature: 24 to 60 inches to paralithic bedrock
Drainage class: Moderately well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Maximum salinity: Nonsaline (0.0 to 0.2 mmhos/cm)
Available water capacity: Moderate (about 7.2 inches)

Interpretive groups

Land capability classification (irrigated): 3w
Land capability classification (nonirrigated): 4w
Ecological site: R018XD001CA - CLAYEY
Hydric soil rating: No

Minor Components

Redding

Percent of map unit: 3 percent
Landform: Hills
Hydric soil rating: No

Blasingame

Percent of map unit: 3 percent
Landform: Hills
Hydric soil rating: No

Auburn

Percent of map unit: 3 percent
Landform: Hills
Hydric soil rating: No

Daulton

Percent of map unit: 3 percent
Landform: Hills

Hydric soil rating: No

Las posas

Percent of map unit: 3 percent
Landform: Hills
Hydric soil rating: No

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Appendix C: Cultural Resources Class III Inventory/Phase I Survey

CLASS III INVENTORY/PHASE I SURVEY, SIERRA FOOTHILLS CHARTER SCHOOL WATER SYSTEMS IMPROVEMENTS PROJECT, CATHEYS VALLEY, MARIPOSA COUNTY, CALIFORNIA

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MANAGEMENT SUMMARY

An intensive Class III cultural resources inventory/Phase I survey was conducted for the Sierra Foothills Charter School Water Systems Improvements Project (Project), Mariposa County, California. The Project is located in Catheys Valley, in Section 10 (T6S/R17E; MDBM). ASM Affiliates, Inc., conducted this study, with David S. Whitley, Ph.D., RPA, serving as principal investigator. The study was undertaken to assist with compliance with Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, and the California Environmental Quality Act (CEQA). The Project horizontal area of potential effect (APE) consists of an approximately 0.3-acre (ac) well site which includes two storage tanks, a pump house with booster pumps, a stand-by generator and connections to the existing distribution system. The vertical APE is the maximum limit of ground surface excavation, extending to the depth of the pipeline to be replaced, estimated at 10-ft.

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 Request was also submitted to the Native American Heritage Commission (NAHC). These investigations determined that the Project APE had not been previously surveyed, and no archaeological site/tribal cultural resources were known to exist within it. Outreach letters were also sent to tribal organizations on the NAHC contact list. Two responses were received. The Tuolumne Me-Wuk Tribal Council sent a letter indicating that they have no concerns about the Project. Mr. Clay River from the Southern Sierra Miwuk Nation sent an email requesting tribal monitoring if the excavation would extend below 3.5-feet (ft). A response was sent to Mr. River indicating that the pipeline trench would not extend below that depth.

The Class III inventory/Phase I survey fieldwork was conducted in September 2021 with parallel transects spaced at 15-meter (m) intervals walked across the approximately 0.3-ac APE. The APE consists of an existing well on a graded pad and a graded parking area adjacent to school buildings. No cultural resources were identified within the Project APE.

Based on the absence of cultural resources, the Sierra Foothills Charter School Water Systems Improvements Project does not have the potential to result in adverse impacts or effects to significant historical resources or historic properties. A determination of no effect/no adverse impact is recommended for this Project.

1. INTRODUCTION AND REGULATORY CONTEXT

ASM Affiliates, Inc., was retained by the Provost and Pritchard Consulting Group to conduct an intensive Class III inventory/Phase I cultural resources survey for the Sierra Foothills Charter School Water Systems Improvements Project, Mariposa County, California. The study was undertaken to assist with compliance with Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, and 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.

David S. Whitley, Ph.D., RPA, served as principal investigator and K. Ross Way, A.A., ASM Associate Archaeologist, conducted the fieldwork for this study.

This document constitutes a report on the Class III inventory/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 Catheys Valley, approximately 30 miles (mi) northeast of Merced and 10-mi southwest of Mariposa. This places it in the western slopes of the Sierra Nevada Foothills south of Highway 140. Catheys Valley is an unincorporated, low-density rural housing community that surrounds the Project location.

