

DRAFT

**CEQA Plus Initial Study and Mitigated Negative Declaration
for the
Manzanita Elementary School Well Replacement Project
Butte County, California**

Lead Agency:

Manzanita Elementary School District
627 East Evans Reimer Road
Gridley, California 95948

Prepared by:

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January 2025

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DRAFT MITIGATED NEGATIVE DECLARATION

Lead Agency: Manzanita Elementary School District

Project Proponent: Manzanita Elementary School District

Project Location: The Proposed Project is in unincorporated Butte County near the City of Gridley on the Manzanita Elementary School property on Assessor's Parcel Numbers (APNs) 024-120-026-000, 024-120-035-000, and 024-120-059-000. The 0.84-acre Project Area is situated north of East Evans Reimer Road, east of Larkin Road, south of Center Avenue, and west of River Avenue. The Project Area is located in Section 00 of Township 17 North, Range 3 East, (Mount Diablo Principal Meridian) and located at latitude 39°20'10.09" N and longitude 121°39'32.22" W (Figures 1 and 2).

Project Description:

The Manzanita Elementary School District (MESD; District) proposes the Manzanita Elementary School Well Replacement Project (Project) to construct a new 550-foot-deep well to supply 200 gallons per minute (gpm) of potable and non-potable water to the school. The Project also includes the demolition of the existing onsite well per Butte County standards, the installation of 900 feet of C-900 polyvinyl chloride (PVC) piping and PVC underground electrical conduit from the new well location to the existing well location, a new 50 kW 240V 3-Phase diesel generator with automatic transfer switch on a concrete slab next to the new well, a 6-foot-high chain link fence with privacy slats installed around the well and generator, and a 15,000 square foot access road. The access road will connect the new well site to Center Avenue, located north of the Project Area. A roadside swale will also be constructed to allow for drainage. Electrical components such as meter/main and switchboard, deep well submersible pump and motor with Variable Frequency Drive (VFD) motor controller, and conduit will be installed (Figure 1).

In 2018, levels of 1,2,3-trichloropropane (TCP) above the 0.005 micrograms per liter (µg/l) Maximum Contaminant Level (MCL) for drinking water as established by the California State Water Resources Control Board (SWRCB) was detected in the existing well on the east side of the school property. MCL is the maximum permissible level of a contaminant in water. Due to the level of TCP detected in the existing well, it is not used for potable water sources and is used only for irrigation purposes. The school currently uses bottled water for all their potable water needs. The Proposed Project would demolish the existing well and provide a new well located on the north side of the school property adjacent to the existing solar panels. The new well would provide water from deeper zones of the Sacramento Valley-Butte Groundwater Basin (Basin Number 5-021.7) and would include screen intervals to avoid the zones with MCL exceedances for TCP. The SWRCB approved construction of a new well as a supply source for the Proposed Project.

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CIVIL SITE PLAN 1

VERIFY SCALE

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0 1"

IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

SHEET NUMBER

C-1

4 OF 11

1. THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE APPROXIMATE. THE EXISTING ELEVATIONS AND LOCATIONS MAY VARY FROM THOSE SHOWN. UNDERGROUND FACILITIES, PIPING AND UTILITIES ELEVATIONS AND LOCATIONS WHICH WILL AFFECT THE WORK SHALL BE VERIFIED BY THE CONTRACTOR BY POTHOLING. THE LOCATIONS OF EXISTING PIPELINES AND ELECTRICAL AND SIGNAL CONDUIT ARE UNKNOWN. CONTRACTOR SHALL POTHOLE AT NO ADDITIONAL COST TO OWNER PRIOR TO CONSTRUCTION TO IDENTIFY LOCATION AND WHICH PIPELINES SHALL BE DEMOLISHED AND WHICH PIPELINES SHALL BE PROTECTED IN PLACE.
2. SITE SURVEYS WERE NOT PERFORMED FOR THE PROJECT. EXISTING AND PROPOSED FACILITY LOCATIONS ARE APPROXIMATE. CONTRACTOR TO FIELD VERIFY ALL EXISTING SITE CONDITIONS IN THE AREA OF THE WORK PRIOR TO CONSTRUCTION. IF A CONFLICT EXISTS BETWEEN THE CONTRACT DOCUMENTS AND ACTUAL CONDITIONS, CONTRACTOR SHALL NOTIFY ENGINEER IMMEDIATELY.
3. CONTRACTOR SHALL RESTORE ALL AREAS DISTURBED AS PART OF THIS PROJECT TO THEIR ORIGINAL CONDITION.
4. SEE SHEET M-1 FOR WELL PIPING DETAIL.
5. UTILITY INSTALLATION TO CONFORM TO CALIFORNIA WATERWORKS STANDARDS TITLE 22, SECTION 64572 WATER MAIN SEPARATION.



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Mitigation Measures Incorporated into the Project to Avoid Significant Effects:

Biological Resources

- BIO-1: Swainson's Hawk.** If Project activities are scheduled during the Swainson's hawk nesting season (March 1 to August 31), then prior to beginning work on the Project a qualified biologist shall survey for Swainson's hawk nesting activity. The survey area shall include a 0.5-mile distance surrounding the Project Area. The qualified biologist shall conduct surveys according to the Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley (Swainson's Hawk Technical Advisory Committee 2000) or, if proposing an alternate survey methodology, shall submit the proposed survey timing and methods to CDFW for review and written approval prior to initiation of surveys. Survey results shall be submitted to CDFW for review. If Swainson's hawk nesting activity is observed during the survey, then the survey results shall be submitted to CDFW for review and acceptance prior to starting Project activities. If the qualified biologist identifies nesting Swainson's hawks, then the biologist shall recommend a no-disturbance buffer, and the contractor shall implement the buffer under the supervision of a qualified biologist. Project activities shall be prohibited within the no-disturbance buffer between March 1 to August 31, unless otherwise approved in writing by CDFW, which may include consultation pursuant to California ESA and an Incidental Take Permit, or a qualified biologist determining that the nest is no longer active.
- BIO-2: Burrowing Owl.** A preconstruction survey for nesting burrowing owl will be conducted by a qualified biologist within 14 days prior to commencement of Project activities within the Study Area and a 250-foot buffer. Surveys shall be conducted at appropriate times and in appropriate weather conditions to maximize detection. If active burrowing owl burrows are found, an avoidance buffer will be immediately established, and an avoidance plan will be prepared in consultation with CDFW prior to the commencement of any ground-disturbing activities. If there is a lapse in Project-related work of 14 days or longer, then an additional survey shall be conducted prior to resuming Project activities.
- BIO-3: Other Nesting Birds (Including Raptors).** If Project activities are to occur during the nesting season (generally February 1 through August 31), conduct a preconstruction nesting bird survey of all suitable nesting habitat within 14 days of the commencement of Project activities. The survey shall be conducted within a 500-foot radius of Project work areas for raptors and within a 100-foot radius for other nesting birds. If any active nests are observed, these nests shall be designated a sensitive area and protected by an avoidance buffer implemented by the contractor and under the supervision of a qualified biologist until the breeding season has ended or until a qualified biologist has determined that the young have fledged and are no longer reliant upon the nest or parental care for survival. A Preconstruction Nesting Bird Survey Report will be prepared by a qualified biologist that includes surveyors' names and affiliation, dates and times of surveys, methods, results, and recommendations. If there is a lapse in Project-related work of 14 days or longer, then an additional survey shall be conducted prior to resuming Project activities.

Cultural Resources

CUL-1: If subsurface deposits believed to be cultural or human in origin are discovered during construction, all work must halt within a 100-foot radius of the discovery. A qualified professional archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards for prehistoric and historic archaeology, shall be retained to evaluate the significance of the find, and shall have the authority to modify the no-work radius as appropriate, using professional judgment. The following notifications shall apply, depending on the nature of the find:

- If the professional archaeologist determines that the find does not represent a cultural resource, work may resume immediately, and no agency notifications are required.
- If the professional archaeologist determines that the find does represent a cultural resource from any time period or cultural affiliation, the archaeologist shall immediately notify the lead agencies. The agencies shall consult on a finding of eligibility and implement appropriate treatment measures, if the find is determined to be a Historical Resource under CEQA, as defined in Section 15064.5(a) of the CEQA Guidelines or a historic property under Section 106 NHPA, if applicable. Work may not resume within the no-work radius until the lead agencies, through consultation as appropriate, determine that the site either: 1) is not a Historical Resource under CEQA or a Historic Property under Section 106; or 2) that the treatment measures have been completed to their satisfaction.
- If the find includes human remains, or remains that are potentially human, they shall ensure reasonable protection measures are taken to protect the discovery from disturbance (AB 2641). The archaeologist shall notify the Butte County Coroner (per Section 7050.5 of the Health and Safety Code). The provisions of Section 7050.5 of the California Health and Safety Code, Section 5097.98 of the California PRC, and AB 2641 will be implemented. If the coroner determines the remains are Native American and not the result of a crime scene, the coroner will notify the Native American Heritage Commission (NAHC), which then will designate a Native American Most Likely Descendant (MLD) for the Project (Section 5097.98 of the PRC). The designated MLD will have 48 hours from the time access to the property is granted to make recommendations concerning treatment of the remains. If the landowner does not agree with the recommendations of the MLD, the NAHC can mediate (Section 5097.94 of the PRC). If no agreement is reached, the landowner must rebury the remains where they will not be further disturbed (Section 5097.98 of the PRC). This will also include either recording the site with the NAHC or the appropriate Information Center; using an open space or conservation zoning designation or easement; or recording a reinternment document with the county in which the property is located (AB 2641). Work may not resume within the no-work radius until the lead agencies, through consultation as appropriate, determine that the treatment measures have been completed to their satisfaction.

Geology and Soils

GEO-1: If paleontological or other geologically sensitive resources are identified during any phase of project development, the construction manager shall cease operation at the site of the discovery and immediately notify Manzanita Elementary School District. The District shall retain a qualified paleontologist to provide an evaluation of the find and to prescribe mitigation measures to reduce impacts to a less-than-significant level. In considering any suggested mitigation proposed by the consulting paleontologist, the District shall determine whether avoidance is necessary and feasible in light of factors such as the nature of the find, project design, costs, land use assumptions, and other considerations. If avoidance is unnecessary or infeasible, other appropriate measures (e.g., data recovery) shall be instituted. Work may proceed on other parts of the Project Area while mitigation for paleontological resources is carried out.

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LIST OF ACRONYMS AND ABBREVIATIONS

Term	Definition
µg/l	micrograms per liter
AB	Assembly Bill
ACHP	Advisory Council on Historic Preservation
ADD	average daily demand
ANSI	American National Standards Institute
APE	Area of Potential Effects
APN	Assessor's Parcel Number
BCAQMD	Butte County Air Quality Management District
BCE	Butte Choice Energy
BCSO	Butte County Sheriff's Office
bgs	below ground surface
B-Line	Butte Regional Transit
BMPs	Best Management Practices
BRA	Biological Resource Assessment
BSA	Biological Study Area
CAAQS	California Ambient Air Quality Standards
CAL FIRE	California Department of Forestry and Fire Protection

Term	Definition
CalEEMod	California Emissions Estimator Model
CalEPA	California Environmental Protection Agency
Caltrans	California Department of Transportation
CAA	Clean Air Act
CAP	Climate Action Plan
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEC	California Energy Commission
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CGS	California Geological Survey
CH ₄	methane
CHP	California Highway Patrol
CHRIS	California Historical Resources Information System
CNDDDB	California Natural Diversity Database
CNEL	community noise equivalent level
CNPS	California Native Plant Society
CO	carbon monoxide
CO ₂	carbon dioxide
CO ₂ e	carbon dioxide equivalent
County	Butte County
CPUC	California Public Utilities Commission
CRHR	California Register of Historical Resources
CWA	Federal Clean Water Act
CWSRF	Clean Water State Revolving Fund
CZMA	Coastal Zone Management Act
dB	decibel(s)
dBA	A-weighted decibel(s)
DD1	Butte Creek Drainage District No. 1
District	Manzanita Elementary School District
DOC	California Department of Conservation
DPM	diesel particulate matter
DTSC	Department of Toxic Substances Control
DWR	Department of Water Resources
EFH	Essential Fish Habitat
EIR	Environmental Impact Report
EKI	EKI Environment & Water, Inc.
EO	Executive Order
EOPC	Engineers Opinion of Probable Cost

Term	Definition
ESA	Endangered Species Act
fc	foot-candle
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Map
FPPA	Farmland Protection Policy Act
FTA	Federal Transit Administration
FU	fixture units
GHG	greenhouse gas
gpm	gallons per minute
GSA's	Groundwater Sustainability Agencies
GSP	Groundwater Sustainability Plan
hp	Horsepower
I	Interstate
IEPR	Integrated Energy Policy Report
IRWMP	Integrated Regional Water Management Plan
IS	Initial Study
kWh	kilowatt-hours
L _{dn}	day-night average sound level
L _{eq}	equivalent continuous sound level
LHMP	Local Hazard Mitigation Plan
LSAA	Lake or Streambed Alteration Agreement
MBTA	Migratory Bird Treaty Act
MCL	Maximum Contaminant Level
MDD	maximum daily demand
MESD	Manzanita Elementary School District
MLD	Most Likely Descendent
MND	Mitigated Negative Declaration
MRZ	Mineral Resource Zones
MSA	Magnuson-Stevens Fishery Conservation and Management Act
MS4	Municipal Separate Storm Sewer Systems
N ₂ O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
ND	Negative Declaration
NEIC	North Central Information Center
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NIOSH	National Institute for Occupational Safety and Health
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NO _x	nitrogen oxides

Term	Definition
NPDES	National Pollutant Discharge Elimination System
NPPA	Native Plant Protection Act
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NSVAB	Northern Sacramento Valley Air Basin
NWI	National Wetlands Inventory
O ₃	ozone
OHP	California Office of Historic Preservation
O&M	operation and maintenance
PB	Public
PG&E	Pacific Gas and Electricity Company
PHD	Peak Hour Demand
PM	particulate matter
PPV	peak particle velocity
PRC	Public Resource Code
Project/Proposed Project	Manzanita Elementary School Well Replacement Project
PVC	polyvinyl chloride
ROG	Reactive Organic Gases
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SDWA	Safe Drinking Water Act of 1974
SGMA	Sustainable Groundwater Management Act
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
SLF	Sacred Lands File
SMARA	Surface Mining and Reclamation Act of 1975
SO ₂	sulfur dioxide
SR	State Route
SVAQEEP	Sacramento Valley Air Quality Engineering and Enforcement Professionals
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TCP	1,2,3-trichloropropane
TCR	Tribal Cultural Resource
USACE	United States Army Corps of Engineers
USC	U.S. Code
USDA	U.S. Department of Agriculture
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VFD	Variable Frequency Drive
VMT	Vehicle miles traveled

Term	Definition
VOC	volatile organic compounds
WSFU	water supply fixture units
WUI	Wildland-Urban Interface

1.0 BACKGROUND

1.1 Summary

Project Title:	Manzanita Elementary School Well Replacement Project
Lead Agency Name and Address:	Manzanita Elementary School District 627 East Evans Reimer Road Gridley, California 95948
Contact Person and Phone Number:	Gary Rogers, Superintendent/Principal Manzanita Elementary School District grogers@mesd.net (530) 846-5594
Project Location:	The Proposed Project is in unincorporated Butte County near the City of Gridley on the Manzanita Elementary School property on APNs 024-120-026-000, 024-120-035-000, and 024-120-059-000. The 0.84-acre Project Area is situated north of East Evans Reimer Road, east of Larkin Road, south of Center Avenue, and west of River Avenue. The Project Area is located in Section 00 of Township 17 North, Range 3 East, (Mount Diablo Principal Meridian) and located at latitude 39°20'10.09" N and longitude 121°39'32.22" W (Figures 1 and 2).
General Plan Designation:	Public (P) and Agriculture (AG)
Zoning:	Public (PB) and Agriculture, 20-acre min. parcel size (AG-20)

1.2 Introduction

The Manzanita Elementary School District (MESD) is the Lead Agency for this Initial Study (IS). The Initial Study has been prepared to identify and assess the potential environmental impacts of MESD's Manzanita Elementary School Well Replacement Project (Project or Proposed Project). This document has been prepared to satisfy the California Environmental Quality Act (CEQA) (Public Resource Code [PRC], § 21000 et seq.) and state CEQA Guidelines (14 California Code of Regulations [CCR] 15000 et seq.). CEQA requires that all state and local government agencies consider the environmental consequences of projects over which they have discretionary authority before acting on those projects. A CEQA Initial Study is generally used to determine which CEQA document is appropriate for a Project (Negative Declaration [ND], Mitigated Negative Declaration [MND], or Environmental Impact Report [EIR]).

MESD is seeking funding for the Proposed Project under the State Water Resources Control Board's (SWRCB) Clean Water State Revolving Fund (CWSRF) Program, which is partially funded through the Environmental Protection Agency (USEPA). Because of the federal nexus with the USEPA, projects seeking funding through the CWSRF Program are subject to federal laws and regulations (e.g., federal cross-cutters). Under the CWSRF Program, SWRCB uses a project's CEQA document along with federal cross-cutting documentation in place of a National Environmental Policy Act (NEPA) document; this document

is termed a CEQA-Plus document. The Manzanita Elementary School Well Replacement Project IS/MND also includes analysis of those areas required by the federal cross-cutter. The federal cross cutter analysis is included in Section 5.0 of this IS/MND.

1.3 Surrounding Land Uses/Environmental Setting

The lead agency is the public agency with primary responsibility over a proposed project. Where two or more public agencies will be involved with a project, CEQA Guidelines Section 15051 provides criteria for identifying the lead agency. In accordance with CEQA Guidelines Section 15051(b)(1), "the lead agency will normally be the agency with general governmental powers, such as a city or county, rather than an agency with a single or limited purpose." Based on the criteria above, the MESD is the lead agency for the Proposed Project.

1.4 Purpose and Document Organization

The purpose of this Initial Study is to evaluate the potential environmental impacts of the proposed Manzanita Elementary School Well Replacement Project. This document is divided into the following sections:

1.0 Introduction – This section provides an introduction and describes the purpose and organization of the document. This section provides general information regarding the Project, including the Project title, lead agency and address, contact person, brief description of the Project location, General Plan land use designation, zoning district, identification of surrounding land uses.

2.0 Project Description – This section provides a detailed description of the Proposed Project, as well as the identification of other public agencies whose review, approval, and/or permits may be required. Also listed in this section is a checklist of the environmental factors that are potentially affected by the Project.

3.0 Environmental Factors Potentially Affected and Determinations – This section is a summary of the environmental topic areas that were found to potentially impact the environment.

4.0 Environmental Checklist and Discussion – This section describes the environmental setting and overview for each of the environmental subject areas, evaluates a range of impacts classified as "no impact," "less than significant impact," "less than significant impact with mitigation incorporated," and "potentially significant impact" in response to the environmental checklist.

5.0 Compliance with Federal Regulations – This section provides the required NEPA analysis for the Project.

6.0 Alternatives – NEPA requires an analysis of alternatives to the Project. This section provides this analysis.

7.0 List of Preparers – This section lists the names of document preparers.

8.0 Bibliography – This section identifies documents, websites, people, and other sources consulted during the preparation of this Initial Study.

9.0 List of Attachments – This section provides a list of document appendices.

1.5 Project Location and Surrounding Land Uses

The Proposed Project is in unincorporated Butte County near the City of Gridley on the Manzanita Elementary School property on Assessor's Parcel Numbers (APNs) 024-120-026, 024-120-035, and 024-120-059. The Project Area is situated north of East Evans Reimer Road, east of Larkin Road, south of Center Avenue, and west of River Avenue and consists of three parcels of land totaling 17 acres. The Project Area is located in Section 00 of Township 17 North, Range 3 East, (Mount Diablo Principal Meridian) and located at latitude 39°20'10.09" N and longitude 121°39'32.22" W (Figures 1 and 2).

Land uses in the Project Area include an elementary school and vacant land. Land uses in the area surrounding the Project, or the Project vicinity, include single-family homes to the north, east, and south and agricultural land to the north, east, south, and west.

1.6 Environmental Setting

Butte County is located in the northeastern part of the Sacramento Valley in north central California, approximately 150 miles northeast of San Francisco and 70 miles north of Sacramento (see Figures 2 and 3). The 1,680-square-mile county ranges includes three topographical areas including the valley region, foothills east of the valley, and mountain region east of the foothills. The Sacramento River and Butte Creek form portions of the west boundary of the County (Butte County 2023a).

The Project Area is located in unincorporated Butte County approximately 1.7 miles southeast of the City of Gridley. Other nearby cities include Biggs and Live Oak and nearby unincorporated towns include Fagan and East Gridley. According to the County's General Plan, almost half of the County is the valley which is utilized for cropland, orchards, and meadows for livestock grazing. There are some rural scale residences mixed in with this predominantly agricultural landscape. The land is predominately flat but also contains mountains, hills, and rivers (Butte County 2023a).