1.2 PROJECT DESCRIPTION AND APE

The Sierra Foothills Charter School (formerly the Catheys Valley Elementary School) seeks to improve its water system by replacing its existing drinking water well, which exceeds the state Maximum Contaminant Levels for nitrates. The proposed Project consists of the construction of a new well, two storage tanks, a pump house with booster pumps, a standby generator for back-up power, and connections to the existing distribution system.

The Project APE will contain all construction, staging, and lay-down areas for the project. The horizontal APE, consisting of the 0.3-ac well site, includes a 100-foot (ft) buffer. The vertical APE,

estimated at 3-ft, is the maximum depth of excavation for the foundations, footings and underground utilities for the tie-in to existing infrastructure.

1.3 REGULATORY CONTEXT

1.3.1 CEQA

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 California Register of Historical Resources (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.

1.3.2 NHPA Section 106

NHPA Section 106 is applicable to federal undertakings, including projects financed or permitted by federal agencies regardless of whether the activities occur on federally managed or privately-

owned land. Its purpose is to determine whether adverse effects will occur to significant cultural resources, defined as "historical properties" that are listed in or determined eligible for listing in the National Register of Historic Places (NRHP). The criteria for NRHP eligibility are defined at 36 CFR § 60.4 as follows:

> The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and that:
>
> (A) are associated with events that have made a significant contribution to the broad patterns of our history; or
>
> (B) are associated with the lives of persons significant in our past; or
>
> (C) embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
>
> (D) have yielded or may be likely to yield, information important in prehistory or history.

There are, however, restrictions on the kinds of historical properties that can be NRHP listed. These have been identified by the Advisory Council on Historic Preservation (ACHP), as follows:

> Ordinarily cemeteries, birthplaces, or graves of historical figures, properties owned by religious institutions or used for religious purposes, structures that have been moved from their original locations, reconstructed historic buildings, properties primarily commemorative in nature, and properties that have achieved significance within the past 50 years shall not be considered eligible for the National Register. However, such properties will qualify if they are integral parts of districts that do meet the criteria or if they fall within the following categories:
>
> (a) A religious property deriving primary significance from architectural or artistic distinction or historical importance; or
>
> (b) A building or structure removed from its original location but which is significant primarily for architectural value, or which is the surviving structure most importantly associated with a historic person or event; or
>
> (c) A birthplace or grave of a historical figure of outstanding importance if there is no appropriate site or building directly associated with his productive life.
>
> (d) A cemetery which derives its primary significance from graves of persons of transcendent importance, from age, from distinctive design features, or from association with historic events; or
>
> (e) A reconstructed building when accurately executed in a suitable environment and presented in a dignified manner as part of a restoration master plan, and when no other building or structure with the same association has survived; or

(f) A property primarily commemorative in intent if design, age, tradition, or symbolic value has invested it with its own exceptional significance; or

(g) A property achieving significance within the past 50 years if it is of exceptional importance. (http://www.achp.gov/nrcriteria.html)

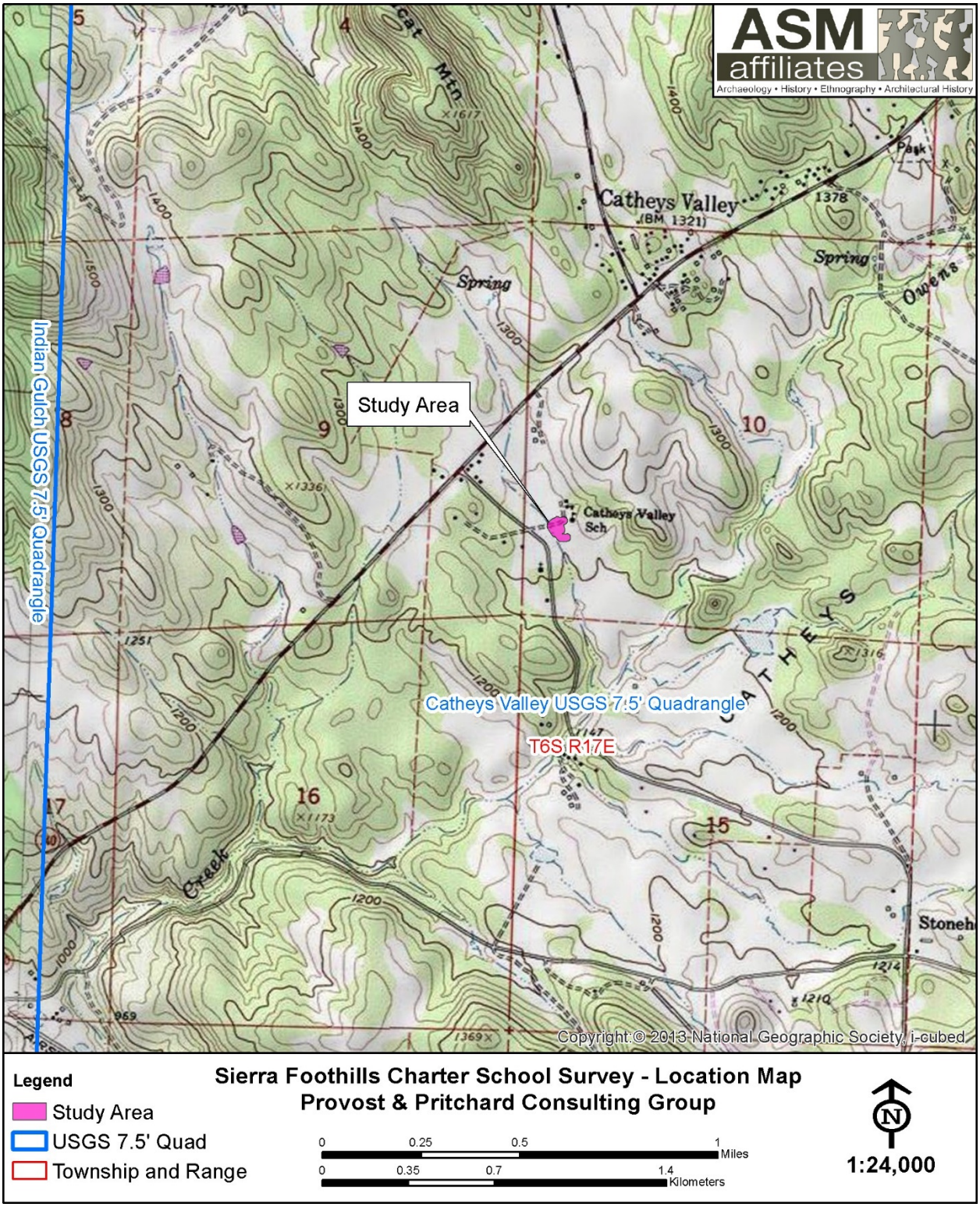

Figure 1. Location of the Project APE, Mariposa County, California.

2. ENVIRONMENTAL AND CULTURAL BACKGROUND

2.1 ENVIRONMENTAL BACKGROUND AND GEOARCHAEOLOGICAL SENSITIVITY

The Project location, in southwestern Mariposa County, is in the western foothills of the Sierra Nevada at about 1220 feet (ft) above mean seal level. Local topography consists of mildly to steeply rolling hills and minor drainages with occasional outcrops of grano-diorite, especially on low hills. 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.

The Project location slopes southwards towards Owens Creek, an intermittent drainage roughly a half-mile away. A soils analysis was recently conducted for the Vallecito development, which surrounds the Project location (See's Consulting and Testing 2012; see also USDA 1974). According to their analysis, the immediately surrounding terrain slopes to a maximum of about 15%. Soils in this area are a maximum of 4-ft deep, at which point decomposing grano-diorite is encountered. The soils consist entirely of silty sand or sandy silt ("A horizon") and, while their bulk density naturally increases with depth, no evidence of paleosols (ancient soils; "B horizon") was present. Given that paleosols require landform stability over time so that clay particles can migrate down the soils profile, develop pedological structure and (typically) oxidize, the absence at this location indicates a youthful and/or relatively unstable A soil horizon.

Soils at the location are then relatively thin and youthful. Furthermore, the proposed Project will occur on an existing, graded parking lot. Based these considerations, the Project is considered to have low sensitivity for a subsurface archaeological deposit.