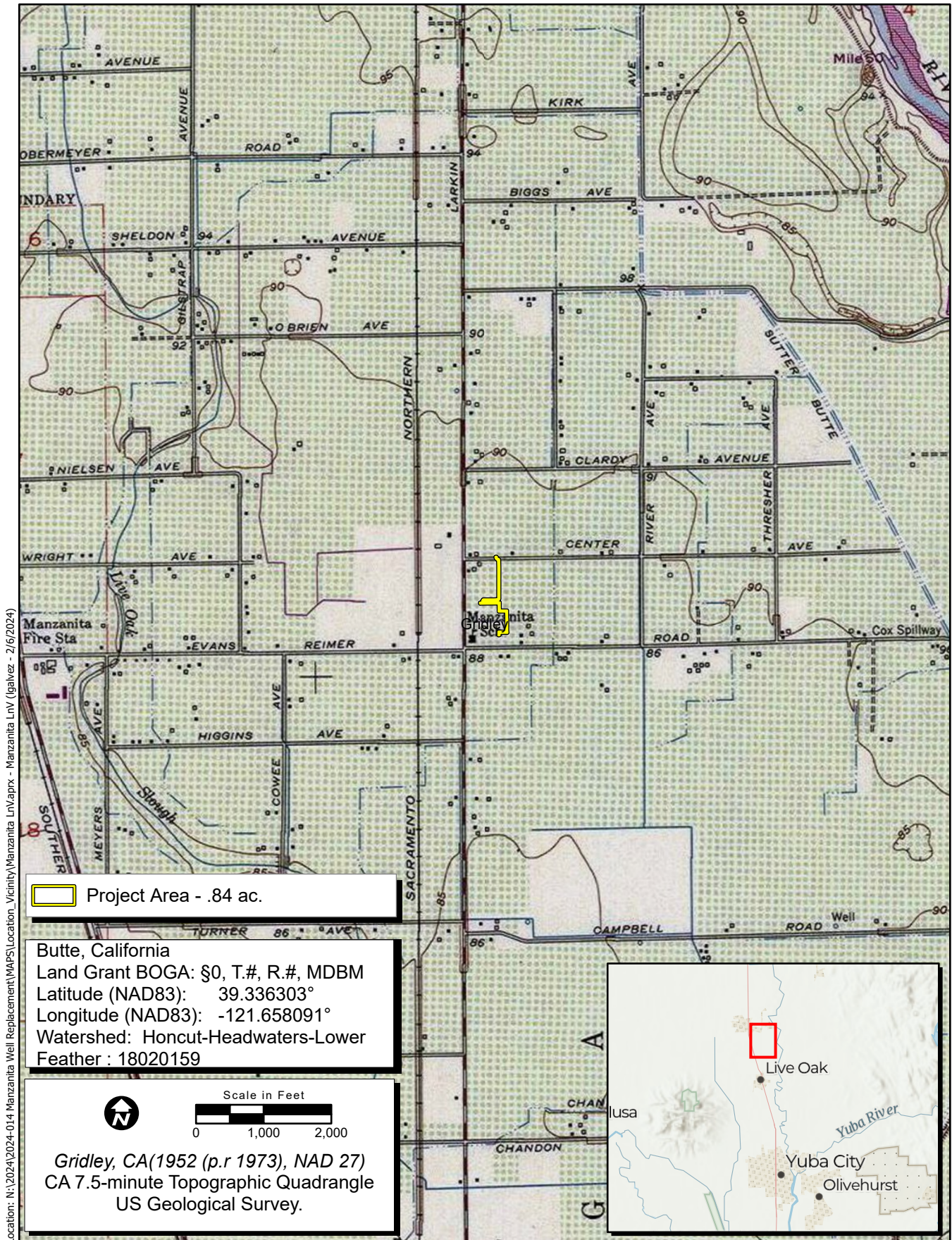


Figure 2. Project Vicinity



Figure 3. Project Location

2.0 PROJECT DESCRIPTION

2.1 Project Background

The Proposed Project proposes construction of a new 550-foot-deep well to supply 200 gpm of potable and non-potable water to the school. The Project also includes the demolition of the existing onsite well per Butte County standards, the installation of 900 feet of C-900 poly-vinyl chloride (PVC) piping and PVC underground electrical conduit from the new well location to the existing well location, a new 50 kW 240V 3-Phase diesel generator with automatic transfer switch on a concrete slab next to the new well, a 6-foot-high chain link fence with privacy slats installed around the well and generator, and a 15,000 square foot access road. The access road will connect the new well site to Center Avenue, located north of the Project Area. A roadside swale will also be constructed to allow for drainage. Electrical components such as meter/main and switchboard, deep well submersible pump and motor with Variable Frequency Drive (VFD) motor controller, and conduit will be installed (Figure 3).

In 2018, levels of 1,2,3-trichloropropane (TCP) above the 0.005 µg/l Maximum Contaminant Level (MCL) for drinking water as established by the SWRCB was detected in the existing well on the east side of the school property. MCL is the maximum permissible level of a contaminant in water. Due to the level of TCP detected in the existing well, it is not used for potable water sources and is used only for irrigation purposes. The school currently uses bottled water for all their potable water needs. The Proposed Project would demolish the existing well and provide a new well located on the north side of the school property adjacent to the existing solar panels. The new well would provide water from deeper zones of the Sacramento Valley-Butte Groundwater Basin and would include screen intervals to avoid the zones with MCL exceedances for TCP. The SWRCB approved construction of a new well as a supply source for the Proposed Project.

2.1.1 Water Quality

Zone sampling was conducted to assess water quality variation between different hydrostratigraphic units or depth intervals. The six zones at different depths below ground surface (bgs) selected for water quality sampling include:

- Zone 1: 470 to 506 feet
- Zone 2: 420 to 460 feet
- Zone 3: 340 to 400 feet
- Zone 4: 270 to 310 feet
- Zone 5: 230 to 260 feet
- Zone 6: 125 to 155 feet

According to the Preliminary Engineering Report, the deeper zones (Zones 1 through 3) generally had better overall water quality with only secondary MCL exceedances for manganese in all three deeper zones, plus aluminum and iron exceedances in Zone 2. The upper three zones (Zones 4 through 6) had

primary MCL exceedances for arsenic and TCP, in addition to secondary MCL exceedances for iron and manganese above their respective secondary MCLs (EKI Environment & Water, Inc. [EKI] 2024). As stated above, the new 550-foot-deep well would provide water from deeper zones and would include screen intervals to avoid the zones with MCL exceedances for TCP.

2.1.2 Water Supply

Potable and non-potable water demands were developed for MESD based on the school's population, peaking factors, and irrigation uses. For estimating the water demand of a building, the Uniform Plumbing Code recommends calculating water supply fixture units (WSFU) of the building, which considers the number and types of fixtures, along with the likelihood of simultaneous use.

Table 2.1-1 summarizes the potable water demand for MESD. After defining the total number of fixture units (FU) in the building, it is multiplied by a conversion factor of 2.4 to obtain the average daily demand (ADD) in gallons per minute. The average demand is multiplied by a factor of 1.5 to obtain the maximum daily demand (MDD), and the maximum day demand is multiplied by a factor of 2.5 to obtain the peak hourly demand.

Table 2.1-1. MESD Water Demand Summary			
Fixture/Process	Quantity of Fixtures	WSFU	FU
Lavatory/Handwash Fixtures	15	1	15
Kitchen/Breakroom Faucet	22	1.5	33
Toilet – Unisex	14	2.5	35
Toilet – Urinal	6	4	24
Drinking Water Fountains	7	0.5	3.5
Exterior Hose Bibs	1	2.5	2.5
Washing Machine	1	4	4
Total FU			117
FU to gpm			2.4
Total ADD (gpm)			48.3
MDD to ADD			1.5
Expected MDD (gpm)			72.4
Peak Hour Demand (PHD) to ADD			2.5
Expected PHD (gpm)			120.6

Notes: ADD = average daily demand ;FU = fixture units ; gpm = gallons per minute; MDD = maximum daily demand ;MESD = Manzanita Elementary School District ; PHD = Peak Hour Demand; WSFU = water supply fixture units

Source: EKI Environment and Water, Inc. 2024

As shown in Table 2.1-1, the peak hourly demand is estimated to be approximately 121 gpm and the maximum daily demand is estimated to be approximately 72 gpm. In addition to potable uses, the well also provides non-potable irrigation water for MESD. According to MESD, the school uses approximately 21,000 gallons per week, or 9 gpm, for irrigation. Since the irrigation system uses a constant flow rate of water, no peaking factor needs to be applied to this use. Based on the peak hourly potable water use (121 gpm) and the peak non-potable water use (9 gpm), the total peak water supply demand currently required is 130 gpm (EKI 2024). As stated above, the proposed well would provide 200 gpm of potable and non-potable water to the school.

2.2 Land Use and Planning

The Proposed Project Area is designated as Public (P) and Agriculture (AG) in the Butte County General Plan (Butte County 2023a). The zoning designation is Public (PB) and Agriculture, 20-acre min. parcel size (AG-20) (Butte County 2015).

2.3 Site Construction Features

A lockable double chain link gate would be installed at the entrance of the existing fence around the existing solar panels and proposed new well site from the proposed access road. This existing fence would be replaced in-kind if disturbed during installation of the pipeline and electrical conduit.

All existing features located outside the limits of work would be protected. All trees onsite would be protected from damage and roots larger than 2 inches in diameter would not be cut during excavation or trenching operations.

Temporary lighting for construction operations would be provided to achieve a minimum lighting level of 20-foot candles for rough work and 60-foot candles for finished work. No permanent lighting sources are proposed.

2.4 Site Access

Construction operators would access the site as necessary via a temporary entrance on Larkin Road. The temporary entrance will be restored to pre-project conditions following the end of construction.

Site access to the Project Area would be provided from two entrances. One along East Evans Reimer Road and another along Center Avenue. The East Evans Reimer Road entrance is currently used to access the school. The Center Avenue entrance would be constructed to access the new well site.

2.5 Project Construction and Timing

Construction of the Proposed Project would begin following Project approval. The Proposed Project would be constructed in a single phase. Construction equipment would likely include excavators, backhoes, graders, loaders, skid steers, and dump trucks. Work hours for the Proposed Project would be 8:00 a.m. to 6:00 p.m., Monday through Friday, except holidays. Post-construction activities would include site clean-up and any necessary repair work. Construction would require temporary staging and storage

of materials and equipment. Staging areas would be located on the site. No interruption of school functions would occur.

2.6 Regulatory Requirements, Permits, and Approvals

The following approvals and regulatory permits would be required for implementation of the Proposed Project:

Butte County: well drilling permit; encroachment permit to connect the new driveway to Center Avenue.

SWRCB Division of Drinking Water: well operation permit

Butte County Air Quality Management District (BCAQMD): air quality permit for the generator. The project applicant must incorporate all feasible Standard Construction Mitigation Measures into the project in addition to applicable Supplemental Mitigation Measures that BCAQMD may require.

California Regional Water Quality Control Board (RWQCB): The applicant must obtain a National Pollutant Discharge Elimination System (NPDES) Construction Activities Stormwater General Permit. The permit requires that the project applicant prepare a Stormwater Pollution Prevention Plan (SWPPP) prior to any construction activities.

2.7 Consultation with California Native American Tribe(s)

Assembly Bill (AB) 52 requires that prior to the release of a CEQA document for a project, an agency begin consultation with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project if: (1) the California Native American tribe requested to the lead agency, in writing, to be informed by the lead agency through formal notification of proposed projects in the geographic area that is traditionally and culturally affiliated with the tribe, and (2) the California Native American tribe responds, in writing, within 30 days of receipt of the formal notification, and requests the consultation. The District has notified the following California Native American tribes traditionally and culturally affiliated with the geographic area of the Proposed Project:

- Konkow Valley Band of Maidu
- Mooretown Rancheria of Maidu Indians
- Nevada City Rancheria Nisenan Tribe

At the time of publication of the IS/MND, the District had not received any responses from the tribes. Further information on potential Tribal Cultural Resources in the Project Area is provided in Section 4.18 of this Initial Study.

3.0 ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED AND DETERMINATION

3.1 Environmental Factors Potentially Affected

The environmental factors checked below would be potentially affected by the Project, involving at least one impact that is a *Potentially Significant Impact*, as indicated by the checklist on the following pages.

- | | | |
|---|--|---|
| <input type="checkbox"/> Aesthetics | <input type="checkbox"/> Hazards/Hazardous Materials | <input type="checkbox"/> Recreation |
| <input type="checkbox"/> Agriculture and Forestry Resources | <input type="checkbox"/> Hydrology/Water Quality | <input type="checkbox"/> Transportation |
| <input type="checkbox"/> Air Quality | <input type="checkbox"/> Land Use and Planning | <input type="checkbox"/> Tribal Cultural Resources |
| <input checked="" type="checkbox"/> Biological Resources | <input type="checkbox"/> Mineral Resources | <input type="checkbox"/> Utilities and Service Systems |
| <input checked="" type="checkbox"/> Cultural Resources | <input type="checkbox"/> Noise | <input type="checkbox"/> Wildfire |
| <input type="checkbox"/> Energy | <input type="checkbox"/> Paleontological Resources | <input type="checkbox"/> Mandatory Findings of Significance |
| <input checked="" type="checkbox"/> Geology and Soils | <input type="checkbox"/> Population and Housing | |
| <input type="checkbox"/> Greenhouse Gas Emissions | <input type="checkbox"/> Public Services | |

Determination

On the basis of this initial evaluation:

- I find that the Project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared. ☐
- I find that although the 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 Project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required. ☐
- I find that the 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 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 Project, nothing further is required. ☐

Gary Rogers
Superintendent/Principal

Date

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4.0 ENVIRONMENTAL CHECKLIST AND DISCUSSION

4.1 Aesthetics

4.1.1 Environmental Setting

The Project Area is located in the central portion of Butte County, southeast of the City of Gridley. Butte County is located in the northeastern part of the Sacramento Valley and extends into the northern Sierra Nevada mountain range. The County's General Plan describes the County's three topographical areas including the valley region, the foothills east of the valley, and the mountain range east of the foothills. The valley region composes almost half of the County and includes cropland, orchards, meadows, wetlands, and waterways like the Feather River, Sacramento River, and Butte Creek. The foothills region includes Feather Falls and Lake Oroville State Recreation Area. The mountainous region of northeastern Butte County includes Lassen National Forest and Plumas National Forest. The Project Area is located in unincorporated Butte County approximately 1.7 miles southeast of the City of Gridley. Other nearby cities include Biggs and Live Oak and nearby unincorporated towns include Fagan and East Gridley. There are some rural scale residences mixed in with this predominantly agricultural landscape (Butte County 2023a).

There are no interstate freeways serving the County, however there are three major highways: State Route (SR) 99, SR-70, and SR-149. SR-99 connects the County with Yuba City and Sacramento to the south and Red Bluff to the northwest. SR-70 connects north to Oroville and northeast to Quincy. SR-149 connects SR-99 and SR-70 and connects Chico to Oroville. Other key routes serving Butte County are SR-162 and SR-32. SR-162 connects southern Butte County with Interstate (I) 5 in Glenn County. SR-32 connects the Chico area to I-5 in Glenn County and to Lassen County (Butte County 2023a).

4.1.1.1 Visual Character of the Project Area

The topography of the Project Area is flat and partially developed. The visual character of the Project Area consists of existing structures for Manzanita Elementary School in the southern portion (APNs 024-120-026-000 and 024-120-035-000). The northern portion of the Project Area contains solar panels near the proposed new well location, however a majority of Assessor's Parcel Number (APN) 024-120-059-000 is vacant. As the Project would involve demolition and relocation of a well and associated underground electrical conduit and conveyance piping, chain link fence around the new well and generator, access road, and roadside swale, the Project would have minimal effects on the visual character of the Project Area.

4.1.1.2 State Scenic Highways

The California Scenic Highway Program protects and enhances the scenic beauty of California's highways and adjacent corridors. A highway can be designated as scenic based on how much natural beauty can be seen by users of the highway, the quality of the scenic landscape, and if development impacts the enjoyment of the view. No officially designated state scenic highways are in Butte County, however SR-70 north of the intersection with SR-149 is included in the California Scenic Highway Program as an eligible

state scenic highway (Butte County 2023a; California Department of Transportation [Caltrans] 2024). This eligible state scenic highway is located approximately 17 miles north of the Project Area.

4.1.1.3 Lighting

Individuals have a range of reactions to the perceived effects of lighting on the environment. As such, whether light is obtrusive is generally based on perception, but is also a function of the actual amount of light emitted from a source. The following are examples of light levels, expressed in foot-candles (fc):

- | | |
|----------------------------|-----------------------------|
| ■ Direct sunlight - 10,000 | ■ Covered parking lot - 5 |
| ■ Full daylight - 1,000 | ■ Gas station canopy - 12.5 |
| ■ Twilight - 1 | ■ Department store - 40 |
| ■ Full moon - 0.1 | ■ Grocery store - 50 |

A foot-candle is a unit of measure of the intensity of light falling on a surface, equal to one lumen per square foot and originally defined with reference to a standardized candle burning at one foot from a given surface. One fc is equal to 0.01609696 watts (Engineering Toolbox n.d.).

Typical nighttime street lighting requirements are 1 to 3 fc, which is generally considered to be unobtrusive. A typical example of glare effects is the car headlight. When viewed directly in front of a vehicle with the headlights on full beam, vision is impaired, resulting in disabling glare. However, when viewed from the side, the same headlights would not impair vision.

Spill Light

Spill light or light trespass is the light that illuminates surfaces beyond the property line. Typically, spill lighting is from a more horizontal source such as streetlights and wayfinding/security lighting than sky glow, which emanates from a more vertical source into the atmosphere. Spill light can be accurately calculated, and the effects of spill light can be measured for general understanding and comparison. However, light that is considered to be obtrusive is a subject of debate. A spill light impact is generally considered significant if the increase in spill lighting would exceed 1 fc at the property line of the nearest sensitive receptor, sky glow is perceptibly increased, or glare is at a level such that it impairs vision.

Sky Glow

Sky glow is the light that illuminates the sky above the horizon and reflects off moisture and other tiny particles in the atmosphere. Sky glow would be considered a significant impact if it were a permanent addition to the environment. Control features are available on the light sources to reduce sky glow and glare from nighttime lighting. These control features direct light downward, thereby reducing the spill of light that causes sky glow and reducing glare.

Glare

Glare can be described as direct or reflected light, which can then result in discomfort or disability. A well-designed lighting system controls light to provide maximum useful on-field illumination with minimal destructive offsite glare.

4.1.2 Aesthetics (I) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

No Impact.

The Butte County General Plan identifies multiple scenic resources and vistas including the Sacramento River, Butte Creek Canyon, Central Buttes, Table Mountain Spring Floral Area, Lake Oroville, Philbrook Lake, and Feather Falls Scenic Area Features. There are no scenic vistas or resources that can be viewed from the Project Area. Therefore, the proposed well and associated improvements would not block views of any scenic vistas. No impact would occur.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

No Impact.

The Project Area is not located within the vicinity of an officially designated scenic highway and does not contain any scenic resources. No impact would occur.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c) In a non-urbanized area 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Less Than Significant Impact.

The Project includes the demolition of the existing well, installation of a new well, the installation of PVC piping and PVC underground electrical conduit from the new well location to the existing well location, a new diesel generator, a chain link fence installed around the well and generator, and an access road. A roadside swale will also be constructed to allow for drainage. Electrical components such as meter/main and switchboard, deep well submersible pump and motor with VFD motor controller, and conduit will be installed. Manzanita Elementary School is located in a more rural area of Butte County. The proposed improvements would not substantially degrade the existing visual character of the Project Area. The existing well would be demolished and a new well and generator would be installed near existing solar panels on the school property. Public views of the area proposed for the new well are obstructed by the school buildings from East Evans Reimer Road, obstructed by existing trees along Larkin Road, and are visible in the distance from Center Avenue. The new access road would be visible from Center Avenue; however it would not substantially degrade the view of the vacant lot. Therefore, impacts would be less than significant.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
d) Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

No Impact.

The proposed project improvements include a new well, generator, fence, and access road. The Project would not include new sources of light or glare with these improvements. The Project would have no impact in this area.

4.1.3 Mitigation Measures

No significant impacts were identified, and no mitigation measures are required.

4.2 Agriculture and Forestry Resources

Would the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

No Impact.

No farming occurs onsite and the California Department of Conservation (DOC) identifies the Project Area as Urban and Built-Up Land and Other Land (DOC 2024a). The Project Area does not include Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. As such, the Project would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. No impact would occur.

Would the Project:		Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
b)	Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Less Than Significant Impact.

This Project Area is not identified as being under a Williamson Act contract and therefore would not conflict with any Williamson Act contract (DOC 2024b). No farming activities exist in the Project Area as the Project area contains an elementary school and vacant land. The Project Area is designated as Public (P) and Agriculture (AG) in the Butte County General Plan (Butte County 2023a). The zoning designation is Public (PB) and Agriculture, 20-acre min. parcel size (AG-20) (Butte County 2015). A General Plan Amendment would be required for APN 024-120-059-000 to amend the General Plan land use designation from Agriculture to Public. A Rezone amending the zoning map from AG-20 to Public would also be required for APN 024-120-059-000. Once the General Plan amendment and rezone are complete, the Proposed Project would not conflict with existing zoning. Impacts would be less than significant.

Would the Project:		Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	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))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

No Impact.

The Project Area is not currently zoned for forest land, timberland, or timberland production and the Proposed Project would not impact forestland protection or timber production. No impact would occur.

Would the project:		Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
d)	Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

No Impact.

No identified forest land exists in the Project Area or within the vicinity of the Project. The Project would have no impact on forest land.

Would the project:		Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

No Impact.

The Project Area is identified as Urban and Built-Up Land and Other Land by DOC (DOC 2024a). No forest land exists within the Project vicinity. The Project Area would not convert Farmland to non-agricultural use and would not convert forest land to non-forest use. No impact would occur.

4.2.1 Mitigation Measures

No significant impacts were identified, and no mitigation measures are required.

4.3 Air Quality

This assessment was prepared using methods and assumptions recommended in the rules and regulations of the Butte County Air Quality Management District (BCAQMD) and USEPA. Regional and local existing conditions are presented, along with pertinent pollutant emissions standards and regulations. The purpose of this assessment is to estimate criteria air pollutants attributable to the Project and determine the level of impact the Project would have on the environment.

4.3.1 Environmental Setting

The Project Area is located in unincorporated Butte County. The California Air Resources Board (CARB) divides the state into air basins that share similar meteorological and topographical features. The Proposed Project is located in the Northern Sacramento Valley Air Basin (NSVAB), which includes the counties of Butte, Colusa, Glenn, Shasta, Sutter, Tehama, and Yuba. The NSVAB is bounded on the north and west by the Coastal Mountain Range and on the east by the southern end of the Cascade Mountain

Range and the northern end of the Sierra Nevada. These mountain ranges reach heights in excess of 6,000 feet above mean sea level, with individual peaks rising much higher. The mountains form a substantial physical barrier to locally created pollution as well as to pollution transported northward on prevailing winds from the Sacramento metropolitan area (Sacramento Valley Air Quality Engineering and Enforcement Professionals [SVAQEPP] 2021).

The environmental conditions of Butte County are conducive to potentially adverse air quality conditions. The basin area traps pollutants between two mountain ranges to the east and the west. This problem is exacerbated by a temperature inversion layer that traps air at lower levels below an overlying layer of warmer air. Prevailing winds in the area are generally from the south and southwest. Sea breezes flow over the San Francisco Bay Area and into the Sacramento Valley, transporting pollutants from the large urban areas. Growth and urbanization in Butte County have also contributed to an increase in emissions.