2.2 ETHNOGRAPHIC BACKGROUND

Mariposa County is located within the general territory of the Central and Southern Sierra Miwoks (alternatively Me-Wuk or Miwuk). The Sierra Miwok (Central and Southern), members of the Penutian language group (Barrett and Gifford in Heizer 1951:111), 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 Central Sierra Miwoks is based on the patrilineal joint family acting as an independent autonomous political unit (Gifford in Heizer 1951:375). 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 (Barrett and Gifford in Heizer 1951:333). 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 preservational issues or potentially the changing nature of land-use during early pre-contact times. In general terms at least occasional use of the Sierras 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* (300 BC to AD 300) 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* (AD 300 – 1500) 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* (AD 1500 – 1850) 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

Spanish explorers first visited the San Joaquin Valley in 1772, but its lengthy distance from the missions and presidios along the Pacific Coast delayed permanent settlement for many years, including during the Mexican period of control over the Californian region. In the 1840s, Mexican rancho owners along the Pacific Coast allowed their cattle to wander and graze in the San Joaquin Valley (JRP Historical Consulting 2009). The Mexican government granted the first ranchos in the southern part of the San Joaquin Valley in the early 1840s, but these did not result in permanent settlement. It was not until the annexation of California in 1848 that the exploitation of the southern San Joaquin Valley began (Pacific Legacy 2006).

The discovery of gold in northern California in 1848 resulted in a dramatic increase of population, consisting in good part of fortune seekers and gold miners, who began to scour other parts of the state. 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).

After the American annexation of California, the San Joaquin Valley became significant as a center of food production for this new influx of people in California. The expansive unfenced and

principally public foothill spaces were well suited for grazing both sheep and cattle (Boyd 1997). As the Sierra Nevada gold rush presented extensive financial opportunities, ranchers introduced new breeds of livestock, consisting of cattle, sheep and pig (Boyd 1997).

With the increase of ranching in the San Joaquin Valley came the dramatic change in the landscape, as non-native grasses more beneficial for grazing and pasture replaced native flora (Preston 1981). After the passing of the Arkansas Act in 1850, efforts were made to reclaim small tracts of land in order to create more usable spaces for ranching. Eventually, as farming supplanted ranching as a more profitable enterprise, large tracts of land began to be reclaimed for agricultural use, aided in part by the extension of the railroad in the 1870s (Pacific Legacy 2006).

Following the passage of state wide 'No-Fence' laws in 1874, ranching practices began to decline, while farming expanded in the San Joaquin Valley in both large land holdings and smaller, subdivided properties. As the farming population grew, so did the demand for irrigation. Settlers began reclamation of swampland in 1866, building small dams across the rivers to divert water for agricultural purposes.

Millerton, now inundated by Millerton Lake, was the original historical focus of settlement in the region, initially serving as the capital of Fresno County. After its inundation in the great San Joaquin River flood of 1867, the focus of settlement shifted to what is now Fresno, especially after 1872 when the Southern Pacific Railroad created a station in this then-small town. Madera County was formed from the northern portion of Fresno County in 1893, but the metropolitan Fresno area remains the greatest population center in the region,

The San Joaquin Valley was dominated by agricultural pursuits until the oil boom of the early 1900s, which saw a shift in the region, as some reclaimed lands previously used for farming were leased to oil companies. Nonetheless, the shift of the San Joaquin Valley towards oil production did not halt the continued growth of agriculture (Pacific Legacy 2006). The Great Depression of the 1930s brought with it the arrival of great number of migrants from the drought-affected Dust Bowl region, looking for agricultural labor. These migrants established temporary camps in the valley, staying on long past the end of the drought and the Great Depression, eventually settling in towns such as Bakersfield and Fresno where their descendants live today (Boyd 1997).

Catheys Valley was named after Andrew D. Catheys, born in 1804 in Buncombe, North Carolina. When the Gold Rush began in 1849, many men left their families in search of gold. Andrew, his son Daniel, and son-in-law Benjamin Wills, traveled by river boat from Fort Smith, Arkansas, to New Orleans and then took a ship to the Isthmus of Panama. In Panama, they boarded another ship bound for San Francisco; from there they caught a stage overland to Indian Gulch, Mariposa County, California.

Catheys returned to Arkansas for his family in 1851. The Catheys-Wills, Rowland and Hammond families organized a wagon train to California. About twenty families traveled to California in covered wagons pulled by oxen. The wagon party eventually traveled over the Tejon Pass, across the San Joaquin Valley to just below Millerton, where they crossed the San Joaquin River. They proceeded north, crossing over Mariposa Creek up to Bear Creek, and on to Indian Gulch, arriving on October 27, 1852. In 1854, Andrew D. Catheys purchased a ranch from a Mr. Evans. Catheys

soon became very involved in civic and political activities. He and his wife, Mary, were both devout Christians, and they helped build a church, school and cemetery on land they donated. The one-room schoolhouse was built in 1879. Currently located in Catheys Valley Park, it was originally on the Project location and served as the first school in the area. The structure was relocated to its current spot and restored by the Cathey's Valley Historical Society.

2.5 RESEARCH DESIGN

2.5.1 Pre-Contact Archaeology

Previous research and the nature of the pre-contact archaeological record suggest two significant NRHP themes, both of which fall under the general Pre-Contact Archaeology area of significance. These are the Expansion of Pre-Contact Populations and Their Adaptation to New Environments; and Adaptation to Changing Environmental Conditions.

The Expansion of Pre-Contact Populations and Their Adaptation to New Environments theme primarily concerns the Middle Horizon/Holocene Maximum. Its period of significance runs from about 4,000 to 1,500 YBP. It involves a period during which the prehistoric population appears to have expanded into a variety of new regions, developing new adaptive strategies in the process.

The Adaptation to Changing Environmental Conditions theme is partly related to the Holocene Maximum, but especially to the Medieval Climatic Anomaly. The period of significance for this theme, accordingly, extends from about 4,000 to 800 YBP. This theme involves the apparent collapse of many inland populations, presumably with population movements to better environments such as the coast. It is not yet known whether the southern San Joaquin Valley, with its system of lakes, sloughs and swamps, experienced population decline or, more likely, population increase due to the relatively favorable conditions of this region during this period of environmental stress.

The range of site types that are present in this region include:

- Villages, primarily located on or near permanent water sources, occupied by large groups during the winter aggregation season;
- Seasonal camps, again typically located at water sources, occupied during other parts of the year tied to locally and seasonally available food sources;
- Special activity areas, especially plant processing locations containing bedrock mortars (BRMs), commonly (though not exclusively) near existing oak woodlands, and invariably at bedrock outcrops or exposed boulders;
- Stone quarries and tool workshops, occurring in two general contexts: at or below naturally occurring chert exposures on the eastern front of the Temblor Range; and at quartzite cobble exposures, often on hills or ridges;
- Ritual sites, most commonly pictographs (rock art) found at rockshelters or large exposed boulders, and cemeteries, both commonly associated with villages; and
- A variety of small lithic scatters (low density surface scatters of stone tools).

The first requisites in any research design are the definition of site age/chronology and site function. The ability to determine either of these basic kinds of information may vary between survey and test excavation projects, and due to the nature of the sites themselves. BRM sites without associated artifacts, for example, may not be datable beyond the assumption that they post-date the Early Horizon and are thus less than roughly 4,000 years old.

A second fundamental issue involves the place of site in the settlement system, especially with respect to water sources. Because the locations of the water sources have sometimes changed over time, villages and camps are not exclusively associated with existing (or known historical) water sources (W&S Consultants 2006). The size and locations of the region's lakes, sloughs and delta channels, to cite the most obvious example, changed significantly during the last 12,000 years due to major paleoclimatic shifts. This altered the area's hydrology and thus prehistoric settlement patterns. The western shoreline of Tulare Lake was relatively stable, because it abutted the Kettleman Hills. But the northern, southern and eastern shorelines comprised the near-flat valley floor. Relatively minor fluctuations up or down in the lake level resulted in very significant changes in the areal expression of the lake on these three sides, and therefore the locations of villages and camps. Although perhaps not as systematic, similar changes occurred with respect to stream channels and sloughs, and potential site locations associated with them. This circumstance has implications for predicting site locations and archaeological sensitivity. Site sensitivity is then hardest to predict in the open valley floor, where changes in stream courses and lake levels occurred on numerous occasions.