Both the USEPA and CARB have established ambient air quality standards for common pollutants. These ambient air quality standards are levels of contaminants representing safe levels that avoid specific adverse health effects associated with each pollutant. The ambient air quality standards cover what are called criteria pollutants because the health and other effects of each pollutant are described in criteria documents. The six criteria pollutants are ozone (O₃), carbon monoxide (CO), particulate matter (PM), nitrogen oxides (NO_x), sulfur dioxide (SO₂), and lead. Areas that meet ambient air quality standards are classified as attainment areas, while areas that do not meet these standards are classified as nonattainment areas.

4.3.2 Regulatory Setting

4.3.2.1 Butte County Air Quality Management District

The air quality regulating authority in Butte County is BCAQMD. The agency's primary responsibility is ensuring that the National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) are attained and maintained in Butte County. The unique mountain-encompassed geography with its potential for trapped pollutants underscores the importance of the BCAQMD regulating air pollution. Butte County is classified as an attainment area for all federal standards except for O₃. However, Butte County is designated as a nonattainment area for the state standards of O₃, PM₁₀ (particulate matter less than 10 microns in diameter) and PM_{2.5} (particulate matter less than 2.5 microns in diameter) (CARB 2022). The BCAQMD is responsible for adopting or creating a comprehensive plan to reduce the emissions of these criteria pollutants. They also enforce rules and regulations, inspect and issue permits for stationary sources of air pollutants, respond to citizen complaints, monitor ambient air quality and meteorological conditions, award grants to reduce motor vehicle emissions, and conduct public education campaigns. The BCAQMD coordinates work from government agencies, businesses, and private citizens to achieve and maintain healthy air quality.

4.3.2.2 United States Environmental Protection Agency

General Conformity (USEPA 1994) ensures that the actions taken by federal agencies do not interfere with a state's plans to attain and maintain national standards for air quality. Established under the federal Clean

Air Act (CAA)(Section 176(c)(4)), the General Conformity rule plays an important role in helping states improve air quality in those areas that do not meet the NAAQS. Under the General Conformity rule, federal agencies must work with state and local governments in a nonattainment or maintenance area to ensure that federal actions conform to the air quality plans established in the applicable state or tribal implementation plan. The overall purpose of the General Conformity rule is to ensure that:

- Federal activities do not cause or contribute to new violations of NAAQS;
- Actions do not worsen existing violations of the NAAQS; and
- Attainment of the NAAQS is not delayed.

The General Conformity process begins with an “applicability analysis,” whereby it must be determined how and to what degree the Conformity Rules apply. According to USEPA’s General Conformity Guidance: Questions and Answers (1994), before any approval is given for a Federal Action to go forward, the federal agency must apply the applicability requirements found at 40 Code of Federal Regulations (CFR) 93.153 to the Federal Action and/or determine on a pollutant-by-pollutant basis, whether a determination of General Conformity is required. During the applicability analysis, the federal agency determines the following:

- Whether the action will occur in a nonattainment or maintenance area;
- Whether one or more of the specific exemptions apply to the action;
- Whether the federal agency has included the action on its list of presumed-to-conform actions;
- Whether the total direct and indirect emissions are below or above the de minimis levels; and/or

Where a facility has an emissions budget approved by the State or Tribe as part of the State Implementation Plan (SIP) or Tribal Implementation Plan, the federal agency determines that the emissions from the proposed action are within the budget.

The General Conformity Rule allows for exemptions for emissions that are not reasonably foreseeable, will not result in an increase in emissions, are below de minimis limits, are the result of emergency actions, are included in stationary source air permits, are for routine maintenance and repair of existing structures, or are included in a transportation conformity determination undertaken by Federal Highway Administration (FHWA) or Federal Transit Administration (FTA)(40 CFR 93.153(c)).

4.3.3 Thresholds of Significance

4.3.3.1 Butte County Air Quality Management District

The significance criteria established by the applicable air quality management or air pollution control district (BCAQMD) may be relied upon to make the impact determination shown below in the Checklist Questions. The BCAQMD has published a guidance document for the preparation of the air quality portions of environmental documents that include thresholds of significance to be used in evaluating land use proposals. Thresholds of significance are based on a source’s projected impacts and are a basis from

which to apply mitigation measures. BCAQMD's CEQA thresholds have also been used to determine air quality impacts in this analysis. If a project's individual emissions exceed its identified significance thresholds, the Project would be cumulatively considerable. Projects that do not exceed significance thresholds would not be considered cumulatively considerable. The BCAQMD's established thresholds of significance for air quality for construction and operations of land use development projects are shown in Table 4.3-1.

Table 4.3-1. BCAQMD Criteria Air Pollutants Significance Thresholds			
Air Pollutant	Construction Activities		Operations
	Pounds per Day	Tons per Year	Pounds per Day
Reactive Organic Gas	137	4.5	25
Carbon Monoxide	–	–	–
Nitrogen Oxide	137	4.5	25
Sulfur Oxide	–	–	–
Coarse Particulate Matter (PM ₁₀)	80	-	80
Fine Particulate Matter (PM _{2.5})	–	–	–

Source: Butte County Air Quality Management District (BCAQMD) 2014

By its very nature, air pollution is largely a cumulative impact. No single project is sufficient in size, by itself, to result in nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. If a project's individual emissions exceed its identified significance thresholds, the project would be cumulatively considerable. Projects that do not exceed significance thresholds would not be considered cumulative considerable.

4.3.3.2 United States Environmental Protection Agency Conformity Determination

A conformity determination would be required if the annual emissions of nonattainment pollutants generated by the Project were to exceed the General Conformity *de minimis* thresholds. The *de minimis* limits represent an emissions level that the USEPA has determined will have only de minimis impacts to the air quality of an area and are thus exempted from the General Conformity Rule. If the overall predicted increase in emissions of a criteria pollutant due to a federal action in a nonattainment area exceeds the de minimis limits as shown in Table 4.3-2, a conformity determination is required.

Table 4.3-2. Federal General Conformity *De Minimis* Emissions Levels in Butte County

Pollutant	Attainment Status	Classification	USEPA General Conformity Threshold (tons/year)
Ozone (VOCs or NO _x)	Nonattainment	Marginal	100
PM ₁₀	Unclassified	N/A	100
PM _{2.5}	Unclassified	N/A	100
CO	Unclassified/Attainment	Maintenance	100
NO ₂	Unclassified/Attainment	N/A	100
SO ₂	Unclassified/Attainment	N/A	100
Lead	Unclassified/Attainment	N/A	25

Note: CO = Carbon Monoxide; NO₂ = Nitrogen Dioxide; PM_{2.5} = Fine Particulate Matter; SO₂ = Sulfur Dioxide;
VOC = Volatile Organic Compound

Source: U.S. Environmental Protection Agency (USEPA) 2023

4.3.4 Air Quality (III) Environmental Checklist and Discussion

Would the Project:

- a) Conflict with or obstruct implementation of the applicable air quality plan?

Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

No Impact.

As part of its enforcement responsibilities, the USEPA requires each state with nonattainment areas to prepare and submit a SIP that demonstrates the means to attain the federal standards. The SIP must integrate federal, state, and local plan components and regulations to identify specific measures to reduce pollution in nonattainment areas, using a combination of performance standards and market-based programs. Similarly, under state law, the California Clean Air Act requires an air quality attainment plan to be prepared for areas designated as nonattainment with regard to the NAAQS and CAAQS. Air quality attainment plans outline emissions limits and control measures to achieve and maintain these standards by the earliest practical date.

As previously mentioned, the Project Area is located within the Butte County portion of the NSVAB, which is under the jurisdiction of the BCAQMD. The BCAQMD is required, pursuant to the CAA, to reduce emissions of criteria pollutants for which the NSVAB is nonattainment. The BCAQMD attains and maintains air quality conditions in Butte County through a comprehensive program of planning, regulation, enforcement, technical innovation, and promotion of the understanding of air quality issues. Their current strategies are included in the *Northern Sacramento Valley Planning Area Triennial Air Quality Attainment Plan* (2021), which contains mechanisms to achieve O₃ standards. These pollutant control strategies are based on the latest scientific and technical information and planning assumptions, updated

emission inventory methodologies for various source categories, and the latest population growth projections and associated vehicle miles traveled projections for the region (SVAQEEP 2021).

The *Northern Sacramento Valley Planning Area Triennial Air Quality Attainment Plan* control measures are based on information derived from projected growth in Butte County to project future emissions and then determine strategies and regulatory controls for the reduction of emissions. Growth projections are based on the general plans developed by Butte County and the incorporated cities in the County. As such, projects that propose development consistent with the growth anticipated by the respective general plan of the jurisdiction in which the proposed development is located would be consistent with the *Northern Sacramento Valley Planning Area Triennial Air Quality Attainment Plan* and BCAQMD's air quality planning efforts. If a project proposes a development that is less dense than that associated with the general plan, the project would likewise be consistent with BCAQMD's air quality planning efforts. If a project, however, proposes a development that is denser than that assumed in the general plan, the project may conflict with the SIP and could therefore result in a significant impact on air quality (SVAQEEP 2021).

BCAQMD growth projections for the unincorporated County are based on the Butte County General Plan. The Project does not include development of new housing or employment centers and would not induce population or employment growth. Rather, the Project is proposing to replace a well at Manzanita Elementary School. It would not increase the number of homes or jobs and would not substantially contribute to emissions once the construction of the new well is complete. Therefore, the Project would not affect local plans for population growth and the Proposed Project would be considered consistent with the population, housing, and employment growth projections utilized in the preparation of BCAQMD air quality planning strategies. Additionally, as demonstrated below, neither Project construction nor operations would surpass any of the BCAQMD's significance thresholds.

For these reasons, the Project would not conflict with the *Northern Sacramento Valley Planning Area Triennial Air Quality Attainment Plan* or BCAQMD air quality planning. There is no impact.

Would the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Less Than Significant Impact.

By its very nature, air pollution is largely a cumulative impact. No single project is sufficient in size, by itself, to result in nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. If a project's individual emissions exceed its identified significance thresholds, the project would be cumulatively considerable. Projects that do not exceed significance thresholds would not be considered cumulative considerable.

Air quality impacts were assessed in accordance with methodologies recommended by the BCAQMD and USEPA. Where criteria air pollutant quantification was required, emissions were modeled using the California Emissions Estimator Model (CalEEMod), version 2022.1.1. CalEEMod is a statewide land use emissions computer model designed to quantify potential criteria pollutant emissions associated with both construction and operations from a variety of land use projects. Project construction-generated air pollutant emissions were calculated using CalEEMod model defaults for Butte County. See Appendix A for more information regarding the construction assumptions, including construction equipment and duration, used in this analysis. The Project proposes to construct a new well and demolish the existing well that was found to exceed the drinking water MCL for TCP. The proposed 550-foot-deep well would be located on the north side of the school property adjacent to the existing solar panels. The new well would supply 200 gpm of potable and non-potable water to MESD and would include screen intervals at deeper zones to avoid the zones with MCL exceedances for TCP.

4.3.4.1 Butte County Air Quality Management District Thresholds

Construction-Generated Emissions

Construction-generated emissions are temporary and short-term but have the potential to represent a significant air quality impact. The basic sources of short-term emissions that will be generated through Project construction will be from the operation of construction vehicles. The creation of fugitive dust during excavation and grading, construction vehicle traffic, and wind blowing over exposed soils would generate exhaust emissions and fugitive PM emissions that affect local air quality at various times during construction. Effects would be variable depending on the weather, soil conditions, the amount of activity taking place, and the nature of dust control efforts. The dry climate of the area during the summer months creates a high potential for dust generation.

Predicted maximum daily emissions attributable to Project construction are summarized in Table 4.3-3. Such emissions are short-term and of temporary duration, lasting only as long as Project construction activities occur, but would be considered a significant air quality impact if the volume of pollutants generated exceeds the Bay Area Air Quality Management District's (BAAQMD) thresholds of significance.

Table 4.3-3. Construction-Related Criteria Air Pollutant Emissions						
Description	Pollutant (pounds per day)					
	ROG¹	NO_x	CO	SO₂	PM₁₀	PM_{2.5}
Daily (pounds per day)						
Construction	1.79	20.10	17.00	0.04	4.51	2.34
<i>BCAQMD Daily Significance Threshold</i>	<i>137</i>	<i>137</i>	–	–	<i>80</i>	–
Exceed Daily BAAQMD Threshold?	No	No	No	No	No	No

Table 4.3-3. Construction-Related Criteria Air Pollutant Emissions						
Description	Pollutant (pounds per day)					
	ROG¹	NO_x	CO	SO₂	PM₁₀	PM_{2.5}
Annual (tons per year)						
Construction	0.0	0.3	0.3	0.0	0.0	0.0
<i>BCAQMD Annual Significance Threshold</i>	4.5	4.5	–	–	–	–
Exceed BCAQMD Annual Threshold?	No	No	No	No	No	No
Notes: BAAQMD = Bay Area Air Quality Management District; CO = Carbon Monoxide; NO _x = Nitric Oxide; PM _{2.5} = Fine Particulate Matter; PM ₁₀ = Coarse Particulate Matter; ROG = Reactive Organic Gas; SO ₂ = Sulfur Dioxide; Source: CalEEMod version 2022.1.1. Refer to Appendix A for Model Data Outputs.						

As shown in Table 4.3-3, construction related emissions would not exceed thresholds established by the BCAQMD or result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is nonattainment under an applicable federal or state ambient air quality standard.

Operational Emissions

Operational emissions impacts are long-term air emissions impacts that are associated with any changes in the permanent use of the Project Site by onsite stationary and/or offsite mobile sources that substantially increase emissions. As previously described, due to contamination, the current onsite well is not used for potable water sources and is used only for irrigation purposes. Once implemented, the new well would supply 200 gpm of potable and non-potable water, resulting in a rise in water pumping activities beyond baseline levels. However, this increase in pumping water over current levels would be minimal and thus would not yield substantial amounts of criteria air pollutant emissions. It is further noted that the school currently uses bottled water for all its potable water needs and the vehicle emissions generated during the delivery of this bottled water would cease under the Proposed Project.

The Project does propose an emergency backup, diesel-powered generator, which would be the most potent source of operational air pollutant emissions associated with the Project. This generator would not be operational during the majority of days and would only operate during an emergency involving a power outage and during periodic testing. Emergency generator emissions were calculated using a standard load factor and a generator rating and accounting for 100 hours annual use. The maximum daily criteria air pollutants that would be emitted from the emergency backup diesel-powered generator equate to 0.08 pound per day of the O₃ precursor, ROG, 0.22 pound per day of the O₃ precursor, NO_x, 0.28 pound per day of CO, and 0.01 pound per day of each PM₁₀ and PM_{2.5}, as shown in Table 4.3-4.

Table 4.3-4. Operational Criteria Air Pollutant Emissions

Emission Source	Pollutant (pounds per day)					
	ROG	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}
Area Source (Backup Generator)	0.08	0.22	0.28	0.00	0.01	0.01
<i>BAAQMD Significance Threshold</i>	25	25	-	-	80	-
Exceed Significance Threshold?	No	No	No	No	No	No

Note: BAAQMD = Bay Area Air Quality Management District; CO = Carbon Monoxide; NO_x = Nitric Oxide; PM_{2.5} = Fine Particulate Matter; PM₁₀ = Coarse Particulate Matter; ROG = Reactive Organic Gas;

Source: CalEEMod version 2022.1.1. Refer to Appendix A for Model Data Outputs.

As shown in Table 4.3-4, operational emissions would not exceed thresholds established by the BAAQMD or result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is nonattainment under an applicable federal or state ambient air quality standard.

USEPA Conformity Determination

Construction-Generated Emissions

As previously described, the Proposed Project is located in Butte County, which is designated as a nonattainment area for the federal O₃ standard. Emissions generated during Project implementation would be short term and of temporary duration, lasting only as long as construction activities occur, but would be considered a significant air quality impact if the volume of pollutants generated exceeds the Conformity Determination thresholds. Predicted maximum annual construction-generated emissions for the Proposed Project are summarized in Table 4.3-5 and compared against the USEPA Conformity Determination thresholds.

Table 4.3-5. Construction-Related Emissions (USEPA Conformity Determination Analysis)

Construction Year	Pollutant (tons per year)				
	VOC (ROG)	NO _x	CO	PM ₁₀	PM _{2.5}
Construction Year One	0.0	0.3	0.3	0.0	0.0
<i>USEPA Conformity Determination Thresholds (40 CFR 93.153)</i>	100	100	100	100	100
Exceed USEPA Conformity Determination Thresholds?	No	No	No	No	No

Notes: CFR = Code of Federal Regulations; CO = Carbon Monoxide; NO_x = Nitric Oxide; PM_{2.5} = Fine Particulate Matter; PM₁₀ = Coarse Particulate Matter; ROG = Reactive Organic Gas; USEPA = U.S. Environmental Protection Agency; VOC = Volatile organic compounds

Source: California Emissions Estimator Model (CalEEMod) version 2022.1.1. Refer to Appendix A for Model Data Outputs.

As shown in Table 4.3-5, emissions from construction of the Proposed Project would not exceed the USEPA Conformity Determination thresholds for the region.

Operational Emissions

The Project proposes an emergency backup, diesel-powered generator, which would be the most potent source of operational air pollutant emissions associated with the Project. Emergency generator emissions were calculated using a standard load factor and a generator rating and accounting for 100 hours annual use. The annual criteria air pollutants that would be emitted from the emergency backup diesel-powered generator are shown in Table 4.3-6 and compared against the USEPA Conformity Determination thresholds.

Table 4.3-6. Operational Critical Air Pollutant Emissions					
Emission Source	Pollutant (tons per year)				
	VOC (ROG)	NO_x	CO	PM₁₀	PM_{2.5}
Area Source (Backup Generator)	0.0	0.0	0.1	0.0	0.0
<i>USEPA Conformity Determination Thresholds (40 CFR 93.153)</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>
<i>Exceed USEPA Conformity Determination Thresholds?</i>	No	No	No	No	No

Notes: CO = Carbon Monoxide; NO_x = Nitric Oxide; PM_{2.5} = Fine Particulate Matter; PM₁₀ = Coarse Particulate Matter; ROG = Reactive Organic Gas; USEPA = U.S. Environmental Protection Agency; VOC = Volatile organic compounds

Source: California Emissions Estimator Model (CalEEMod) version 2022.1.1. Refer to Appendix A for Model Data Outputs.

As shown in Table 4.3-6, operational emissions would not exceed the USEPA Conformity Determination thresholds for the region.

As demonstrated above, the Proposed Project would not exceed any significance thresholds during construction or operations. Therefore, this impact is less than significant.

Would the Project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
c) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Less Than Significant Impact.

As previously described, sensitive receptors are defined as facilities or land uses that include members of the population that are particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses. Examples of these sensitive receptors are residences, schools, hospitals, and

daycare centers. CARB has identified the following groups of individuals as the most likely to be affected by air pollution: the elderly over 65, children under 14, athletes, and persons with cardiovascular and chronic respiratory diseases such as asthma, emphysema, and bronchitis. The nearest offsite sensitive receptors to the Project Area include adjacent rural residences in all directions. Additionally, the Manzanita Elementary School is a sensitive receptor itself when school is in session.

Construction-Generated Air Contaminants

Construction-related activities would result in temporary, short-term Proposed Project-generated emissions of diesel particulate matter (DPM), ROG, NO_x, CO, and PM₁₀ from the exhaust of off-road, heavy-duty diesel equipment (e.g., clearing, grading); soil hauling truck traffic; paving; and other miscellaneous activities. The portion of the NSVAB which encompasses the Project Area is designated as a designated as a nonattainment area for the federal O₃ and is also a nonattainment area for the state standards for O₃, PM_{2.5}, and PM₁₀ (CARB 2022). Thus, existing O₃, PM₁₀, and PM_{2.5} levels in Butte County are at unhealthy levels during certain periods. However, as shown in Table 4.3-3 and Table 4.3-4, the Project would not exceed the BAAQMD or USEPA significance thresholds for construction emissions.

The health effects associated with O₃ are generally associated with reduced lung function. O₃ is not emitted directly into the air but is formed through complex chemical reactions between precursor emissions of ROG and NO_x in the presence of sunlight. The reactivity of O₃ causes health problems because it damages lung tissue, reduces lung function, and sensitizes the lungs to other irritants. Scientific evidence indicates that ambient levels of O₃ not only affect people with impaired respiratory systems, such as asthmatics, but healthy adults and children as well. Exposure to O₃ for several hours at relatively low concentrations has been found to significantly reduce lung function and induce respiratory inflammation in normal, healthy people during exercise. This decrease in lung function generally is accompanied by symptoms including chest pain, coughing, sneezing and pulmonary congestion.

Studies show associations between short-term O₃ exposure and non-accidental mortality, including deaths from respiratory issues. Studies also suggest long-term exposure to O₃ may increase the risk of respiratory-related deaths. The concentration of O₃ at which health effects are observed depends on an individual's sensitivity, level of exertion (i.e., breathing rate), and duration of exposure. Studies show large individual differences in the intensity of symptomatic responses, with one study finding no symptoms to the least responsive individual after a 2-hour exposure to 400 parts per billion of O₃ and a 50 percent decrement in forced airway volume in the most responsive individual. Although the results vary, evidence suggests that sensitive populations (e.g., asthmatics) may be affected on days when the 8-hour maximum O₃ concentration reaches 80 parts per billion. Because the Project would not involve construction activities that would result in O₃ precursor emissions (ROG or NO_x) in excess of the BCAQMD thresholds, which are set to be protective of human health and account for cumulative emissions in Butte County, the Project is not anticipated to substantially contribute to regional O₃ concentrations and the associated health impacts.

CO tends to be a localized impact associated with congested intersections. In terms of adverse health effects, CO competes with oxygen, often replacing it in the blood, reducing the blood's ability to transport oxygen to vital organs. The results of excess CO exposure can include dizziness, fatigue, and impairment

of central nervous system functions. The Project would not involve construction activities that would result in CO emissions in excess of any thresholds. Thus, the Project's CO emissions would not contribute to the health effects associated with this pollutant.

Particulate matter (PM₁₀ and PM_{2.5}) contains microscopic solids or liquid droplets that are so small that they can get deep into the lungs and cause serious health problems. Particulate matter exposure has been linked to a variety of problems, including premature death in people with heart or lung disease, nonfatal heart attacks, irregular heartbeat, aggravated asthma, decreased lung function, and increased respiratory symptoms such as irritation of the airways, coughing, or difficulty breathing. For construction activity, DPM is the primary toxic air contaminant of concern. PM₁₀ exhaust is considered a surrogate for DPM as all diesel exhaust is considered to be DPM and it contains PM_{2.5} exhaust as a subset. As with ROG and NO_x, the Project would not generate emissions of PM₁₀ or PM_{2.5} that would exceed the BCAQMD's thresholds. The increases of these pollutants generated by the Proposed Project would not on their own generate an increase in the number of days exceeding the NAAQS or CAAQS standards. Therefore, PM₁₀ and PM_{2.5} emissions, when combined with the existing PM emitted regionally, would have minimal health effect on people located in the immediate vicinity of the Project Site. Additionally, the Project's PM₁₀ and PM_{2.5} emissions are not expected to cause any increase in related regional health effects from these pollutants.

In summary, Project construction would not result in a potentially significant contribution to regional concentrations of nonattainment pollutants and would not result in a significant contribution to the adverse health impacts associated with those pollutants. Furthermore, the Project has been evaluated against the USEPA Conformity Determination thresholds. Thus, the fact that onsite Project construction emissions would be generated at rates below the thresholds for NO_x, CO, PM₁₀, and PM_{2.5} demonstrates that the Project would not adversely impact vicinity sensitive receptors. A less than significant impact would occur.

Would the Project:		Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
d)	Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Less Than Significant Impact.

Typically, odors are regarded as an annoyance rather than a health hazard. However, manifestations of a person's reaction to foul odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache).

With respect to odors, the human nose is the sole sensing device. The ability to detect odors varies considerably among the population and overall is quite subjective. Some individuals have the ability to smell minute quantities of specific substances; others may not have the same sensitivity but may have sensitivities to odors of other substances. In addition, people may have different reactions to the same

odor; in fact, an odor that is offensive to one person (e.g., from a fast-food restaurant) may be perfectly acceptable to another. It is also important to note that an unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. This is because of the phenomenon known as odor fatigue, in which a person can become desensitized to almost any odor and recognition only occurs with an alteration in the intensity.

Quality and intensity are two properties present in any odor. The quality of an odor indicates the nature of the smell experience. For instance, if a person describes an odor as flowery or sweet, the person is describing the quality of the odor. Intensity refers to the strength of the odor. For example, a person may use the word "strong" to describe the intensity of an odor. Odor intensity depends on the odorant concentration in the air. When an odorous sample is progressively diluted, the odorant concentration decreases. As this occurs, the odor intensity weakens and eventually becomes so low that the detection or recognition of the odor is quite difficult. At some point during dilution, the concentration of the odorant reaches a detection threshold. An odorant concentration below the detection threshold means that the concentration in the air is not detectable by the average human.

During construction, the Proposed Project presents the potential for generation of objectionable odors in the form of diesel exhaust in the immediate vicinity of the site. However, these emissions are short-term in nature and will rapidly dissipate and be diluted by the atmosphere downwind of the emission sources. Additionally, odors would be localized and generally confined to the construction area. Therefore, construction odors would not adversely affect a substantial number of people to odor emissions.

Land uses commonly considered to be potential sources of obnoxious odorous emissions include agriculture (farming and livestock), wastewater treatment plants, food processing plants, chemical plants, composting facilities, refineries, landfills, dairies, and fiberglass molding. The Proposed Project does not include any uses identified as being associated with odors. Therefore, the Proposed Project would have a less than significant impact when it comes to odors.

4.3.5 Mitigation Measures

No significant impacts were identified, and no mitigation measures are required.

4.4 Biological Resources

The following information is based on the Biological Resource Assessment (BRA) completed by ECORP Consulting, Inc. (2024a; Appendix B) to assess the potential for occurrence of special-status plant and animal species or their habitats, and other sensitive or protected resources such as migratory birds, sensitive natural communities, riparian habitat, oak woodlands, and potential Waters of the U.S. or state, including wetlands, within the Biological Study Area (BSA).

4.4.1 Environmental Setting

The Project is situated north of East Evans Reimer Road, east of Larkin Road, south of Center Avenue, and west of River Avenue on APNs 024-120-026-000, 024-120-035-000, and 024-120-059-000. The BSA includes all areas where Project-related activities may result in impacts to sensitive biological resources.

The 0.84-acre BSA corresponds to an unsectioned portion of the "Gridley, California" 7.5-minute quadrangles (U.S. Geological Survey [USGS] 1952 [photo revised 1973]). The approximate center of the BSA is located at 39.336303° North and -121.658091° West within the Honcut-Headwaters-Lower Feather watershed (Hydrological Unit Code 18020159, Natural Resources Conservation Service [NRCS] et al. 2019).

4.4.1.1 Vegetation Communities

The BSA is located on level, developed, and/or disturbed terrain within an agriculturally productive area. Undeveloped portions of the BSA primarily include historically disturbed non-native annual grassland, turf grass, and sparse trees. The Manzanita Elementary School District's developed land cover within the BSA includes roads, hardscape and utility infrastructure, and landscaped vegetation (ECORP 2024a).

Non-native Annual Grassland

The non-native annual grassland community is found within the Manzanita School District grounds and the field to the school's north within the BSA. This field showed signs of historic vegetation management and disc tillage furrows. The annual grassland in the BSA is dominated by nonnative annual grasses including annual bluegrass (*Poa annua*), especially within the schoolyard field, Italian ryegrass (*Festuca perennis*), wild oats (*Avena* sp.), and sedge (*Cyperus* sp.). Forbs included white-stemmed filaree (*Erodium moschatum*), clovers (*Trifolium* sp.), shepherd purse (*Capsella bursa-pastoris*), cheeseweed (*Malva parviflora*), and English plantain (*Plantago lanceolata*). Tree species occurring at the margins or overhanging the BSA, and its annual grassland include coast redwood (*Sequoia sempervirens*), valley oak (*Quercus lobata*), walnuts (*Juglans* spp.), chestnuts (*Castanea* sp.), and sycamore (*Platanus* sp.) (ECORP 2024a).

The annual grasslands can be characterized as the *Avena* spp. - *Bromus* spp. Herbaceous Semi-Natural Alliance. Semi-natural alliances are strongly dominated by nonnative plants that have become naturalized in the State, do not have state rarity rankings, and are not considered sensitive natural communities.

Disturbed/Developed

The disturbed or developed land cover type is found within the Manzanita School District grounds within the BSA and is composed of primarily hardscape. These areas and their surroundings are either devoid of vegetation or contain infrequent landscaping plantings including an ornamental pine (*Pinus* sp.), red tip photinia (*Photinia x fraseri*), and large fortnight lily (*Dietes iridioides*) within and adjacent to the BSA. Adjacent and fringe hardscape herbaceous coverage is dominated by nonnative ruderal herbaceous species found within the annual grassland as described above (ECORP 2024a).

4.4.1.2 Wildlife

The BSA provides habitat for a variety of wildlife species. Wildlife species observed onsite include Brewer's blackbird (*Euphagus cyanocephalus*), red-winged blackbird (*Agelaius phoeniceus*), California scrub-jay (*Aphelocoma californica*), turkey vulture (*Cathartes aura*, flying overhead), and black phoebe (*Sayornis nigricans*).

4.4.1.3 Aquatic Resources

The entire Study Area has been leveled, developed, and/or disturbed. No aquatic resources were observed during the site reconnaissance survey. According to the United States Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI), no aquatic resources have been mapped within the BSA (USFWS 2024a).

4.4.1.4 Special-Status Plants

The literature review and database searches identified 30 special-status plant species that have been documented in or near the BSA (California Department of Fish and Wildlife [CDFW] 2024a; California Native Plant Society [CNPS] 2024a; National Oceanic and Atmospheric Administration (NOAA) 2016; USFWS 2024b). A list was generated from the results of the literature review and the database search. During the site visit, the BSA was evaluated for suitable habitat that could support any of the special-status plant species (ECORP 2024a).

No sensitive plant species were observed within the BSA during the site visit. Based on the habitat found onsite, all special-status plant species are presumed to be absent from the BSA due to lack of suitable habitat and the presence of disturbed soils/current land use, the BSA being outside the known elevation range for that species, and/or the species not being observed during the biological survey (ECORP 2024a).

4.4.1.5 Special-Status Wildlife

Special-status wildlife species include those classified as endangered or threatened, proposed or candidate species for listing by the USFWS or CDFW, or considered a CDFW Species of Special Concern. The literature review and database searches identified 38 special-status wildlife species that have been documented in or near the BSA (CDFW 2024a).

Four special-status species were determined to have potential to occur in the BSA, including burrowing owl (*Athene cunicularia*), Nuttall's woodpecker (*Dryobates nuttallii*), yellow-billed magpie (*Pica nuttallii*), and oak titmouse (*Baeolophus inornatus*) (ECORP 2024a).

Three special-status species were determined to have a low potential to occur, including Swainson's hawk (*Buteo swainsoni*), pallid bat (*Antrozous pallidus*), and Townsend's big-eared bat (*Corynorhinus townsendii*). The BSA provides marginal foraging habitat and offsite trees may provide suitable nesting habitat for Swainson's hawk. The BSA also has marginally suitable roosting habitat for pallid bat and Townsend's big-eared bat (ECORP 2024a).

The remaining 31 special-status wildlife species from the literature review are presumed absent from the BSA due to lack of suitable habitat (ECORP 2024a).

4.4.1.6 Critical Habitat

There is no designated critical habitat mapped within the BSA (USFWS 2024b). Based on the literature review, Chinook Salmon Essential Fish Habitat occurs in the region (NOAA 2024); however, there are no watercourses or other aquatic resources within the BSA.

4.4.1.7 Wildlife Movement Corridors

The Essential Connectivity Areas map identifies larger, relatively natural habitat blocks that support native biodiversity and areas essential for connectivity between them. The BSA does not fall within a natural habitat block (CDFW 2024b) or an Essential Habitat Connectivity area (CDFW 2024c). The BSA does not include small natural areas that could support ecological value (CDFW 2024d). The BSA is considered to be within a greater Large Natural Habitat Area of terrestrial connectivity (CDFW 2024c).

For the purposes of this analysis, nursery sites include but are not limited to concentrations of nest or den sites such as heron rookeries or bat maternity roosts. This data is available through CDFW's Biogeographic Information and Observation System database or as occurrence records in the California Natural Diversity Database (CNDDDB) and is supplemented with the results of the site reconnaissance. No nursery sites have been documented within the BSA (CDFW 2024a) and none were observed during the site reconnaissance. Therefore, the BSA is not expected to support critical wildlife movement corridors or potential nursery sites. However, a variety of common bird species were observed within the BSA during the site reconnaissance and other wildlife species also likely move through the BSA.

4.4.2 Regulatory Setting

4.4.2.1 Federal

Federal Endangered Species Act

The federal Endangered Species Act (ESA) protects plants and animals that are listed as endangered or threatened by the USFWS or the National Marine Fisheries Service (NMFS). Section 9 of the ESA prohibits the taking of listed wildlife, where take is defined as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in such conduct" (50 CFR 17.3). For plants, the ESA prohibits removing or possessing any listed plant on federal land, maliciously damaging or destroying any listed plant in any area, or removing, cutting, digging up, damaging, or destroying any such species in knowing violation of state law (16 U.S. Code [USC] 1538).

Under Section 7 of ESA, federal agencies are required to consult with the USFWS if their actions, including permit approvals or funding, could adversely affect a listed (or proposed) species (including plants) or its designated Critical Habitat. Through consultation and the issuance of a Biological Opinion, the USFWS may issue an incidental take statement allowing take of a listed species that is incidental to an otherwise authorized activity provided the activity will not jeopardize the continued existence of the species.

Section 10 of the ESA provides for issuance of incidental take permits where no other federal actions are necessary provided a Habitat Conservation Plan is developed.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) implements international treaties between the United States and other nations devised to protect migratory birds, any of their parts, eggs, and nests from activities such as hunting, pursuing, capturing, killing, selling, and shipping, unless expressly authorized in the regulations or by permit. The protections of the MBTA extend to disturbances that result in abandonment of a nest with eggs or young. The USFWS may issue permits to qualified applicants as authorized by the MBTA for the following types of activities: falconry, raptor propagation, scientific collecting, special purposes (rehabilitation, education, migratory game bird propagation, and salvage), take of depredating birds, taxidermy, and waterfowl sale and disposal. The regulations governing migratory bird permits can be found in 50 CFR part 13 General Permit Procedures and 50 CFR part 21 Migratory Bird Permits.

Federal Clean Water Act

The purpose of the federal Clean Water Act (CWA) is to “restore and maintain the chemical, physical, and biological integrity of the nation’s waters.” Section 404 of the CWA prohibits the discharge of dredged or fill material into Waters of the U.S. without a permit from the United States Army Corps of Engineers (USACE). The definition of Waters of the U.S. includes rivers, streams, estuaries, the territorial seas, ponds, lakes, and wetlands. Wetlands are defined as areas “that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions” (33 CFR 328.3 7b). The USEPA also has authority over wetlands and may override a USACE permit.

Substantial impacts to wetlands may require an individual permit. Projects that only minimally affect wetlands may meet the conditions of one of the existing Nationwide Permits. A Water Quality Certification or waiver pursuant to Section 401 of the CWA is required for Section 404 permit actions; this certification or waiver is issued by the RWQCB.

4.4.2.2 State

California Endangered Species Act

The California ESA (California Fish and Game Code Sections 2050 to 2116) generally parallels the main provisions of the federal ESA, but unlike its federal counterpart, the California ESA applies the take prohibitions to species proposed for listing (called candidates by the state). Section 2080 of the California Fish and Game Code prohibits the taking, possession, purchase, sale, and import or export of endangered, threatened, or candidate species, unless otherwise authorized by permit or in the regulations. “Take” is defined in Section 86 of the California Fish and Game Code as “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill.” Section 2081 allows CDFW to authorize incidental take permits if species-specific minimization and avoidance measures are incorporated to fully mitigate the impacts of the project.

Fully Protected Species

The State of California first began to designate species as fully protected prior to the creation of the federal and California ESAs. Lists of fully protected species were initially developed to provide protection to those animals that were rare or faced possible extinction and included fish, amphibians and reptiles, birds, and mammals. Most fully protected species have since been listed as threatened or endangered under the state and/or federal ESAs. Previously, the regulations that implement the Fully Protected Species Statute (California Fish and Game Code Sections 4700 for mammals, 3511 for birds, 5050 for reptiles and amphibians, and 5515 for fish) provided that fully protected species may not be taken or possessed at any time. However, on July 10, 2023, Senate Bill 147 was signed into law, authorizing CDFW to issue take permits under the California ESA for fully protected species for qualifying projects through 2033.

CDFW may also issue licenses or permits for take of these species for necessary scientific research or live capture and relocation, and may allow incidental take for lawful activities carried out under an approved Natural Community Conservation Plan within which such species are covered.

Native Plant Protection Act

The Native Plant Protection Act (NPPA) of 1977 was created with the intent to “preserve, protect and enhance rare and endangered plants in this State.” The NPPA is administered by CDFW and provided in California Fish and Game Code Sections 1900 to 1913. The Fish and Wildlife Commission has the authority to designate native plants as endangered or rare and to protect endangered and rare plants from take. The California ESA of 1984 (California Fish and Game Code Sections 2050 to 2116) provided further protection for rare and endangered plant species, but the NPPA remains part of the California Fish and Game Code.

California Fish and Game Code Special Protections for Birds

Sections 3503, 3513, and 3800 of the California Fish and Game Code specifically protect birds. Section 3503 prohibits the take, possession, or needless destruction of the nest or eggs of any bird. Subsection 3503.5 prohibits the take, possession, or destruction of any birds in the orders Strigiformes (owls) or Falconiformes (hawks and eagles), as well as their nests and eggs. Section 3513 prohibits the take or possession of any migratory nongame bird as designated in the MBTA. Section 3800 states that, with limited exceptions, it is unlawful to take any nongame bird, defined as all birds occurring naturally in California that are not resident game birds, migratory game birds, or fully protected birds. These provisions, along with the federal MBTA, serve to protect all nongame birds and their nests and eggs, except as otherwise provided in the code.

Lake or Streambed Alteration Agreements

Section 1602 of the California Fish and Game Code requires that a Notification of Lake or Streambed Alteration be submitted to CDFW for “any activity that may substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake.” The notification must incorporate proposed measures to protect affected fish and wildlife resources. CDFW may suggest

additional protective measures during their review. A Lake or Streambed Alteration Agreement (LSAA) is the final proposal mutually agreed upon by CDFW and the applicant. Projects that require an LSAA often also require a permit from the USACE under Section 404 of the CWA. The conditions of the Section 404 permit and the LSAA frequently overlap in these instances.

California Oak Woodlands Conservation Act

Per CEQA Guidelines Section 15380, a species not protected on a federal or state list may be considered rare or endangered if the species meets certain specified criteria. These criteria follow the definitions in the federal and California ESAs, and Sections 1900-1913 of the California Fish and Game Code, which deal with rare or endangered plants or animals. Section 15380 was included in the CEQA Guidelines primarily to deal with situations where a project under review may have a significant effect on a species that has not yet been listed by either the USFWS or CDFW.

Porter-Cologne Water Quality Act

The RWQCB implements water quality regulations under the federal CWA and the Porter-Cologne Water Quality Act. These regulations require compliance with the NPDES, including compliance with the California Storm Water NPDES General Construction Permit for discharges of storm water runoff associated with construction activities. General Construction Permits for projects that disturb 1 or more acres of land require development and implementation of a SWPPP. Under the Porter-Cologne Water Quality Act, the RWQCB also regulates actions that would involve “discharging waste, or proposing to discharge waste, within any region that could affect the water of the state” (Water Code 13260(a)).

Waters of the State are defined as “any surface water or groundwater, including saline waters, within the boundaries of the state” (Water Code 13050 (e)). The RWQCB regulates all such activities, as well as dredging, filling, or discharging materials into Waters of the State, that are not regulated by the USACE due to a lack of connectivity with a navigable water body. The RWQCB may require issuance of Waste Discharge Requirements for these activities.

4.4.3 Methodology

4.4.3.1 Literature Review

ECORP performed a review of existing available information for the BSA. Literature sources included current and historical aerial imagery, any previous biological studies conducted for the area, topographic mapping, soil survey mapping available from the NRCS Web Soil Survey, USFWS NWI mapping, USFWS Critical Habitat Mapper, NMFS Essential Fish Habitat Mapper, and other relevant literature. ECORP reviewed the following resources to identify special-status plant and wildlife species that have been documented in or near the BSA:

- CDFW’s CNDDDB data for the “Gridley, California” 7.5-minute quadrangle and the surrounding eight quadrangles (CDFW 2024a);
- CNPS Rare Plant Inventory data for the “Gridley, California” 7.5-minute quadrangle and the surrounding eight quadrangles (CNPS 2024a);

- USFWS Information for Planning and Consultation Resource Report List for the BSA (USFWS 2024b);
- NMFS Resources data for the "Gridley, California" 7.5-minute quadrangle (NOAA 2016).

Each special-status species identified in the literature review was evaluated for its potential to occur in the BSA based on available information concerning species habitat requirements and distribution, occurrence data, and the findings of the site reconnaissance.

4.4.3.2 Site Reconnaissance

ECORP conducted a site reconnaissance visit on February 14, 2024. The biologist visually assessed the BSA while walking meandering transects through all portions of the BSA and using binoculars to scan all areas. The biologist collected the following biological resource information:

- Characteristics of vegetation communities and other land cover types;
- Plant and animal species or their sign directly observed; and
- Incidental observations of special habitat features such as burrows, active raptor nests, potential bat roost sites.

The biologists qualitatively assessed and mapped vegetation communities based on dominant plant composition. Vegetation community classification was based on the classification systems presented in the *Manual of California Vegetation Online*, paying special attention to identifying those portions of the BSA with the potential to support special-status species or sensitive habitats (CNPS 2024b).

4.4.4 Evaluation of Special-Status Species

The potential for each species to occur onsite was assessed using the following criteria:

- **Present** – Species was observed during the site visit or is known to occur within the BSA based on recent documented occurrences within the CNDDDB or other literature.
- **Potential to Occur** – Suitable habitat (including soils and elevation requirements) occurs in the BSA and the species is known to expected to occur in the Project vicinity based on available data sources or professional knowledge/experience.
- **Low Potential to Occur** – Marginal or limited amounts of habitat occur or the species is not known to occur in the vicinity of the Project based on CNDDDB records and other available information.
- **Presumed Absent** – No suitable habitat (including soils and elevation requirements) or the species is not known to occur within the vicinity of the Project based on CNDDDB records and other available information.

The BRA contains a Special-Status Species Evaluation table that lists all the special-status plant and animal species identified in the literature review. Included in this table is the listing status for each species, a brief habitat description, and a determination on the potential to occur within the Study Area (Appendix B).

4.4.5 Biological Resources (IV) Environmental Checklist and Discussion

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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Less Than Significant With Mitigation Incorporated.

Nesting Birds and Raptors

The BSA contains marginally suitable nesting and foraging habitat for Swainson's hawk within and in the vicinity of the BSA, nesting habitat for special-status birds, as well as suitable habitat for other migratory birds, non-migratory nongame birds, and raptors protected under the California Fish and Game Code and MBTA. Project development could permanently remove or alter suitable nesting habitat for special-status and other protected birds. If Project-related activities occur during the nesting season, the removal of active nests or disruption of nesting activities leading to abandonment of an active nest with eggs or young would be considered a violation of the MBTA and California Fish and Game Code and would be considered a significant impact under CEQA. Impacts to active nests and potential impacts to foraging habitat should be avoided. Therefore, implementation of Mitigation Measures BIO-1 through BIO-3 would reduce this potential impact to a less than significant level.

Bats

The BSA and its immediate vicinity also contain potential roosting habitat for two special-status bats. The Project has the potential to indirectly impact roosting habitat (i.e., trees) during construction-related disturbances such as trenching within a tree's root zone and construction-related noise which may cause potentially occurring adjacent bats to relocate. However, tree removal is not a part of the Project and suitable maternity roosting sites are absent in the BSA and its immediate vicinity. Therefore, the Project would have a less-than-significant impact on special-status bats.

Would the Project:

- 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?

Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

No Impact.

The entire Study Area has been leveled, developed, and/or disturbed. No riparian habitat or other sensitive natural communities were identified within the BSA during the site reconnaissance survey. Therefore, no impact would occur.

Would the Project:

- c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

No Impact.