Nonetheless, the position of San Joaquin Valley prehistory relative to the changing settlement and demographic patterns seen in surrounding areas is still somewhat unknown (cf. Siefkin 1999), including to the two NRHP themes identified above. The presence of large lake systems in the valley bottoms can be expected to have mediated some of the effects of desiccation seen elsewhere. But, as the reconstruction of Soda Lake in the nearby Carrizo Plain demonstrates (see Whitley et al. 2007), environmental perturbations had serious impacts on lake systems too. Identifying certain of the prehistoric demographic trends for the San Joaquin Valley, and determining how these trends (if present) correlate with those seen elsewhere, is another primary regional research objective.

Archaeological sites would primarily be evaluated for NRHP eligibility under Criterion D, research potential.

2.5.2 Historical Archaeology: Native American

Less research has been conducted on the regional historical archaeological record, both Native American and Euro-American. For Native American historical sites, the ethnographic and ethnohistoric periods in the southern San Joaquin Valley extended from first Euro-American contact, in AD 1772, to circa 1900, when tribal populations were first consolidated on reservations. The major significant historic NRHP themes during this period of significance involve the related topics of Historic-Aboriginal Archaeology, and Native American Ethnic Heritage. More specifically, these concern the Adaptation of the Indigenous Population to Euro-American Encroachment and Settlement, and their Acculturation to Western Society. These processes included the impact of missionization on the San Joaquin Valley (circa 1800 to about 1845); the

introduction of the horse and the development of a San Joaquin Valley "horse culture," including raiding onto the coast and Los Angeles Basin (after about 1810); the use of the region as a refuge for mission neophyte escapees (after 1820); responses to epidemics from introduced diseases (especially in the 1830s); armed resistance to Euro-American encroachment (in the 1840s and early 1850s); the origins of the reservation system and the development of new tribal organizations and ethnic identities; and, ultimately, the adoption of the Euro-American society's economic system and subsistence practices, and acculturation into that society.

Site types that have been identified in the region dating to the ethnographic/ethnohistoric period of significance primarily include villages and habitations, some of which contain cemeteries and rock art (including pictographs and cupules). Dispersed farmsteads, dating specifically from the reservation period or post-1853, would also be expected. The different social processes associated with this historical theme may be manifest in the material cultural record in terms of changing settlement patterns and village organization (from traditional nucleated villages to single family dispersed farmsteads); the breakdown of traditional trading networks with their replacement by new economic relationships; changing subsistence practices, especially the introduction of agriculture initially via escaped mission neophytes; the use of Euro-American artifacts and materials rather than traditional tools and materials; and, possibly, changing mortuary practices.

Inasmuch as culture change is a primary intellectual interest in archaeology, ethnographic villages and habitations may be NRHP eligible under Criterion D, research potential. Rock art sites, especially pictographs, may be eligible under Criterion C as examples of artistic mastery. They may also be eligible under Criterion A, association with events contributing to broad patterns of history. Ethnographic sites, further, may be NRHP eligible as Traditional Cultural Properties due to potential continued connections to tribal descendants, and their resulting importance in traditional practices and beliefs, including their significance for historical memory, tribal- and self-identity formation, and tribal education.

For Criteria A, C and D, eligibility requires site integrity (including the ability to convey historical association for Criterion A). These may include intact archaeological deposits for Criterion D, as well as setting and feel for Criteria C and A. Historical properties may lack physical integrity, as normally understood in heritage management, but still retain their significance to Native American tribes as Traditional Cultural Properties if they retain their tribal associations and uses.

2.5.3 Historical Archaeology: Euro-American

Approaches to historical Euro-American archaeological research relevant to the region have been summarized by Caltrans (1999, 2000, 2007, 2008). These concern the general topics of historical landscapes, agriculture and farming, irrigation (water conveyance systems), and mining. Caltrans has also identified an evaluation matrix aiding determinations of eligibility. The identified research issues include site structure and land-use (lay-out, land use, feature function); economics (self-sufficiency, consumer behavior, wealth indicators); technology and science (innovations, methods); ethnicity and cultural diversity (religion, race); household composition and lifeways (gender, children); and labor relations. Principles useful for determining the research potential of an individual site or feature are conceptualized in terms of the mnemonic AIMS-R, as follows:

1. *Association* refers to the ability to link an assemblage of artifacts, ecofacts, and other cultural remains with an individual household, an ethnic or socioeconomic group, or a specific activity or property use.