The entire Study Area has been leveled, developed, and/or disturbed. No aquatic resources were identified within the BSA during the literature review nor during the site reconnaissance survey. Therefore, no impact would occur.

Would the Project:

- 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?

Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Less Than Significant Impact.

Project implementation may temporarily disturb and displace wildlife from the BSA. Some wildlife (e.g., birds or nocturnal species) are likely to continue to use the habitats opportunistically for the duration of construction. Once construction is complete, wildlife movements are expected to resume. Therefore, the Project is expected to have a less-than-significant impact on wildlife movement. There are no

documented nursery sites and no nursery sites were observed within the BSA during the site reconnaissance. Therefore, there would be no impact on nursery sites.

Would the Project:		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
e)	Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

No Impact.

The BSA is not covered by any local policies or ordinances protecting biological resources. Therefore, the Project would not conflict with any such policy or ordinance.

Would the Project:		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
f)	Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

No Impact.

The Study Area is not covered by any local, regional, or state conservation plan. Therefore, the Project would not conflict with a local, regional, or state conservation plan. There would be no impact.

4.4.6 Mitigation Measures

BIO-1: Swainson's Hawk. If Project activities are scheduled during the Swainson's hawk nesting season (March 1 to August 31), then prior to beginning work on the Project a qualified biologist shall survey for Swainson's hawk nesting activity. The survey area shall include a 0.5-mile distance surrounding the Project Area. The qualified biologist shall conduct surveys according to the *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley* (Swainson's Hawk Technical Advisory Committee 2000) or, if proposing an alternate survey methodology, shall submit the proposed survey timing and methods to CDFW for review and written approval prior to initiation of surveys. Survey results shall be submitted to CDFW for review. If Swainson's hawk nesting activity is observed during the survey, then the survey results shall be submitted to CDFW for review and acceptance prior to starting Project activities. If the qualified biologist identifies nesting Swainson's hawks, then the biologist shall recommend a no-disturbance buffer, and the contractor shall implement the buffer under the supervision of a qualified biologist. Project activities shall be prohibited within the no-disturbance buffer between March 1 to August 31, unless otherwise approved in writing by CDFW, which may include consultation pursuant

to California ESA and an Incidental Take Permit, or a qualified biologist determining that the nest is no longer active.

BIO-2: Burrowing Owl. A preconstruction survey for nesting burrowing owl will be conducted by a qualified biologist within 14 days prior to commencement of Project activities within the Study Area and a 250-foot buffer. Surveys shall be conducted at appropriate times and in appropriate weather conditions to maximize detection. If active burrowing owl burrows are found, an avoidance buffer will be immediately established, and an avoidance plan will be prepared in consultation with CDFW prior to the commencement of any ground-disturbing activities. If there is a lapse in Project-related work of 14 days or longer, then an additional survey shall be conducted prior to resuming Project activities.

BIO-3: Other Nesting Birds (Including Raptors). If Project activities are to occur during the nesting season (generally February 1 through August 31), conduct a preconstruction nesting bird survey of all suitable nesting habitat within 14 days of the commencement of Project activities. The survey shall be conducted within a 500-foot radius of Project work areas for raptors and within a 100-foot radius for other nesting birds. If any active nests are observed, these nests shall be designated a sensitive area and protected by an avoidance buffer implemented by the contractor and under the supervision of a qualified biologist until the breeding season has ended or until a qualified biologist has determined that the young have fledged and are no longer reliant upon the nest or parental care for survival. A Preconstruction Nesting Bird Survey Report will be prepared by a qualified biologist that includes surveyors' names and affiliation, dates and times of surveys, methods, results, and recommendations. If there is a lapse in Project-related work of 14 days or longer, then an additional survey shall be conducted prior to resuming Project activities.

4.5 Cultural Resources

A Historic Properties Inventory Report was prepared by ECORP Consulting (2024b) for the Proposed Project to identify potentially eligible cultural resources (archaeological sites and historic buildings, structures, and objects) within the Area of Potential Effects (APE) that could be affected by the Project. The APE consists of 0.84 acre of property located between East Evans Reimer Road and Center Avenue in portions of APNs 024-120-035 and 024-120-059, approximately 1.75 miles southeast of the City of Gridley.

The horizontal APE consists of all areas where activities associated with a project are proposed and, in the case of this project, equals the Project Area subject to environmental review under NEPA and CEQA. This includes areas proposed for construction, vegetation removal, grading, trenching, stockpiling, staging, paving, and other elements in the official Project description.

The vertical APE is described as the maximum depth below the surface to which excavations for project foundations and facilities will extend. Therefore, the vertical APE for this project includes all subsurface areas where archaeological deposits could be affected. The subsurface vertical APE varies across the project, but is expected to extend to approximately 550 feet at the location of the well; all other portions of the Project is estimated to be up to 10 feet below the current surface, and therefore, a review of

geologic and soils maps was necessary to determine the potential for buried archaeological sites that cannot be seen on the surface.

The vertical APE also is described as the maximum height of structures that could impact the physical integrity and integrity of setting of cultural resources, including districts and traditional cultural properties. For this Project, the above-surface vertical APE is up to 15 feet above the surface, which is typical for a generator and well pump control facilities such as those proposed.

The information provided below is an abridged version of this report and is provided here to afford a brief context of the potential cultural resources in the Project Area.

4.5.1 Environmental Setting

The APE is situated within the Northern Sacramento Valley southeast of the City of Gridley in Butte County. The surrounding area consists of rural farmland, agricultural orchards, and industrial agricultural land. The APE is located on the eastern half of the Manzanita Elementary School Campus, extending into the open field to the north of the campus, and is bounded by Center Avenue to the north and by agricultural areas to the east. The western bank of the Feather River is approximately 1.25 miles east of the APE and State Route 99 is located approximately 1.25 miles westward. Elevations range from 90 to 95 feet above mean sea level.

The underlying geology of the APE consists of Modesto Formation (Qm) composed of alluvial terraces and fans of gravel, sand, silt, and clay deposited during the late Pleistocene (126 to 12 thousand years ago; Saucedo and Wagner 1992). According to USDA's NRCS Web Soil Survey (NRCS 2024), one soil type makes up the APE. Boga-Loemstone, 0 to 1 percent slopes, is a moderately well-drained loamy alluvium over dense silty alluvium derived from igneous and metamorphic rock.

4.5.1.1 Ethnohistory

Prior to the arrival of Euro-Americans in the region, indigenous groups speaking more than 100 different languages and occupying a variety of ecological settings inhabited California. Kroeber (1925, 1936), and others (i.e., Driver 1961, Murdock 1960), recognized the uniqueness of California's indigenous groups and classified them as belonging to the California culture area. Kroeber (1925) further subdivided California into four subculture areas: Northwestern, Northeastern, Southern, and Central.

When the first European explorers entered the regions between 1772 and 1821, an estimated 100,000 people, about 1/3 of the state's native population, lived in the Central Valley (Moratto 1984). At least seven distinct languages of Penutian stock were spoken among these populations: Wintu, Nomlaki, Konkow, River Patwin, Nisenan, Miwok, and Yokuts. Common linguistic roots and similar cultural and technological characteristics indicate that these groups shared a long history of interaction (Rosenthal et al. 2007). The Central area (as defined by Kroeber (1925) encompasses the current APE and includes the Konkow.

The Konkow, or Northwestern Maidu, occupied the Northern Sacramento Valley and surrounding foothills of the Sierra Nevada range. The Maidu, on the basis of cultural and linguistic differences, have been

differentiated into three major related divisions: the Northeastern (Mountain Maidu), Northwestern (Konkow), and Southern (Nisenan) (Dixon 1905; Kroeber 1925).

Powers (1877), Dixon (1905), and Kroeber (1925) have provided the earliest documentation of the Maidu and Konkow, and their thorough observations have depicted the life and culture of these related groups. Additional ethnographic descriptions for the Maidu and Konkow can be found in Riddell (1978), Hill (1970), and Kowta (1988), among others. Because the Maidu and Konkow are believed to have been so closely related, ethnographers tended to group them as one.

The village community, the primary settlement type among the Maidu-Konkow, consisted of three to five small villages, each composed of about 35 members. Among the mountain Maidu, village communities were well defined and based on geography. In contrast, the Konkow were dispersed throughout the valley floor along river canyons, and as a result, village communities were less concentrated or definable (Kroeber 1925). In terms of permanent occupation sites, both groups preferred slightly elevated locations that provided visibility of the surrounding area and were away from the water-laden marshes and meadows (Dixon 1905; Riddell and Pritchard 1971; Riddell 1978). The Mechoopda Village, formerly located near downtown Chico, was home to many Maidu well into the historic-era.

Clothing, accessories, and other personal items were manufactured using elaborate basket weaving techniques, shell and bone ornamenting, and by incorporating feathers, game skins, plant roots, and stems into objects (Riddell 1978). Shell, in the form of beads for currency or as valuable jewelry, was very desirable and was exchanged for food, obsidian, tobacco, and pigments (Kroeber 1925; Riddell 1978).

4.5.1.2 Local History

Butte County

The Mexican governors of Alta California, Manuel Micheltorena and Pio Pico, made six lands grants in 1844 and 1845 covering arable lands located between the Sacramento and Feather rivers north and east of the Sutter Buttes. These included ranchos Arroyo Chico, Farwell, Esquon, Aguas Frias, Llano Seco, and Fernandez.

During the California Gold Rush, thousands arrived in the northern Sierra Nevada foothills to mine the Feather River and its tributaries for placer gold, prompting the creation of Bidwell Bar, Oroville, and other mining camps. Butte County became one of California's original 27 counties in 1850; Oroville became its county seat in 1856.

John Bidwell, one of the earliest Americans to settle in California, made the initial discovery of gold on the Feather River in 1848. Bidwell made a small fortune as a miner and merchant during the early days of the Gold Rush. In 1849 he acquired the 22,000-acre Arroyo Chico rancho and turned his attention to agriculture. In 1860, Bidwell established the town of Chico on the Arroyo Chico rancho. A decade later he helped to organize the California and Oregon Railroad, which traversed the western flatlands of Butte County to Chico and points farther north (Bidwell Mansion Association 2023). The railroad's arrival led to the creation of Gridley, Biggs, Nelson, Nord, and other small towns and settlements along its tracks. After 1870, grain farming and livestock grazing became important activities in western Butte County. Logging

and lumber milling gradually eclipsed mining in the county's eastern foothills and mountains. Turn-of-the-century irrigation projects diversified Butte County's agricultural output to include rice, almonds, fruit, and olives, as well as alfalfa and dairy farming. The State Water Project's Oroville Dam, built on the Feather River during the 1960s, created Lake Oroville in the southeastern part of Butte County, inundating many of the county's early gold camps (Hart 1987).

City of Gridley

George Washington Gridley of Galena, Illinois arrived in California during the Gold Rush. Fleeing the October 1850 cholera epidemic in Sacramento, Gridley traveled north up the Sacramento Valley. Observing favorable grazing lands on the north side of the Sutter Buttes, Gridley returned to Illinois, purchased a large herd of sheep, and drove it back to Butte County. By 1869, Gridley ranked among the largest landowners in the northern Sacramento Valley with 116,000 head of sheep grazing on 25,000 acres (King and Van de Hay 2015).

The California and Oregon Railroad, laying tracks north from Junction (Roseville), approached Butte County in 1870. George Washington Gridley negotiated with the Railroad to establish a station stop on his lands. Gridley recommended a site 2 miles west of the Feather River on high ground in a grove of live oaks (Smith and Elliott 1877). As an incentive for the railroad, Gridley built a warehouse at the site to guarantee regular wool shipments. California and Oregon surveyors who arrived to stake out a grid of streets, blocks, and building lots allowed Gridley to name the station stop. Gridley chose *Gridley Station*. The town that grew up around Gridley Station became *Gridley* (King and Van de Hay 2015). Later in 1870, the Central Pacific Railroad acquired the California and Oregon Railroad and integrated it into its growing western railroad system, connecting Gridley to the major markets of California and other western states (Robertson 1998).

Agricultural production on the outskirts of Gridley fueled the town's early growth. The railroad's arrival made Gridley a focal point for nearby grain farmers (Smith and Elliott 1877). The Gridley Flour Mill, the town's biggest industry, converted much of the region's grain output to flour for export to distant markets on the railroad. Local farmers also took advantage of arable lands south and east of Gridley to cultivate orchards and vineyards without irrigation. The town of Gridley became an important marketplace for southern Butte County. By 1890, the town's population hovered around 700 residents. At Hazel and Kentucky streets, livery stables, saddleries, a wheelwright, and a harness shop catered to grain farmers who hauled grain to town on horse-drawn wagons. A block to the east, at the corner of Hazel and Virginia streets, a commercial block consisting of drug stores, hardware stores, a bank, a printing press, a barber, a cobbler, and a butcher provided essential services for residents of the region. A lumber yard built along the railroad provided building materials that facilitated Gridley's growth in town and in the countryside. A Masonic Hall on Virginia Street, a school on Ohio Street, and a variety of churches and saloons provided the basis for social and cultural life (Sanborn Map Company 1884).

Gridley experienced significant growth during the first decade of the 20th century. Construction of the Butte Canal (now the Sutter-Butte Canal) a mile east of town in 1905 introduced irrigation water to the area. Irrigation allowed families to farm high-value fruits on lesser acreage, causing land values to rapidly appreciate. Large grain farms near Gridley became subdivided into smaller family farms dedicated to

orchards and vineyards. The Hunt Brothers peach cannery, established in 1896, became expanded after 1900 to employ more than 100 workers in town, many of them women (King and Van de Hey 2015).

In town, Gridley residents voted to incorporate the City of Gridley in 1905. Bonds backed by property taxes financed numerous improvements including paved streets, sewer and water mains, and a light and power system (Mansfield 1918). Also in 1905, the California Irrigated Land Company began promoting small farms near Gridley under a marketing campaign called "The Place Where Crops Never Fail." The campaign attracted numerous Mormon settlers from Utah and Idaho drawn to Butte County's milder climate and the low cost of water. By 1908, the town's Mormon population exceeded 500, making the town a major outpost for the Church of Jesus Christ of Latter-Day Saints Church (Gridley Reunion Committee 1980). By 1910, Gridley's population neared 1,000 while the population in the surrounding countryside exceeded 1,100 (Mansfield 1918). In 1920, Libby, McNeil, and Libby acquired the 40-acre Stone prune orchard immediately south of Gridley and built the largest peach cannery in the world. During times of peak production, the Libby Cannery employed 1,500 workers, making it the town's largest 20th-century industry (King and Van de Hey 2015).

Public Roads

California's road networks became neglected and degraded because of the rapid railroad development in the western United States during the latter half of the 19th century. By 1900, "the nation with the greatest railway system in the world had the worst roads" (Johnson 1990). Interest in road building revived around the turn of the 20th century, when farmers and ranchers began asking county officials for better surface roads. They were joined by millions of bicyclists who called for smoother roads in town and in the countryside. Joining forces, farmers, ranchers, and bicyclists organized local, state, and national "good roads" campaigns. In response, the federal government established the Office of Road Inquiry in the Department of Agriculture to study new road building techniques (Jackson 1998).

The unpaved roads were dusty during summer months and muddy during the winter and spring, which interfered with wagons, carriages, and bicycles. Plank roads made from lumber first appeared in California during the 1850s. Gravel roads and macadam, a form of compacted gravel coated with oil, came into use during the late 19th century. Finally, after 1900, concrete roads topped by a mixture of bitumen, aggregate, and sand called *asphalt* became the standard modern road surface. Durable, smooth, and impervious to water, asphalt withstood winter weather, reduced vehicular wear and tear, and better facilitated drainage (Kostof 1992).

The task of grading and paving rural roads fell to county boards of supervisors. The most heavily trafficked rural roads such as those leading to towns, cities, and schools, or those leading to major sites of production such as ranches, mines, quarries, and mills, received priority attention. Thousands of other rural roads were derived from the Public Land Survey System, the checkerboard of square-mile sections, and 36-square-mile townships established by federal surveyors to facilitate the sale of western public lands. Because they marked property boundaries, section and quarter-section lines became mutually beneficial roadways for neighboring property owners (Johnson 1990). To create section line roads, property owners deeded equal strips of land along section lines to county boards of supervisors in exchange for grading, paving, and other improvements (U.S. Department of Transportation 1976). In

California, the same principal applied to Mexican land grants not surveyed under the Public Land Survey System. Instead of tracing section lines, “grant line roads” traced older grant line boundaries.

4.5.2 Regulatory Setting

4.5.2.1 Federal

National Environmental Policy Act

NEPA establishes national policy for the protection and enhancement of the environment. Part of the function of the federal government in protecting the environment is to “preserve important historic, cultural, and natural aspects of our national heritage.” Cultural resources need not be determined eligible for the National Register of Historic Places (NRHP) through the National Historic Preservation Act (NHPA) of 1966 (as amended) to receive consideration under NEPA. NEPA is implemented by regulations of the Council on Environmental Quality (40 CFR 1500-1508).

The definition of *effects* in the NEPA regulations includes adverse and beneficial effects on historic and cultural resources (40 CFR 1508.8). Therefore, the *Environmental Consequences* section of an Environmental Impact Statement [see 40 CFR 1502.16(f)] must analyze potential effects to historic or cultural resources that could result from the proposed action and each alternative. In considering whether an alternative may “significantly affect the quality of the human environment,” a federal agency must consider, among other things:

- Unique characteristics of the geographic area, such as proximity to historic or cultural resources (40 CFR 1508.27(b)(3))
- The degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the NRHP (40 CFR 1508.27(b)(8))

Therefore, because historic properties are a subset of *cultural resources*, they are one aspect of the *human environment* defined by NEPA regulations.

National Historic Preservation Act

The federal law that covers cultural resources that could be affected by federal undertakings is the NHPA of 1966, as amended. Section 106 of the NHPA requires that federal agencies consider the effects of a federal undertaking on properties listed in or eligible for the NRHP. The agencies must afford the Advisory Council on Historic Preservation (ACHP) a reasonable opportunity to comment on the undertaking. A federal undertaking is defined in 36 CFR 800.16(y):

“A federal undertaking means a project, activity, or program funded in whole or in part under the direct or indirect jurisdiction of a federal agency, including those carried out by or on behalf of a federal agency; those carried out with Federal financial assistance; and those requiring a Federal permit, license, or approval.”

The regulations that stipulate the procedures for complying with Section 106 are in 36 CFR 800. The Section 106 regulations require:

- Definition of the APE;
- Identification of cultural resources within the APE;
- Evaluation of the identified resources in the APE using NRHP eligibility criteria;
- Determination of whether the effects of the undertaking or project on eligible resources will be adverse; and
- Agreement on and implementation of efforts to resolve adverse effects, if necessary.

The federal agency must seek comment from the State Historic Preservation Officer (SHPO) and, in some cases, the ACHP, for its determinations of eligibility, effects, and proposed mitigation measures.

Section 106 procedures for a specific project can be modified by negotiation of a Memorandum of Agreement or Programmatic Agreement between the federal agency, the SHPO, and, in some cases, the Project proponent.

Effects to a cultural resource are potentially adverse if the lead federal agency, with the SHPO's concurrence, determines the resource eligible for the NRHP, making it a Historic Property, and if application of the Criteria of Adverse Effects (36 CFR 800.5[a][2] et seq.) results in the conclusion that the effects will be adverse. The NRHP eligibility criteria, contained in 36 CFR 60.4, are as follows:

The quality of significance in American history, architecture, archaeology, and culture is present in districts, sites, buildings, structures, and objects of state and local importance that possess aspects of integrity of location, design, setting, materials, workmanship, feeling, association, and

- 1) that are associated with events that have made a significant contribution to the broad patterns of our history; or
- 2) that are associated with the lives of persons significant in our past; or
- 3) that 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
- 4) that have yielded, or may be likely to yield, information important in prehistory.

In addition, the resource must be at least 50 years old, barring exceptional circumstances (36 CFR 60.4). Resources that are eligible for, or listed on, the NRHP are *historic properties*.

Regulations implementing Section 106 of the NHPA (36 CFR 800.5) require that the federal agency, in consultation with the SHPO, apply the Criteria of Adverse Effect to historic properties within the APE. According to 36 CFR 800.5(a)(1):

"An adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the

National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling or association."

4.5.2.2 State

California Environmental Quality Act

A project is an activity that may cause a direct or indirect physical change in the environment and that is undertaken or funded by a state or local agency, or requires a permit, license, or lease from a state or local agency. CEQA requires that impacts to Historical Resources be identified and, if the impacts will be significant, then apply mitigation measures to reduce the impacts.

A Historical Resource is a resource that:

- is listed in or has been determined eligible for listing in the California Register of Historical Resources (CRHR) by the State Historical Resources Commission, or has been determined historically significant by the CEQA lead agency because it meets the eligibility criteria for the CRHR,
- is included in a local register of historical resources, as defined in PRC 5020.1(k), or
- has been identified as significant in a historical resources survey, as defined in PRC 5024.1(g) (14 CCR 15064.5(a)).

The eligibility criteria for the CRHR are as follows (14 CCR 4852(b)):

- It is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States;
- It is associated with the lives of persons important to local, California, or national history;
- It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master or possesses high artistic values; or
- It has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation.

In addition, the resource must retain integrity, which is evaluated with regard to the retention of location, design, setting, materials, workmanship, feeling, and association (14 CCR 4852(c)). Resources that have been determined eligible for the NRHP are automatically eligible for the CRHR.

Impacts to a Historical Resource, as defined by CEQA (listed in an official historic inventory or survey or eligible for the CRHR), are significant if the resource is demolished or destroyed or if the characteristics that made the resource eligible are materially impaired (14 CCR 15064.5(b)). Demolition or alteration of eligible buildings, structures, and features that they would no longer be eligible would result in a significant impact. The whole or partial destruction of eligible archaeological sites would result in a significant impact. In addition to impacts from construction resulting in destruction or physical alteration

of an eligible resource, impacts to the integrity of setting (sometimes termed *visual impacts*) of physical features in the Project Area could also result in significant impacts.