2. *Integrity* addresses the physical condition of the deposit, referring to the intact nature of the archaeological remains. In order for a feature to be most useful, it should be in much the same state as when it was deposited. However, even disturbed deposits can yield important information (e.g., a tightly dated deposit with an unequivocal association).

3. *Materials* refers to the number and variety of artifacts present. Large assemblages provide more secure interpretations as there are more datable items to determine when the deposit was made, and the collection will be more representative of the household, or activity. Likewise, the interpretive potential of a deposit is generally increased with the diversity of its contents, although the lack of diversity in certain assemblages also may signal important behavioral or consumer patterns.

4. *Stratigraphy* refers to the vertically or horizontally discrete depositional units that are distinguishable. Remains from an archaeological feature with a complex stratigraphic sequence representative of several events over time can have the added advantage of providing an independent chronological check on artifact diagnosis and the interpretation of the sequence of environmental or sociocultural events.

5. *Rarity* refers to remains linked to household types or activities that are uncommon. Because they are scarce, they may have importance even in cases where they otherwise fail to meet other thresholds of importance (Caltrans 2007:209).

For agricultural sites, Caltrans (2007) has identified six themes to guide research: Site Structure and Land Use Pattern; Economic Strategies; Ethnicity and Cultural Adaptation; Agricultural Technology and Science; Household Composition and Lifeways; and Labor History. Expected site types would include farm and ranch homesteads and facilities, line camps, and refuse dumps. In general terms, historical Euro-American archaeological sites would be evaluated for NRHP eligibility under Criterion D, research potential. However, they also potentially could be eligible under Criteria A and B for their associate values with major historical trends or individuals. Historical landscapes might also be considered. Historical structures are typically evaluated for NRHP eligibility under Criteria A and/or B, for their associative values with major historical trends or individuals, and C for potential design or engineering importance.

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 12 August 2021. 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, the study area has never been the subject of any formal surveys (Table 1). No cultural resources were identified within the Sierra Foothill Charter School Project APE. Ten studies had been completed within 0.5-mi of the APE (Table 2), resulting in the recording of twelve cultural resources within that radius (Table 3). 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.

A record search of the NAHC Sacred Lands File was also completed for the proposed project. The results were negative. Using the NAHC provided contact list, outreach letters and follow-up emails were sent to tribal organizations to further identify Native American interests and concerns in the Project area. Two responses were received. Ms. Andrea Rich, Chairwoman of the Tuolumne Me-Wuk Tribal Council, sent a letter indicating that the Tuolumne Band has no concerns about the Project. Mr. Clay River from the Southern Sierra Miwuk Nation sent an email requesting tribal monitoring if the excavation would extend below 3.5-feet (ft). A response was sent to Mr. River indicating that the pipeline trench would not extend below that depth.

Table 1. Survey Reports within the 0.5-mi of the APE

Report No.	Year	Author (s)/Affiliation	Title
MP-00557	1979	D Rhode/ Environmental Planning, CalTrans	Supplementary Archaeological Survey Report of a Proposed Passing Lane Construction in Mariposa County, California
MP-03908	1980	M Baltich/ CalTrans District 10	Historic Property Survey Report, Supplemental Data, 10-MPA-140, Locations No. 2, 3, 4, 5 & 8, Between PM 4.2 and 26.0, and 10-MPA-140, Locations No. 7, PM 22.0/25.1
MP-04084	1999	BF Smith and KP Hunt/ Brian F. Smith and Associates for Stevens Planning Group	An Archaeological Survey for the Vallecitos Specific Plan, Cathey's Valley, Mariposa County, California
MP-04510	2002	D Varner/ Varner Associates	A Cultural Resource Study of Property in Catheys Valley, Mariposa County, California