Tribal Cultural Resources (TCRs) are defined in Section 21074 of the California PRC as sites, features, places, cultural landscapes (geographically defined in terms of the size and scope), sacred places, and objects with cultural value to a California Native American tribe that are either included in or determined to be eligible for inclusion in the CRHR, or are included in a local register of historical resources as defined in subdivision (k) of Section 5020.1, or are 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 Section 5024.1. Section 1(b)(4) of AB 52 established that only California Native American tribes, as defined in Section 21073 of the California PRC, are experts in the identification of TCRs and impacts thereto. Because ECORP does not meet the definition of a California Native American tribe, it only addresses information in this report for which it is qualified to identify and evaluate, and that which is needed to inform the cultural resources section of CEQA documents. This report, therefore, does not identify or evaluate TCRs. Should California Native American tribes ascribe additional importance to or interpretation of archaeological resources described herein, or provide information about non-archeological TCRs, that information is documented separately in the AB 52 tribal consultation record between the tribe(s) and lead agency and summarized in the TCRs section of the CEQA document, if applicable.

Clean Water State Revolving Fund

This Project is being funded in part by federal money from the CWSRF. Because the CWSRF receives at least a portion of funding from the USEPA, such projects are required to comply with federal environmental regulations. The requirements in the Operating Agreement between the California SWRCB and the USEPA that administers the State Revolving Fund federal loan program, known as CEQA Plus, require applicants to demonstrate to the satisfaction of the State Historic Preservation Officer that the project complies with Section 106 of the NHPA. The SWRCB is the agency responsible for Section 106 (NHPA) compliance. The SWRCB has established standards to meet both state and federal requirements; as such, this report was prepared in compliance with the requisite federal standards. In complying with CEQA Plus, this cultural resources investigation contributed to compliance with Section 106 of the NHPA and with CEQA (PRC Section 21000 et seq.).

Confidentiality Restrictions

Sections 6253, 6254, and 6254.10 of the California Code authorize state agencies to exclude archaeological site information from public disclosure under the Public Records Act. In addition, the California Public Records Act (Government Code Section 6250 et seq.) and California's open meeting laws (The Brown Act, Government Code Section 54950 et seq.) protect the confidentiality of Native American cultural place information. Under Exemption 3 of the federal Freedom of Information Act (5 USC 5), because the disclosure of cultural resources location information is prohibited by the Archaeological Resources Protection Act of 1979 (16 USC 470hh) and Section 304 of the NHPA, it is also exempted from disclosure under the Freedom of Information Act. Likewise, the Information Centers of the California Historical Resources Information System (CHRIS) maintained by the California Office of Historic Preservation (OHP) prohibit public dissemination of records search information. In compliance with these

requirements, the results of this cultural resource investigation were prepared as a confidential document, which is not intended for public distribution in either paper or electronic format. As such, the Historic Properties Inventory Report is not included as an appendix in this IS/MND. While information describing the various Cultural Resources time periods is included in the IS/MND discussion, all references to location of artifacts have been removed for confidentiality and protection of these resources.

4.5.3 Methodology

4.5.3.1 Records Search

ECORP requested a records search for the property at the Northeast Information Center (NEIC) of the CHRIS at California State University, Chico on January 26, 2024. The purpose of the records search was to determine the extent of previous surveys within a 1-mile (1,600-meter) radius of the Proposed Project location, and whether previously documented pre-contact or historic archaeological sites, architectural resources, or traditional cultural properties exist within this area. NEIC staff completed and returned the records search to ECORP on February 5, 2024.

4.5.3.2 Sacred Lands File

In addition to the records search, ECORP contacted the California Native American Heritage Commission (NAHC) on January 26, 2024, to request a search of the Sacred Lands File (SLF) for the APE. This search determines whether or not the California Native American tribes within the APE have recorded Sacred Lands, because the SLF is populated by members of the Native American community with knowledge about the locations of tribal resources. In requesting a search of the SLF, ECORP solicited information from the Native American community regarding TCRs, but the responsibility to formally consult with the Native American community lies exclusively with the federal and local agencies under applicable state and federal laws. The lead agencies do not delegate government-to-government authority to any private entity to conduct tribal consultation.

4.5.3.3 Field Survey

ECORP conducted an intensive pedestrian survey in the APE on February 14, 2024, under the guidance of the *Secretary of the Interior's Standards for the Identification of Historic Properties* (National Park Service 1983) using 15-meter transects. At the time, the ground surface was examined for indications of surface or subsurface cultural resources. The general morphological characteristics of the ground surface were inspected for indications of subsurface deposits that may be manifested on the surface, such as circular depressions or ditches. Whenever possible, ECORP examined the locations of subsurface exposures caused by such factors as rodent activity, water or soil erosion, or vegetation disturbances for artifacts or for indications of buried deposits. No subsurface investigations or artifact collections were undertaken during the pedestrian survey.

4.5.4 Cultural Resources (V) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Less Than Significant With Mitigation Incorporated.

Records Search

Three previous resource investigations by conducted within 1 mile of the APE, covering approximately 5 percent of the total area surrounding the property within the records search radius. None of the previous studies were conducted within the APE. These studies revealed the presence of pre-contact sites, including lithic scatters and habitation sites, and historic-era sites, including rock walls and sites associated with historic mining activities. The previous studies were conducted between 1976 and 2014 and vary in size from 1 to 45 acres.

The records search of the CHRIS also determined that no previously recorded pre-contact or historic-era cultural resources are located within 1 mile of the APE, however, the NEIC search of the Archaeological Resources Directory (dated September 22, 2022) lists one resource, Manzanita School, within the APE. This resource is listed as a *State Point of Historical Interest that does not meet CRHR criteria*.

Sacred Lands File

A search of the Sacred Lands File by the NAHC failed to indicate the presence of Native American cultural resources in the APE.

Field Survey

ECORP identified one new cultural resource within the APE as a result of the 2024 survey: a historic-era road (MW-02).

MW-02 is a 1.03-mile-long segment of Center Avenue originated as a two-lane rural road that extended east from Larkin Road, terminating at a private property 0.20 mile west of the Sutter Butte Canal. The road provided access to farms and ranches. Center first appeared on the 1912 USGS Gridley, CA topographic map as a light duty road from Larkin Road to its intersection with River Avenue. East of River Avenue, the road was unimproved. The 1952 USGS Gridley, CA map shows Center Avenue as a light duty road. According to aerial photography, Center Avenue was paved in asphalt by 1958.

Center Avenue was a rural county road built by 1912. Center Avenue provided vehicular access to local farms and ranches. This function alone, however, did not constitute events that made a significant contribution to the broad patterns of our history. Therefore, Center Avenue is not eligible for the NRHP/CRHR under Criteria A/1.

Generations of unidentifiable Butte County construction crew members improved Center Avenue incrementally throughout the 19th and 20th centuries. Despite their contributions to the county's network of surface roads, the crew members do not represent the lives of persons significant in our past. Therefore, Center Avenue is not eligible for the NRHP/CRHR under Criteria B/2.

Center Avenue is a two-lane rural road that was paved with asphalt by 1958, a ubiquitous form in Butte County and throughout California. Center Avenue does not embody the distinctive characteristics of a type, period, or method of construction, or represent the work of a master, or possesses high artistic values, or represent a significant and distinguishable entity whose components may lack individual distinction. Therefore, Center Avenue is not eligible for the NRHP/CRHR under Criteria C/3.

Center Avenue does not have the potential to yield information important in history. Archival research potential for the road has been exhausted. Simple roads are built environment features that do not have the potential to yield subsurface archaeological data in any statistically valid sample size, and, therefore, the site was not tested. The information in historic roads is typically conveyed through their alignment, route, and setting. There is no potential for the resource to provide additional information that is not already represented in the archival record. Therefore, Center Avenue is not eligible for the NRHP/CRHR under Criteria D/4.

MW-02 was not found to be eligible for inclusion on the NRHP or CRHR under any criteria. Therefore, this resource is not a Historical Resource under NHPA and CEQA.

The presence of historic-era orchards and farming activities within the APE and in the greater vicinity of the APE, and presence of Manzanita School increase the likelihood of unrecorded historic-era cultural material within the APE, especially considering the school is listed on the Aquatic Resources Delineation as a *State Point of Historical Interest that does not meet CRHR Criteria (7P)*. As is the case with the pre-contact probability, the act of removing the historic-era orchard and the expansion and modernization of Manzanita School in the modern-era would have likely displaced or destroyed any historic-era cultural material buried within the APE. Therefore, the likelihood of encountering any undiscovered disturbed or intact historic-period cultural resources during the Project is considered low.

The Proposed Project includes the demolition of the existing well, installation of a new well, the installation of PVC piping and PVC underground electrical conduit from the new well location to the existing well location, a new diesel generator, a chain link fence installed around the well and generator, and an access road. Although the likelihood of encountering undiscovered historic-period cultural resources is low, ground disturbance associated with this Project still has the potential to impact surface and previously unknown subsurface historic resources should any be present. Impacts would be less than significant with incorporation of Mitigation Measure CUL-1.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Less Than Significant With Mitigation Incorporated.

While Morrison Slough (Liveoak Slough) is located approximately 1 mile west of the APE and the Feather River is located approximately 1.25 miles east of the APE, the underlying geology predates the earliest human occupation in the area. Although alluvial deposits tend to preserve archaeological material and create an increased likelihood of pre-contact archaeological sites located along perennial waterways, the alluvial soils in the APE (Boga-Loemstone) are the result of deposits that are too old to have buried evidence of human occupation. Therefore, soils and hydrology data indicate a low potential for buried pre-contact archaeological sites within the APE. This likelihood is further supported by the following:

- The root systems of orchard trees are known to be invasive and tend to destroy or displace any cultural material buried in the vicinity. Therefore, the historic-era presence of an orchard within the southern portion of the APE until the 1950s, and in the northern portion of the APE until after 1973, would further lower the probability of finding any intact or *in situ* pre-contact cultural remnants buried within the Project Area.
- The nearest Native American villages were purportedly located nearly 2 miles away from the APE and a search of the NAHC Sacred Lands File returned negative results.
- The expansion of the Manzanita Elementary School Campus into the southern portion of the APE after 1969 would have likely uncovered or destroyed any cultural material present within the Proposed depth of disturbance in those areas.

Considering the entirety of the evidence examined in this report, the likelihood of encountering any undiscovered disturbed or intact pre-contact cultural resources during the Project is considered low. However, potential always remains for ground-disturbing activities to expose previously unrecorded cultural resources. Both CEQA and Section 106 of the NHPA require the lead agency to address any unanticipated cultural resource discoveries during Project construction. Therefore, impacts would be less than significant with the implementation of Mitigation Measure CUL-1.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Less Than Significant With Mitigation Incorporated.

No known burial sites were identified during the field survey. Although Native American burial sites have not been identified in the Project Area, there is a possibility that unanticipated human remains will be encountered during ground-disturbing project-related activities and as such, mitigation is required. With implementation of Mitigation Measure CUL-1, impacts to unknown human remains would be less than significant.

4.5.5 Mitigation Measures

CUL-1: If subsurface deposits believed to be cultural or human in origin are discovered during construction, all work must halt within a 100-foot radius of the discovery. A qualified professional archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards for prehistoric and historic archaeology, shall be retained to evaluate the significance of the find, and shall have the authority to modify the no-work radius as appropriate, using professional judgment. The following notifications shall apply, depending on the nature of the find:

- If the professional archaeologist determines that the find does not represent a cultural resource, work may resume immediately, and no agency notifications are required.
- If the professional archaeologist determines that the find does represent a cultural resource from any time period or cultural affiliation, the archaeologist shall immediately notify the lead agencies. The agencies shall consult on a finding of eligibility and implement appropriate treatment measures, if the find is determined to be a Historical Resource under CEQA, as defined in Section 15064.5(a) of the CEQA Guidelines or a historic property under Section 106 NHPA, if applicable. Work may not resume within the no-work radius until the lead agencies, through consultation as appropriate, determine that the site either: 1) is not a Historical Resource under CEQA or a Historic Property under Section 106; or 2) that the treatment measures have been completed to their satisfaction.
- If the find includes human remains, or remains that are potentially human, they shall ensure reasonable protection measures are taken to protect the discovery from disturbance (AB 2641). The archaeologist shall notify the Butte County Coroner (per Section 7050.5 of the Health and Safety Code). The provisions of Section 7050.5 of the California Health and Safety Code, Section 5097.98 of the California PRC, and AB 2641 will be implemented. If the coroner determines the remains are Native American and not the result of a crime scene, the coroner will notify the NAHC, which then will designate a Native American Most Likely Descendant (MLD) for the Project (Section 5097.98 of the PRC). The designated MLD will have 48 hours from the time access to the property is granted to make recommendations concerning treatment of the remains. If the landowner does not agree with the recommendations of the MLD, the NAHC can mediate (Section 5097.94 of the PRC).

If no agreement is reached, the landowner must rebury the remains where they will not be further disturbed (Section 5097.98 of the PRC). This will also include either recording the site with the NAHC or the appropriate Information Center; using an open space or conservation zoning designation or easement; or recording a reinternment document with the county in which the property is located (AB 2641). Work may not resume within the no-work radius until the lead agencies, through consultation as appropriate, determine that the treatment measures have been completed to their satisfaction.

4.6 Energy

This IS/MND analyzes energy consumption due to the potential direct and indirect environmental impacts associated with the Project. Such impacts include the depletion of nonrenewable resources (e.g., oil, natural gas, coal) and emissions of pollutants during the construction phase. As the Project is proposing the replacement of a water well, the impact analysis focuses on the two sources of energy that are relevant to the Proposed Project: the electricity necessary to pump increased amounts of water and the equipment-fuel necessary for Project construction.

4.6.1 Environmental Setting

4.6.1.1 *Electricity Types and Sources*

California relies on a regional power system comprised of a diverse mix of natural gas, renewable, hydroelectric, and nuclear generation resources. Natural gas provides California with a majority of its electricity followed by renewables, large hydroelectric and nuclear. Pacific Gas and Electricity Company (PG&E) provides electricity and natural gas to Butte County. It generates or buys electricity from hydroelectric, nuclear, renewable, natural gas, and coal facilities. PG&E provides natural gas and electricity to most of the northern two-thirds of California, from Bakersfield and Barstow to near the Oregon, Nevada, and Arizona State Line. It provides 5.2 million people with electricity and natural gas across 70,000 square miles. In 2022, approximately 40 percent of PG&E's electricity came from renewable resources including biopower, geothermal, small hydroelectric, solar, and wind power. Overall 95 percent of the company's delivered electricity comes from greenhouse gas (GHG) emission-free sources, including renewables, nuclear, and hydropower (PG&E 2024).

The California Public Utilities Commission (CPUC) regulates PG&E. The CPUC has developed energy efficiency programs such as smart meters, low-income programs, distribution generation programs, self-generation incentive programs, and a California solar initiative. Additionally, the California Energy Commission (CEC) maintains a power plant database that describes all the operating power plants in the state by county.

4.6.1.2 *Energy Consumption*

Electricity use is measured in kilowatt-hours (kWh). Vehicle fuel use is typically measured in gallons (e.g., of gasoline or diesel fuel), although energy use for electric vehicles is measured in kWh.

The electricity consumption associated with all non-residential land uses in Butte County from 2018 to 2022 is shown in Table 4.6-1. As indicated, the demand for electricity has decreased since 2018.

Table 4.6-1. Non-Residential Electricity Consumption in Butte County 2018 to 2022	
Year	Electricity Consumption (kilowatt hours)
2022	715,487,325
2021	791,701,933
2020	636,772,661
2019	729,750,049
2018	750,835,547

Source: California Energy Commission (CEC) 2023

Vehicle fuel use is typically measured in gallons (e.g., of gasoline or diesel fuel), although energy use for electric vehicles is measured in kWh. CARB's EMFAC Emissions Inventory extracts emissions from EMFAC2021, software that provides emissions and fuel use from on- and offroad mobile sources in California (CARB 2021). Total automotive fuel consumption in Butte County from 2019 to 2023 is shown in Table 4.6-2. As shown, automotive consumption has decreased since 2019.

Table 4.6-2. Automotive Fuel Consumption in Butte County from 2019 to 2023	
Year	Fuel Consumption (gallons)
2023	117,984,002
2022	118,261,744
2021	118,122,078
2020	106,642,798
2019	121,842,862

Source: California Air Resources Board (CARB) 2021

4.6.2 Regulatory Setting

4.6.2.1 Federal

Federal Clean Air Act

The CAA is the comprehensive federal law that regulates air emissions from stationary and mobile sources. Among other things, this law authorizes the USEPA to establish NAAQS to protect public health and public welfare and to regulate emissions of hazardous air pollutants.

4.6.2.2 State

Integrated Energy Policy Report

Senate Bill (SB) 1389 (Bowen, Chapter 568, Statutes of 2002) requires the CEC to prepare a biennial Integrated Energy Policy Report (IEPR) that assesses major energy trends and issues facing California's electricity, natural gas, and transportation fuel sectors and provides policy recommendations to conserve resources; protect the environment; ensure reliable, secure, and diverse energy supplies; enhance the State's economy; and protect public health and safety (Public Resources Code Section 25301a). Each biennial IEPR takes into account various factors such as energy supply, demand, infrastructure, environmental considerations, and economic impacts. The report aims to address key energy challenges and provide recommendations to achieve a reliable, affordable, and sustainable energy system for California (CEC 2024).

Some of the key areas typically covered in the report include:

- 1) **Renewable Energy:** The IEPR focuses on promoting renewable energy sources such as solar, wind, geothermal, and biomass. It assesses the state's progress in meeting its renewable energy goals, identifies barriers, and proposes strategies to increase renewable energy generation and integration into the grid.
- 2) **Energy Efficiency:** The report highlights the importance of energy efficiency measures to reduce energy consumption and GHG emissions. It explores policies and initiatives to promote energy-efficient technologies and practices in buildings, transportation, and industries.
- 3) **Grid Modernization:** The IEPR addresses the modernization and optimization of the electrical grid infrastructure to accommodate a higher penetration of renewable energy, improve grid reliability, and support emerging technologies such as energy storage and electric vehicles.
- 4) **Transportation:** The report typically includes a section on transportation, focusing on reducing dependence on fossil fuels and promoting the adoption of electric vehicles and alternative fuels. It may discuss infrastructure development, incentives, and policies to accelerate the transition to cleaner transportation options.
- 5) **Climate Change Mitigation:** Given California's commitment to combating climate change, the IEPR often emphasizes strategies to reduce GHG emissions and achieve the state's climate goals. This may include discussions on carbon pricing, cap-and-trade programs, and the integration of climate considerations into energy planning.
- 6) **Energy Resilience:** The report may address strategies to enhance the resilience of the energy system, considering factors such as extreme weather events, natural disasters, and cybersecurity risks. It could discuss measures to ensure a reliable and uninterrupted supply of energy during emergencies.

- 7) **Economic Impacts and Equity:** The IEPR often explores the economic implications of energy policies and initiatives, including job creation, investment opportunities, and the equitable distribution of benefits across different communities and socioeconomic groups.

The CEC prepares these assessments and associated policy recommendations every two years, with updates on alternate years, as part of the IEPR.

The 2023 IEPR focuses on next steps for transforming transportation energy use in California. The 2023 IEPR addresses the role of transportation in meeting state climate, air quality, and energy goals; the transportation fuel supply; the Alternative and Renewable Fuel and Vehicle Technology Program; current and potential funding mechanisms to advance transportation policy; transportation energy demand forecasts; the status of statewide plug-in electric vehicle infrastructure; challenges and opportunities for electric vehicle infrastructure (CEC 2024).

4.6.2.3 Local

Butte County Climate Action Plan

The Butte County Climate Action Plan (CAP) is a strategic planning document that identifies sources of GHG emissions within the boundaries of the unincorporated county, presents current and future emissions estimates, identifies a GHG reduction target for future years, and presents strategic emission-reduction strategies to reduce emissions from the agriculture, transportation, energy, solid waste, off-road equipment, water and wastewater, and stationary source sectors. The CAP seeks to promote energy conservation and efficiency opportunities for all residents, building/property owners, and renters in the unincorporated county, promote energy conservation and efficiency opportunities for all nonresidential uses in the unincorporated county, and supports efforts to increase renewable and carbon-free energy generation, including wind, solar, and biomass, and to ensure customer access to such renewable energy.

4.6.3 Energy (VI) Environmental Checklist and Discussion

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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Less Than Significant Impact.

The Project proposes to construct a new well and demolish the existing well that was found to exceed the drinking water MCL for TCP. Due to MCL exceedance, the current onsite well cannot be used for potable water sources and can only be used for irrigation purposes. Once implemented, the new well would supply 200 gpm of potable and non-potable water, resulting in a rise in water pumping activities beyond baseline levels. The additional amount of energy required to accommodate this increase in flow rate was

estimated using the CEC's Refining Estimates of Water Related Energy Use in California report (CEC 2006). Using CEC's recommended revised water-energy proxies for Northern California for water supply and conveyance, the Proposed Project is estimated to consume approximately 20,712 kWh annually. There are no established thresholds of significance, statewide or locally, for what constitutes a wasteful, inefficient, and unnecessary consumption of energy for a proposed land use. For the purpose of this analysis, Project increases in electricity are compared with the countywide non-residential electricity consumption in 2022, the most recent full year of data.

Table 4.6-3. Proposed Project Electricity Consumption		
Energy Type	Annual Energy Consumed	Percentage Increase Countywide
Electricity Consumption		
Project Water Pumping	20,712 kWh	0.002%

Notes: The Project increase of electricity consumption is compared with the countywide electricity consumption in 2022, the most recent full year of data.

kWh = kilowatt hour

Source: The amount of increased water pumping (9,783,886 gallons annually) is estimated with CalEEMod version 2022.1.1, accounting for a student enrollment of 300 students and 8.5 acres of landscaped areas. The amount of kilowatt hours consumed to pump 9,783,886 gallons of water annually is estimated using the ratios identified in CEC's Refining Estimates of Water Related Energy Use in California (2006). See Appendix A.

As shown in Table 4.6-3, the Project's electricity consumption is estimated to be 20,712 kWh, which would increase the annual electricity consumption in Butte County by 0.002 percent. However, this is potentially a conservative estimate as Manzanita Elementary School currently employs the use of solar power generation with onsite solar panels. Portions of the energy necessary for Project operations could be supplied by this renewable source, thereby reducing the Project's contribution to countywide energy consumption increases. As such, the Project would have a nominal effect on electricity demand.

The other quantifiable source of energy associated with the Project includes the equipment fuel necessary for construction. For the purpose of this analysis, Project increases in construction fuel consumption are compared with the countywide fuel consumption in 2023, the most recent full year of data. The amount of total construction-related fuel used was estimated in Table 4.6-4 using ratios provided in the Climate Registry's General Reporting Protocol for the Voluntary Reporting Program, Version 2.1 (Climate Registry 2016).

Table 4.6-4. Proposed Fuel Consumption		
Energy Type	Annual Fuel Consumed	Percentage Increase Countywide
Equipment Fuel Consumption		
Project Construction	5,419 gallons	0.004%

Note: The Project increase construction-related fuel consumption is compared with the countywide construction-related fuel consumption in 2023, the most recent full year of data.

Source: ECORP Consulting, Inc. using ratios provided in the Climate Registry's General Reporting Protocol for the Voluntary Reporting Program, Version 2.1 (2016). See Appendix A.

As shown in Table 4.6-4, the Project’s gasoline fuel consumption during the construction period is estimated to be 5,419 gallons of fuel, which would increase the annual construction-related gasoline fuel use in the county by 0.004 percent during Project construction. As such, Project construction would have a nominal effect on local and regional energy supplies, especially over the long term. Additionally, construction equipment fleet turnover and increasingly stringent state and federal regulations on engine efficiency combined with state regulations limiting engine idling times and require recycling of construction debris, would further reduce the amount of transportation fuel demand during Project construction. For these reasons, it is expected that construction fuel consumption associated with the Project would not be any more inefficient, wasteful, or unnecessary than other similar development projects of this nature.

Would the Project:	Less than			
	Potentially Significant Impact	Significant with Mitigation Incorporated	Significant Impact	No Impact
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

No Impact.

The County CAP seeks to promote energy conservation and efficiency opportunities for all nonresidential uses in the unincorporated county. The Project proposes to construct a new well and demolish the existing well that was found to exceed the drinking water MCL for TCP. Due to MCL exceedance, the current onsite well cannot be used for potable water sources and can only be used for irrigation purposes. As shown in Table 4.6-3, the electricity consumption associated with the Project is estimated to be 20,712 kWh, which would increase the annual electricity consumption in Butte County by 0.002 percent. However, this is potentially a conservative estimate as Manzanita Elementary School currently employs the use of solar power generation with onsite solar panels. Portions of the energy necessary for Project operations could be supplied by this renewable source, thereby reducing the Project’s contribution to countywide energy consumption increases. For this reason, the Project would not inhibit implementation of energy conservation strategies contained in the County CAP. It does not conflict with or obstruct a plan for renewable energy or energy efficiency. There would be no impact.

4.6.4 Mitigation Measures

No significant impacts were identified, and no mitigation measures are required.

4.7 Geology and Soils

4.7.1 Environmental Setting

4.7.1.1 Geomorphic Setting

The Project Area is located in the Great Valley geomorphic province of California. The Great Valley is an alluvial plain about 40 miles wide and 500 miles long in the Central Valley of California. Its northern part is the Sacramento Valley, drained by the Sacramento River and its southern part is the San Joaquin Valley

drained by the San Joaquin River. The Great Valley province is characterized by great thicknesses of generally flat-lying sedimentary rocks overlain by soils that were deposited by floods or runoff. These sedimentary rocks dip gently west to southwest with only minor faults and folds that run parallel to the structural trend of the Valley and the Sierra Nevada (Butte County 2023b).

The rocks of the western half of the County are primarily flat-lying Cretaceous, Eocene, and younger formations of shale, sandstone, conglomerate, and volcanic rock overlapping older metamorphic rock. The floor of the Sacramento Valley is composed of older alluvial deposits such as moderately consolidated clay, silt, and sand (Butte County 2023b).

4.7.1.2 Site Soils

According to the U.S. Department of Agriculture (USDA) NRCS Web Soil Survey database, the Project Area is composed of Boga-Loemstone, 0 to 1 percent slopes. According to this survey, the Project soil is moderately well-drained, has medium runoff potential, no rating for flooding frequency, and occasional ponding (NRCS 2024).

4.7.1.3 Regional Seismicity and Fault Zones

In California, special definitions for active faults were devised to implement the Alquist-Priolo Earthquake Fault Zoning Act of 1972, which regulates development and construction in order to avoid the hazard of surface fault rupture. The State Mining and Geology Board established policies and criteria in accordance with the act. The board defined an active fault as one which has had surface displacement within Holocene time (about the last 11,000 years). A potentially active fault was considered to be any fault that showed evidence of surface displacement during Quaternary time (last 1.6 million years). Because of the large number of potentially active faults in California, the State Geologist adopted additional definitions and criteria in an effort to limit zoning to only those faults with a relatively high potential for surface rupture. Thus, the term sufficiently active was defined as a fault for which there was evidence of Holocene surface displacement. This term was used in conjunction with the term well-defined, which relates to the ability to locate a Holocene fault as a surface or near-surface feature.

The closest earthquake fault to the Project Area is an unidentified, inactive fault located approximately 10 miles north. The only active earthquake fault in the County, the Cleveland Hills fault, is located approximately 13 miles east of the Project Area. The Cleveland Hills Fault is also the only fault that has been identified within an Alquist-Priolo Earthquake Fault Zone (California Geological Survey [CGS] 2022). Seismically induced ground shaking can be expected anywhere in the County, with larger intensity ground motions more likely to occur from earthquakes on more distant faults (Butte County 2023a).

4.7.2 Geology and Soils (VII) Environmental Checklist and Discussion

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.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

No Impact.

i) The Proposed Project Area is not located within an Alquist-Priolo Earthquake Fault Zone (CGS 2022). There would be no impact related to fault rupture.

Less Than Significant Impact.

ii) The Cleveland Hills Fault, located approximately 13 miles east of the Project Area, is also the only fault that has been identified within an Alquist-Priolo Earthquake Fault Zone (CGS 2022). Seismically induced ground shaking can be expected anywhere in the County, with larger intensity ground motions more likely to occur from earthquakes on more distant faults like the Coast Ranges thrust zone or Melones Fault Zone (Butte County 2023a, 2023b).

The Project includes the demolition of the existing well, installation of a new well, the installation of PVC piping and PVC underground electrical conduit from the new well location to the existing well location, a new diesel generator, a chain link fence installed around the well and generator, and an access road. A roadside swale will also be constructed to allow for drainage. All new infrastructure would be required to comply with the current county code, including any required seismic mitigation standards which would reduce the risk of loss, injury, or death resulting from strong ground-shaking. Impacts would be less than significant, and no mitigation is required.

Less Than Significant Impact.

iii) Liquefaction occurs in saturated soils when pore pressure exceeds the natural frictional strength between grains. This is most common in loose soils with no cohesion. As a result, the soil loses strength

and starts to flow. Liquefaction is most often triggered by seismic shaking, but can also be due to improper grading, landslides, or other factors. Liquefaction can result in the following types of seismic-related ground failure:

- Loss of bearing strength – soils liquefy and lose the ability to support structures
- Lateral spreading – soils slide down gentle slopes or toward stream banks
- Flow failures – soils move down steep slopes with large displacement
- Ground oscillation – surface soils, riding on a buried liquefied layer, are thrown back and forth by shaking
- Flotation – floating of light buried structures to the surface
- Settlement – settling of ground surface as soils reconsolidate
- Subsidence – compaction of soil and sediment

Liquefaction potential has been found to be greatest where the groundwater level and loose sands occur within a depth of about 50 feet or less.

Areas of Butte County may be subject to the effects of liquefaction due to underlying sandy and silty sediments and shallow groundwater. Areas along the Sacramento River have a generally high liquefaction potential due to the clean sand layers with low relative densities. Most of the remaining Sacramento Valley area in the County has underlying granular layers with higher relative densities resulting in a moderate liquefaction potential. The eastern portion of the County has underlying bedrock which has no liquefaction potential. Areas with valley fill alluvium can have moderate to high liquefaction potential. The Project Area is located in the southern portion of Butte County which has a generally moderate liquefaction potential (Butte County 2023b).

As previously stated, all new infrastructure associated with the Proposed Project would be required to comply with the current county code, including any required seismic mitigation standards which would reduce the risk of loss, injury, or death resulting from strong ground-shaking and ground-shaking land failure. Additionally, the Project Area and the surrounding area are flat with no steep hillsides, making them less susceptible to landslides. Impacts would be less than significant, and no mitigation is required.

Less Than Significant Impact.

iv) Landslides and surficial slope failure are most likely to occur in areas with a slope greater than 25 percent (hillside areas) and along steep bluffs. The Project Area is located in an area identified as having low to no landslide potential (Butte County 2023b). Additionally, the Project Area and the surrounding area are flat with no steep hillsides, making them less susceptible to landslides. Impacts would be less than significant, and no mitigation is required.

Would the Project:		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b)	Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Less Than Significant Impact.

In addition to natural causes, erosion in Butte County can attributed to anthropogenic causes such as mining, logging, and cattle ranching. Erosion increases with increasing slope, increasing precipitation, and decreasing vegetative cover. The Project Area is located in the southern portion of the County which is identified as having slight erosion potential (Butte County 2023b).

Construction activities during the Project would disturb soils and potentially expose them to wind and water erosion. Best Management Practices (BMPs) are included as part of the SWPPP prepared for the Proposed Project and would be implemented to manage erosion and the loss of topsoil during construction-related activities, as described in Section IX. Implementation of the SWPPP would reduce soil erosion impacts to a less than significant level.

Would the Project:		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c)	Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Less Than Significant Impact.

The Project Area and the surrounding area are flat with no steep hillsides. Additionally, the Project Area is located in an area identified as having low to no landslide potential (Butte County 2023b).

Lateral spreading is a form of horizontal displacement of soil toward an open channel or other “free” face, such as an excavation boundary. Lateral spreading can result from either the slump of low cohesion and unconsolidated material or, more commonly, by liquefaction of either the soil layer or a subsurface layer underlying soil material on a slope, resulting in gravitationally driven movement. One indicator of potential lateral expansion is frost action. Potential for frost action is the likelihood of upward or lateral expansion of the soil caused by the formation of segregated ice lenses (frost heave) and the subsequent collapse of the soil and loss of strength on thawing (NRCS 2024). The Web Soil Survey identifies the Project Area as having no rating frost action potential. As discussed in Item a) iii) above, the Project Area is identified as being in an area with a generally moderate potential for liquefaction. All new infrastructure associated with the Proposed Project would be required to comply with the current county code, including any required seismic mitigation standards which would reduce the risk of loss, injury, or death

resulting from strong ground-shaking and ground-shaking land failure, such as liquefaction. As such, the potential for impacts due to lateral spreading would be less than significant.

With the withdrawal of fluids, the pore spaces within the soils decrease, leading to a volumetric reduction. If that reduction is significant enough over an appropriately thick sequence of sediments, regional ground subsidence can occur. This typically only occurs within poorly lithified sediments and not within competent rock. Subsidence usually occurs as a result of groundwater withdrawal or oil or gas extraction. Land subsidence is considered to be a potential hazard for the portions of Butte County within the Sacramento Valley. Within Butte County, the areas with heaviest groundwater withdrawal extend two miles north and south of the City of Chico and in a one-mile radius around the City of Gridley. According to the County's general plan, the Project Area is located in an area identified as having subsidence potential (Butte County 2023b).

The Project Area currently contains one water extraction well to provide water to Manzanita Elementary School. The Project includes the demolition of the existing well, installation of a new well, the installation of PVC piping and PVC underground electrical conduit from the new well location to the existing well location, a new diesel generator, a chain link fence installed around the well and generator, and an access road. All new infrastructure would be required to comply with the current county code, including any required subsidence measures. Additionally, Butte County's General Plan Health and Safety Element Policy HS-P10.1 calls for continuing work with Groundwater Sustainability Agencies to ensure groundwater withdrawals do not lead to inelastic subsidence. As such, the potential for impacts due to subsidence would be less than significant.

Collapse occurs when water is introduced to poorly cemented soils, resulting in the dissolution of the soil cementation and the volumetric collapse of the soil. In most cases, the soils are cemented with weak clay (argillic) sediments or soluble precipitates. This phenomenon generally occurs in granular sediments situated within arid environments. Collapsible soils will settle without any additional applied pressure when sufficient water becomes available to the soil. Water weakens or destroys bonding material between particles that can severely reduce the bearing capacity of the original soil. The Project includes the demolition of the existing well, installation of a new well, the installation of PVC piping and PVC underground electrical conduit from the new well location to the existing well location, a new diesel generator, a chain link fence installed around the well and generator, and an access road. No large buildings or structures resulting in enormous weight and pressure on the soil surface are a part of the Proposed Project. As such, the Project Area soils would not become unstable as a result of the Project. The Project would have no impact in this area.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Less Than Significant Impact.

Expansive soils are types of soil that shrink or swell as the moisture content decreases or increases. Structures built on these soils may experience shifting, cracking, and breaking damage as soils shrink and subside or expand. Expansive soils can be determined by a soil's linear extensibility. There is a direct relationship between linear extensibility of a soil and the potential for expansive behavior, with expansive soil generally having a high linear extensibility. Thus, granular soils typically have a low potential to be expansive, whereas clay-rich soils can have a low to high potential to be expansive. The shrink-swell potential is low if the soil has a linear extensibility of less than three percent, moderate if 3 to 6 percent, high if 6 to 9 percent, and very high if more than 9 percent. If the linear extensibility is more than 3, shrinking and swelling can cause damage to buildings, roads, and other structures and to plant roots.

Soils with no or low expansion potential occur along stream and river valleys and on steep mountain slopes. Soils of high expansion potential generally occur in the level areas of the Sacramento Valley, including around the population centers of the Cities of Chico, Oroville, Biggs, and Gridley (Butte County 2023b). The Project Area is located in an area identified as having moderate expansive soil potential. No buildings or habitable structures are a part of the Proposed Project, and the pipelines are designed to allow for some lateral movement. As such, the Proposed Project would not create a substantial risk to life or property. The Project would have a less than significant impact in this area.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

No Impact.

The Project does not involve the development of a septic system to process wastewater. As such, the Project would have no impact in this area.

Would the Project:		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
f)	Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Less Than Significant With Mitigation Incorporated.

According to the County’s General Plan EIR, future developments and ground-disturbing activities in sensitive areas of the County may cause damage to or destruction of paleontological resources or unique geologic features (Butte County 2023b). The Project is located on level, developed, and/or disturbed terrain, however, there is a possibility that unanticipated paleontological resources will be encountered during ground-disturbing Project-related activities. Therefore, mitigation is required to reduce this potential impact. Impacts to unknown paleontological resources would be less than significant level with the implementation of Mitigation Measure GEO-1.

4.7.3 Mitigation Measures

GEO-1: If paleontological or other geologically sensitive resources are identified during any phase of project development, the construction manager shall cease operation at the site of the discovery and immediately notify Manzanita Elementary School District. The District shall retain a qualified paleontologist to provide an evaluation of the find and to prescribe mitigation measures to reduce impacts to a less-than-significant level. In considering any suggested mitigation proposed by the consulting paleontologist, the District shall determine whether avoidance is necessary and feasible in light of factors such as the nature of the find, project design, costs, land use assumptions, and other considerations. If avoidance is unnecessary or infeasible, other appropriate measures (e.g., data recovery) shall be instituted. Work may proceed on other parts of the Project Area while mitigation for paleontological resources is carried out.

4.8 Greenhouse Gas Emissions

4.8.1 Environmental Setting

GHG emissions are released as byproducts of fossil fuel combustion, waste disposal, energy use, land use changes, and other human activities. This release of gases, such as carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), and chlorofluorocarbons, creates a blanket around the earth that allows light to pass through but traps heat at the surface, preventing its escape into space. While this is a naturally occurring process known as the greenhouse effect, human activities have accelerated the generation of GHGs beyond natural levels. The overabundance of GHGs in the atmosphere has led to an unexpected warming of the earth and has the potential to severely impact the earth’s climate system.

Each GHG differs in its ability to absorb heat in the atmosphere based on the lifetime, or persistence, of the gas molecule in the atmosphere. CH₄ traps more than 25 times more heat per molecule than CO₂, and

N₂O absorbs 298 times more heat per molecule than CO₂. Often, estimates of GHG emissions are presented in carbon dioxide equivalents (CO₂e). Expressing GHG emissions in carbon dioxide equivalents takes the contribution of all GHG emissions to the greenhouse effect and converts them to a single unit equivalent to the effect that would occur if only CO₂ were being emitted.

4.8.2 Regulatory Setting

4.8.2.1 State

4.8.2.2 Assembly Bill 32 Climate Change Scoping Plan and Updates

In 2006, the California legislature passed Assembly Bill (AB) 32 (Health and Safety Code § 38500 et seq., or AB 32), also known as the Global Warming Solutions Act. AB 32 required CARB to design and implement feasible and cost-effective emission limits, regulations, and other measures, such that statewide GHG emissions are reduced to 1990 levels by 2020 (representing a 25 percent reduction in emissions). Pursuant to AB 32, CARB adopted a Scoping Plan in December 2008, which outlined measures to meet the 2020 GHG reduction goals. California exceeded the target of reducing GHG emissions to 1990 levels by the year 2017.

The Scoping Plan is required by AB 32 to be updated at least every five years. The latest update, the 2017 Scoping Plan Update, addresses the 2030 target established by SB 32 as discussed below and establishes a proposed framework of action for California to meet a 40 percent reduction in GHG emissions by 2030 compared to 1990 levels. The key programs that the Scoping Plan Update builds on include increasing the use of renewable energy in the State, the Cap-and-Trade Regulation, the Low Carbon Fuel Standard, and reduction of methane emissions from agricultural and other wastes.

4.8.2.3 Senate Bill 32 and Assembly Bill 197 of 2016

In August 2016, Governor Brown signed SB 32 and AB 197, which serve to extend California's GHG reduction programs beyond 2020. SB 32 amended the Health and Safety Code to include § 38566, which contains language to authorize CARB to achieve a statewide GHG emission reduction of at least 40 percent below 1990 levels by no later than December 31, 2030.

4.8.2.4 Local

Butte County Air Quality Management District

The air quality regulating authority in Butte County is BCAQMD. The BCAQMD has not established a numeric significance threshold for GHG emissions generated by proposed land use development projects. Instead, the BCAQMD recommends compliance with a Qualified Greenhouse Gas Reduction Strategy.

California Air Pollution Control Officers Association

The California Air Pollution Control Officers Association (CAPCOA) is an association of air pollution control officers representing all 35 local air quality agencies across California, including the BCAQMD. Established

in 1976, CAPCOA's primary objectives include the advancement of clean air initiatives and to provide a platform for the exchange of knowledge, experience, and information among air quality regulatory bodies statewide. The association is dedicated to fostering unity and efficiency, aiming to promote consistency in methods and practices pertaining to air pollution control. CAPCOA convenes regularly with federal and state air quality officials to formulate statewide regulations and ensure uniform adherence to established rules. CAPCOA has instituted a GHG significance threshold of 900 metric tons of CO₂e annually for the evaluation of proposed land use development projects. This threshold, indicating a 90 percent capture rate, encompasses projects representing approximately 90 percent of GHG emissions from new sources. The 900 metric tons of CO₂e per year threshold is typically utilized to classify small projects within California as inconsequential, as it accounts for less than one percent of the future 2050 statewide GHG emissions target. CAPCOA considers the 900 metric ton threshold sufficiently low to capture a significant portion of future residential and nonresidential development necessary for accommodating statewide population and economic growth. Simultaneously, it establishes the emission threshold at a level that excludes small projects contributing a relatively minor fraction of cumulative statewide GHG emissions.

Butte County Climate Action Plan

As previously described, the County of Butte CAP is a strategic planning document that identifies sources of GHG emissions within the boundaries of the unincorporated county, presents current and future emissions estimates, identifies a GHG reduction target for future years, and presents strategic emission-reduction strategies to reduce emissions from the agriculture, transportation, energy, solid waste, off-road equipment, water and wastewater, and stationary source sectors. The GHG-reduction strategies in the CAP build on inventory results and key opportunities prioritized by County staff and members of the public. According to the CAP, if a proposed development within unincorporated Butte County is consistent with the emission-reduction strategies included in the 2021 CAP, the project would have a less than significant impact on climate change and emissions (Butte County 2021).

4.8.3 Thresholds of Significance

The CEQA Guidelines Appendix G thresholds for GHG's do not prescribe specific methodologies for performing an assessment, do not establish specific thresholds of significance, and do not mandate specific mitigation measures. Rather, the CEQA Guidelines emphasize the lead agency's discretion to determine the appropriate methodologies and thresholds of significance consistent with the manner in which other impact areas are handled in CEQA. With respect to GHG emissions, the CEQA Guidelines § 15064.4(a) states that lead agencies "shall make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate" GHG emissions resulting from a project. The CEQA Guidelines note that an agency has the discretion to either quantify a project's GHG emissions or rely on a "qualitative analysis or other performance-based standards." (14 California Code of Regulations [CCR] 15064.4(b)). A lead agency may use a "model or methodology" to estimate GHG emissions and has the discretion to select the model or methodology it considers "most appropriate to enable decision makers to intelligently take into account the project's incremental contribution to climate change." (14 CCR 15064.4(c)). Section 15064.4(b) provides that the lead agency should consider the following when determining the significance of impacts from GHG emissions on the environment:

- 1) The extent a project may increase or reduce GHG emissions as compared to the existing environmental setting.
- 2) Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.
- 3) The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions (14 CCR 15064.4(b)).

In addition, Section 15064.7(c) of the CEQA Guidelines specifies that “[w]hen adopting or using thresholds of significance, a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies, or recommended by experts, provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence” (14 CCR 15064.7(c)). The CEQA Guidelines also clarify that the effects of GHG emissions are cumulative and should be analyzed in the context of CEQA’s requirements for cumulative impact analysis (see CEQA Guidelines § 15130(f)). In particular, the CEQA Guidelines were amended to specify that compliance with a GHG emissions reduction plan renders a cumulative impact insignificant.

Per CEQA Guidelines § 15064(h)(3), a project’s incremental contribution to a cumulative impact can be found not cumulatively considerable if the project would comply with an approved plan or mitigation program that provides specific requirements that would avoid or substantially lessen the cumulative problem within the geographic area of the project. To qualify, such plans or programs must be specified in law or adopted by the public agency with jurisdiction over the affected resources through a public review process to implement, interpret, or make specific the law enforced or administered by the public agency. Examples of such programs include a “water quality control plan, air quality attainment or maintenance plan, integrated waste management plan, habitat conservation plan, natural community conservation plans [and] plans or regulations for the reduction of greenhouse gas emissions.” Put another way, CEQA Guidelines § 15064(h)(3) allows a lead agency to make a finding of less than significant for GHG emissions if a project complies with adopted programs, plans, policies and/or other regulatory strategies to reduce GHG emissions.