Report No.	Year	Author (s)/Affiliation	Title
MP-05498	2004	L Leach-Palm, P Mikkelsen, J King, J Hatch & B Larson/ Far Western Anthropological Research Group, Inc.; for Caltrans District 10	Cultural Resources Inventory of Caltrans District 10 Rural Conventional Highways; Volume l: Summary of Methods and Findings
MP-05501	2004	JS Rosenthal and J Meyer/ Far Western Anthropological Research Group, Inc. for Caltrans District 10	Cultural Resources Inventory of Caltrans District 10 Rural Conventional Highways; Volume lll: Geoarchaeological Study
MP-05504	2004	L Each-Palm, J King, J Hatch & B Larson/ Far Western Anthropological Research Group, Inc., Foothill Resources, Ltd., & PAR Environmental Services, Inc.; for Caltrans District 10	Cultural Resources Inventory of Caltrans District 10 Rural Conventional Highways; Volume II D: Mariposa County
MP-07690	2011	DM Varner/ Varner Associates	A Cultural Resource Study of the Fortner Family Trust Property in Mariposa County, California
MP-08988	2019	A Parker and A Whitaker/ Far Western Anthropological Research Group, Inc. for Caltrans District 10	Archaeological Survey Report for Director's Orders Hazard Tree Removal in District 10, Amador, Calaveras, Mariposa, Merced, San Joaquin, Stanislaus and Tuolumne Counties, CA
MP-09258	2019	SA Waechter/ Far Western Anthropological Research Group, Inc.	Historic Property Survey Report for Director's Orders Hazard Tree Removal Project District 10, Amador, Calaveras, Mariposa, Merced, San Joaquin, Stanislaus and Tuolumne Counties, California, State Routes 4, 5, 12, 26, 49, 88, 108, 120 and 140; E-FIS 10-1600- 0133, EA 10-1F6403, Contract 06A2312, Task Order 11

Table 2. Resources within the 0.5-mi of the APE

Primary #	Type	Description
P-22-000354	Site	Prehistoric village site
P-22-001905	Site	Prehistoric milling station
P-22-001908	Site	Prehistoric milling station
P-22-001909	Site	Prehistoric milling station
P-22-001910	Site	Prehistoric milling station/ Historic walls/fences
P-22-001911	Site	Prehistoric milling station
P-22-001912	Site	Prehistoric milling station
P-22-001913	Site	Prehistoric milling stations and trails/linear earthworks
P-22-001915	Structure	Historic wall/fences

P-22-002127	Building	Historic church
P-22-002128	Building	Historic school
P-22-002531	Other	Historic mining features

The results of the IC and NAHC records searches indicate that no cultural or tribal cultural resources are present within the study area. Recorded sites in the vicinity primarily consists of either historical structures or prehistoric milling stations on rock outcrops. Given the location of the proposed Project, within an existing parking lot, there was a low probability for presence of cultural resources.

4. METHODS AND RESULTS

4.1 FIELD METHODS

An intensive Class III inventor/Phase I survey of the Project APE was conducted by Ross Way, ASM Associate Archaeologist/Crew Chief, on 3 September 2021. 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. These covered the entirety of the approximately 1-ac APE.

4.2 SURVEY RESULTS

No cultural resources of any kind were observed in the Project APE.

Figure 2. Project APE, looking southeast.

5. SUMMARY AND RECOMMENDATIONS

An intensive Class III archaeological inventory/Phase I survey was conducted for the Madera CSA-16 Alternative-3 Project APE, Sumner Hill, Madera County, California. A records search was conducted at the Southern San Joaquin Valley Archaeological Information Center, California State University, Bakersfield. This indicated that the study area had been previously surveyed and that no cultural resources of any kind were known to exist within it. The Native American Heritage Commission Sacred Lands Files were also consulted. They also documented the presence of a site believed to be a component of the historic Dumna Yokuts village of *I-ah'-pin*. This site is in fact on the river terrace below the Project APE and has no potential to be impacted or effected by the replacement of the infrastructure at the SWTP.

The Phase I survey fieldwork was conducted with parallel transects spaced at 15-meter intervals across the 1-acres Project APE. No cultural resources of any kind were identified within the existing SWTP facility, which is on top of a ridge on a previously graded pad.

5.1 RECOMMENDATIONS

An intensive Phase I survey/Class III inventory demonstrated that the Madera CSA-16 Alternative-3 Project, Sumner Hill, Madera County, California, does not have the potential to adversely impact or effect significant or unique historical resources or historic properties. A determination of no effect is therefore recommended for the proposed Project.

In the unlikely event that cultural resources are discovered during the construction and operation of the proposed Project, however, it is recommended that an archaeologist be contacted to evaluate the find and to assist with the development of a treatment plan, if warranted.

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