The significance of the Project’s GHG emissions is evaluated consistent with CEQA Guidelines § 15064.4(b)(2) by considering whether the Project complies with applicable plans, policies, regulations and requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions. Specifically, Project GHG emissions are compared to the CAPCOA significance threshold of 900 metric tons annually. Additionally, the Project is evaluated for consistency with the County of Butte CAP. According to the CAP, if a proposed development within unincorporated Butte County is consistent with the emission-reduction strategies included in the 2021 CAP, the project would have a less than significant impact on climate change and emissions (County of Butte 2021).

4.8.4 Greenhouse Gas Emissions (VIII) Environmental Checklist and Discussion

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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Less Than Significant Impact.

As previously described, Project emissions are compared to the CAPCOA GHG significance thresholds.

4.8.4.1 Construction-Related GHG Emissions

Construction-related activities that would generate GHG emissions include worker commute trips, haul trucks carrying supplies and materials to and from the Project Area, and off-road construction equipment (e.g., dozers, loaders, excavators). Table 4.8-1 illustrates the specific construction generated GHG emissions that would result from construction of the Project.

Table 4.8-1. Construction-Related Greenhouse Gas Emissions	
Emission Source	CO ₂ e (Metric Tons/Year)
Construction	55
CAPCOA Significance Threshold	900
Exceed Significant Impact Threshold?	No

Note: CAPCOA = California Air Pollution Control Officers Association; CO₂e = Carbon dioxide equivalents;
Source: CalEEMod version 2022.1.1. Refer to Appendix A for Model Data Outputs.

As shown in Table 4.8-1, Project construction would result in the generation of approximately 55 metric tons of CO₂e over the course of construction, which is below the significance threshold of 900 metric tons of CO₂e. Once construction is complete, the generation of these GHG emissions would cease. Furthermore, GHG emissions generated by the construction sector have been declining in recent years. For instance, construction equipment engine efficiency has continued to improve year after year. The first federal standards (Tier 1) for new off-road diesel engines were adopted in 1994 for engines over 50 horsepower (hp) and were phased in from 1996 to 2000. In 1996, a Statement of Principles pertaining to off-road diesel engines was signed between the USEPA, CARB, and engine makers (including Caterpillar, Cummins, Deere, Detroit Diesel, Deutz, Isuzu, Komatsu, Kubota, Mitsubishi, Navistar, New Holland, Wisconsin, and Yanmar). On August 27, 1998, the USEPA signed the final rule reflecting the provisions of the Statement of Principles. The 1998 regulation introduced Tier 1 standards for equipment under 50 hp and increasingly more stringent Tier 2 and Tier 3 standards for all equipment with phase-in schedules from 2000 to 2008. As a result, all off-road, diesel-fueled construction equipment manufactured in 2006 or later has been manufactured to Tier 3 standards. Tier 3 engine standards reduce precursor and subset GHG emissions such as nitrogen oxide by as much as 60 percent. On May 11, 2004, the USEPA signed the final

rule introducing Tier 4 emission standards, which were phased in over the period of 2008-2015. The Tier 4 standards require that emissions of nitrogen oxide be further reduced by about 90 percent. All off-road, diesel-fueled construction equipment manufactured in 2015 or later will be manufactured to Tier 4 standards.

4.8.4.2 Operational GHG Emissions

As previously described, due to contamination, the current onsite well is not used for potable water sources and is used only for irrigation purposes. Once implemented, the new well would supply 200 gpm of potable and non-potable water, resulting in a rise in water pumping activities beyond baseline levels. The Project also proposes an emergency backup, diesel-powered generator, which would be the most potent source of operational GHG emissions associated with the Project. This generator would not be operational during the majority of days and would only operate during an emergency involving a power outage and during periodic testing. Emergency generator emissions were calculated using a standard load factor and a generator rating and accounting for 100 hours annual use. Long-term operational GHG emissions attributed to these Project GHG sources are identified in Table 4.8-2.

Table 4.8-2. Construction-Related Greenhouse Gas Emissions	
Emission Source	CO₂e (Metric Tons/Year)
Water Pumping	2
Backup Generator	7
Total	9
<i>CAPCOA Significance Threshold</i>	<i>900</i>
Exceed Significant Impact Threshold?	No

Note: CAPCOA = California Air Pollution Control Officers Association; CO₂e = Carbon dioxide equivalents;
Source: CalEEMod version 2022.1.1. Refer to Appendix A for Model Data Outputs.

As shown in Table 4.8-2, operational-generated emissions would not exceed the CAPCOA numeric bright-line threshold of 900 metric tons of CO₂e annually.

The Proposed Project's construction GHG emissions would have a less than a significant impact.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

No Impact.

As previously described, the County of Butte CAP is a strategic planning document that identifies sources of GHG emissions within the boundaries of the unincorporated county, presents current and future emissions estimates, identifies a GHG reduction target for future years, and presents strategic emission-reduction strategies to reduce emissions from the agriculture, transportation, energy, solid waste, off-road equipment, water and wastewater, and stationary source sectors. The GHG-reduction strategies in the CAP build on inventory results and key opportunities prioritized by County staff and members of the public. According to the CAP, if a proposed development within unincorporated Butte County is consistent with the emission-reduction strategies included in the 2021 CAP, the project would have a less than significant impact on climate change and emissions (County of Butte 2021).

All development in the unincorporated County, including the Project, is required to adhere to all County-adopted policy provisions, including those contained in the adopted CAP. The County ensures all applicable provisions of the CAP are incorporated into projects and their permits through development review and applications of conditions of approval as applicable. Nonetheless, a review of the emission-reduction strategies included in the 2021 CAP show that none are directly applicable to a well replacement project, such as the Proposed Project. The Project would not include new substantial sources of GHG emissions and would not generate new or unplanned permanent GHG emissions. Therefore, the Proposed Project would not conflict with the County CAP and would not conflict with any applicable plan, policy, or regulation related to the reduction in GHG emissions. There is no impact.

4.8.5 Mitigation Measures

No significant impacts were identified, and no mitigation measures are required.

4.9 Hazards and Hazardous Materials**4.9.1 Environmental Setting**

A material is considered hazardous if it appears on a list of hazardous materials prepared by a federal, state, or local agency or if it has characteristics defined as hazardous by such an agency. A hazardous material is defined by the California Health and Safety Code, Section 25501 as follows:

"Hazardous material" means any material that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment. "Hazardous materials" include, but are not limited to, hazardous substances, hazardous waste, and any material that a handler or the administering agency has a reasonable basis for believing that it would be injurious to the health and safety of persons or harmful to the environment if released into the workplace or the environment.

A hazardous material is defined in Title 22, Section 662601.10, of the CCR as follows:

A substance or combination of substances which, because of its quantity, concentration, or physical, chemical or infectious characteristics, may either (1) cause, or significantly

contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or (2) pose a substantial present or potential hazard to human health or environment when improperly treated, stored, transported or disposed of or otherwise managed.

The release of hazardous materials into the environment could potentially contaminate soils, surface water, and groundwater supplies.

Most hazardous materials regulation and enforcement in Butte County are regulated by the Butte County Environmental Health Division through the Certified Unified Program Agency.

According to the County's General Plan, nearly all of the hazardous materials transported through Butte County are carried by truck on the State Highway system. SR-99, which is east of the Project Area, is a designated route for hazardous materials transport.

Construction is not expected to generate hazardous waste, however, field equipment used during construction has the potential to contain various hazardous materials such as diesel fuel, hydraulic oil, grease, solvents, adhesives, paints, and other petroleum-based products.

4.9.2 Hazards and Hazardous Materials (IX) Environmental Checklist and Discussion

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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Less Than Significant Impact.

The Project includes the demolition of the existing well, installation of a new well, the installation of PVC piping and PVC underground electrical conduit from the new well location to the existing well location, a new diesel generator, a chain link fence installed around the well and generator, and an access road. None of these Project components require the routine transport, use, or disposal of hazardous materials. Proposed Project is anticipated to require the use of some hazardous materials such as diesel fuel and oil for construction vehicles/equipment used during construction. However, these materials would be stored in gas tanks and other containers designed for this use. Compliance with federal, state, and city requirements would reduce this potential impact to a less than significant impact during construction of the Project.

Once construction is completed, the Proposed Project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials as none will be required to operate the Project. The Project would not generate hazardous waste and all construction equipment would be fueled and maintained offsite. Therefore, the Project would have a less than significant impact in this area.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Less Than Significant Impact.

As discussed in Issue a), the Project would not result in the routine transport, use, disposal, handling, or emission of any hazardous materials that would create a significant hazard to the public or the environment. Potential construction-related hazards could be created during the course of Project construction at the site, given that construction activities involve the use of heavy equipment, which uses small and incidental amounts of oils and fuels and other potentially flammable substances. The level of risk associated with the accidental release of hazardous substances is not considered significant due to the small volume and low concentration of hazardous materials used during construction. The construction contractor would be required to use standard construction controls and safety procedures that would avoid and minimize the potential for accidental release of such substances into the environment. Standard construction practices would be observed such that any materials released are appropriately contained and remediated as required by local, state, and federal law.

Because no hazardous materials would be used for operation of the Project, short-term construction impacts associated with handling, storing, and disposing of hazardous materials would be less than significant.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Less Than Significant Impact.

The Project Area is located on the Manzanita Elementary School property. The Proposed Project is anticipated to require the use of some hazardous materials such as diesel fuel and oil for construction vehicles/equipment used during construction. However, these materials would be stored in gas tanks and other containers designed for this use. Once construction is completed, the Proposed Project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste as none will be required to operate the Project. Impacts would be less than significant.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Less Than Significant Impact.

Government Code Section 65962.5 requires the California Department of Toxic Substance Control (DTSC), the State Department of Health Services, the SWRCB, and the California Integrated Waste Management Board to compile and annually update lists of hazardous waste sites and land designated as hazardous waste property throughout the State.

The California Environmental Protection Agency (CalEPA) Cortese List Data Resources records were reviewed to help determine whether hazardous materials have been handled, stored, or generated in the Project Area or the adjacent properties and businesses (CalEPA 2024).

The Cortese List is a compilation of five separate websites that includes:

- 1) DTSC’s EnviroStor – identifies waste or hazardous substances sites.
- 2) SWRCB’s GeoTracker – identifies underground storage tanks for which an unauthorized release report was filed, cleanup sites, and all solid waste disposal facilities from which there is a mitigation of hazardous waste for which a regional board has notified DTSC.
- 3) A pdf of solid waste disposal sites identified by the SWRCB with waste constituents above hazardous waste levels outside the waste management unit.
- 4) A list of cease-and-desist orders and clean up and abatement orders.
- 5) A list of hazardous waste facilities subject to corrective action.

DTSC’s EnviroStor indicated that the Project Area was not identified as a hazardous waste or substances site (DTSC 2024). The EnviroStor search identified one site approximately 2.3 miles east of the Project Area:

- J.E.M. Farms
 - Location: 365 Jem Road, Gridley, California 95948
 - Site Type: Voluntary Cleanup
 - Potential Contaminants of Concern: Organochlorine Pesticides; Polynuclear Aromatic Hydrocarbons
 - Potential Media Affected: Soil; Surface Water

- Cleanup Status: Inactive – Needs Evaluation as of 08/06/2017

Due to the distance from the Project Area, the J.E.M. Farms voluntary cleanup site would not pose a waste or hazardous substances issue.

SWRCB's GeoTracker identified the Project Area as a location for a cleanup program site for which an unauthorized release report was filed, a cleanup site, or a solid waste disposal facility from which there is a mitigation of hazardous waste for which a regional board has notified DTSC (SWRCB 2024).

■ Manzanita Elementary School

- Location: 627 East Evans Reimer Road, Gridley, California 95948
- Site Type: Cleanup Program Site
- Potential Contaminants of Concern: 1,2,3-TCP
- Potential Media Affected: Aquifer used for drinking water supply; Other Groundwater (uses other than drinking water); Soil; Well used for drinking water supply.
- Cleanup Status: Open – Site Assessment as of 11/07/2018

As previously discussed, the existing well on the property exceeds the MCL for TCP. The Project proposes the demolition of the contaminated well and construction of a new well on a different part of the school property. In addition to this cleanup program site, GeoTracker identified the following three sites within 1 mile of the Project Area:

■ Stowe Golden Butte Receiving Station

- Location: 589 East Evans Reimer Road, Gridley, California 95948
- Site Type: Cleanup Program Site
- Potential Contaminants of Concern: 1,2,3-TCP; Nitrate
- Potential Media Affected: Aquifer used for drinking water supply; Other Groundwater (uses other than drinking water); Sediments; Soil; Well used for drinking water supply.
- Cleanup Status: Open – Site Assessment as of 01/28/2019

■ 661 East Evans Reimer Road Red Diesel

- Location: 661 East Evans Reimer Road, Gridley, California 95948
- Site Type: Cleanup Program Site
- Potential Contaminants of Concern: Diesel; Tetrachlorethylene
- Potential Media Affected: Under Investigation
- Cleanup Status: Open – Assessment & Interim Remedial Action as of 03/15/2016

■ Richardsons Market

- Location: 596 Evans Reimer Road, Gridley, California 95948
- Site Type: Leaking Underground Storage Tank Cleanup Site
- Potential Contaminants of Concern: Gasoline
- Potential Media Affected: Aquifer used for drinking water supply
- Cleanup Status: Completed – Case Closed as of 12/30/2009

The Regional Water Board has requested information from the Stowe Golden Butte Receiving Station, located directly across Larkin Avenue from Manzanita Elementary School, regarding historical occupants and activities as the site may have stored current and/or historic agricultural products that could impact groundwater. The investigation would determine if the TCP found in the current Manzanita Elementary School well are from this location (SWRCB 2024). To address current TCP exceedances, the Proposed Project would construct a new 550-foot-deep well that would provide water from deeper zones in the basin and would include screening intervals to avoid the zones exceeding the MCL for TCP.

A list of solid waste disposal sites with waste constituents above hazardous waste levels outside the waste management unit was also checked. No records for the Project Area were listed. The list of cease-and-desist orders and clean up and abatement orders did not include the Project Area location. The list of hazardous facilities subject to corrective action does not include the Project Area location.

The Project Area is listed on one of the five websites provided to fulfill the Cortese List. However, the Proposed Project seeks to construct a new well to provide clean drinking water to the Manzanita Elementary School and demolish the existing well that was found to exceed the drinking water MCL for TCP. The Proposed Project would not create a significant hazard to the public or the environment. Impacts are less than significant.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

No Impact.

The nearest public airport to the Project Area is the Oroville Municipal Airport, located approximately 9.9 miles northeast of the Project Area. According to the Butte County Airport Land Use Compatibility Plan (2017) for Oroville Municipal Airport, the Proposed Project is not located within the Airport Influence Area, nor within any land compatibility, overflight, or noise zones (Butte County Airport Land Use Commission

2017). Implementation of the Proposed Project would not affect airport operations or result in airport safety hazards or excessive noise for people residing or working in the Project Area. No impact would occur.

Would the Project:		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
f)	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Less Than Significant Impact.

Butte County has established evacuation zones throughout the County. The Project Area is located in evacuation zone BUT-GE-619 which spans from Larkin Road east to the Feather River and from Richards Avenue south to East Evans Reimer Road (Butte County 2024a). Main transportation corridors for the County include SR-62, SR-70, and SR-99. Primary access to SR-99 from the Project Area would be through East Evans Reimer Road. The Project Area would be accessed from Larkin Road and temporary improvements would be provided to access the site, as necessary. Additionally, a Traffic Control Plan would be prepared for the Project ahead of construction and would identify the placement of any signs, barricades, delineators, and other traffic control devices if needed. If temporary road or lane closures are required during construction, they would be allowed between Monday and Friday, from 8:00 a.m. to 5:00 p.m. One lane of traffic would be maintained to accommodate school and emergency vehicle access. Any required road closures would not exceed 500 contiguous linear feet and access to emergency vehicles and private medical transport would be provided.

Per the County's General Plan Policy HS-P18.2, new developments are required to demonstrate access to adequate evacuation routes during potential hazard events that have capacity for residents, workers, and visitors to effectively evacuate. Evacuation routes shall demonstrate consistency with the State Responsibility Area Fire Safe Regulations and Section 4290 of the California Public Resources Code (Butte County 2023a). Roads providing access to main transportation corridors are not expected to be significantly impacted during construction. Any temporary lane or road closures would be identified and approved prior to construction. Implementation of the Proposed Project would result in a less than significant impact in this area.

Would the Project:		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
g)	Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

No Impact.

The Proposed Project would involve well improvements to the existing Manzanita Elementary School property and would not include the construction of habitable buildings. The Project Area is not within a wildfire severity zone as designated by the California Department of Forestry and Fire Protection (CAL FIRE) (CAL FIRE 2024). Implementation of the Proposed project would have no impact with regards to wildland fires.

4.9.3 Mitigation Measures

No significant impacts were identified, and no mitigation measures are required.

4.10 Hydrology and Water Quality

4.10.1 Environmental Setting

4.10.1.1 Regional Hydrology

Surface Water

Butte County is located in the Sacramento River Hydrologic Region, which is the main water supply for much of the State's urban and agricultural areas. The Sacramento River Hydrologic Region's primary water source (69 percent) is surface water which is provided through surface storage reservoirs (Butte County 2023a). Primary waterways within the Sacramento River watershed include the Feather River, Sacramento River, Butte Creek, and Big Chico Creek. According to the County's General Plan, the majority of the surface water supply used in the County originates in the Feather River watershed, accumulates in Lake Oroville, and is used primarily for agricultural purposes.

The Sacramento River hydrologic region covers approximately 17.4 million acres (27,200 square miles). The Sacramento River Hydrologic Region includes the entire California drainage area of the Sacramento River (the state's largest river) and its tributaries. The region extends south from the Modoc Plateau and Cascade Range at the Oregon border to the Sacramento-San Joaquin Delta. The Sacramento River Basin actually begins in Oregon, north of Goose Lake, a near-sink that intercepts the Pit River drainage at the California-Oregon border. The region includes all or large portions of Modoc, Siskiyou, Lassen, Shasta, Tehama, Glenn, Plumas, Butte, Sacramento, Colusa, Sutter, Yuba, Sierra, Nevada, El Dorado, Yolo, Solano, Lake, and Napa counties. Small areas of Alpine and Amador counties are also within the region (Butte County 2019).

The Project is located within the Feather River/Lower Honcut Creek Watershed. This watershed covers 178,925 acres and makes up 18 percent of the County (Butte County 2019).

Groundwater

Groundwater in the State of California is managed and monitored by the California Department of Water Resources (DWR). Groundwater provides approximately 30 percent of the Sacramento River Hydrologic Region's water supply for urban and agricultural uses. The County's residential water supply for

incorporated portions of the County comes from groundwater basins. In Butte County, reserves of groundwater are found in the thick sedimentary deposits of the Sacramento Valley Groundwater Basin. The major sources of groundwater recharge in the County are percolation of rainfall, infiltration from streams, subsurface inflow, and deep percolation of applied irrigation water in agricultural areas (Butte County 2023a).

The Project Area is located within the boundaries of the Butte Subbasin of the Sacramento Valley Basin (Butte County 2023a).

4.10.1.2 Project Area Hydrology and Onsite Drainage

The Project Area is located on relatively flat terrain. The southern portion of the Project Area is developed with multiple structures for an elementary school. The northern portion of the Project Area is undeveloped, vacant land.

The Project proposes to construct a roadside swale along the proposed 15,000 square foot access road to provide drainage. Most surface elevations would be returned to their pre-construction elevations and their natural drainage patterns would be maintained.

The Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) for the Project Area (Map No. 06007C1125E) shows that the Project Area is in Zone X, which includes areas of 0.2 percent annual chance flood; areas of 1 percent annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1 percent annual chance flood (FEMA 2024).

4.10.2 Hydrology and Water Quality (X) Environmental Checklist and Discussion

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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Less Than Significant Impact.

The current onsite well does not meet drinking water quality standards. In 2018, levels of TCP above the 0.005 µg/l MCL for drinking water as established by the SWRCB was detected in the existing well on the east side of the school property. Due to the TCP exceedance, the current well cannot be used for potable water and can only be used for irrigation purposes. The school currently uses bottled water for all their potable water needs. The Project proposes to demolish the existing well and provide a new well located on the north side of the school property adjacent to the existing solar panels. The new well would supply 200 gpm of potable and non-potable water to MESD and would include screen intervals at deeper zones to avoid the zones with MCL exceedances for TCP. The new well would be located within the Sacramento Valley-Butte Groundwater Basin (Basin Number 5-021.7), which also supplies the City of Gridley with potable water.

The Proposed Project includes upgrades to existing underground and above-ground infrastructure and new infrastructure which would require grading activities. Construction activities could result in the release of pollutants such as sediment, construction materials, and hazardous materials to surface waters and/or groundwater. Other potential sources of pollutants would be the accidental spill or release of hazardous materials from leaking equipment, unsecured stored materials, and stockpiling and staging areas.

Construction activities would result in the temporary removal of landscaping and soil excavation to access areas to construct the new pipeline and other underground improvements. Areas temporarily disturbed during construction would be restored to existing or improved stabilized conditions. Site restoration activities would include backfilling of trenches and excavations with native or new material and replanting of landscaping or native vegetation. The Project would also construct a 15,000 square foot access road to connect the new well site to Center Avenue, located north of the Project Area. A roadside swale will also be constructed to allow for drainage.

A SWPPP will be prepared to identify potential pollution sources that could affect the quality of stormwater discharges from the construction site. The control practices outlined in the SWPPP shall comply with the requirements of the NPDES Construction Activities Stormwater General Permit.

Implementation of BMPs would ensure that the Proposed Project would not create or contribute to any violations of water quality standards or waste discharge requirements. Impacts would be less than significant.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Less Than Significant Impact.

The Project includes the demolition of an existing well; construction of a new 550 foot deep well; and installation of 900 feet of PVC piping and PVC underground electrical conduit, electrical components, a new diesel generator, a 6-foot-high chain link fence with privacy slats, a 15,000 square foot access road, and a roadside swale. The new well would be located within the Sacramento Valley-Butte Groundwater Basin (Basin Number 5-021.7), which also supplies the City of Gridley with potable water. It would supply 200 gpm (approximately 322 acre-feet per year) of potable and non-potable water to MESD.

The Project Area is located within the Butte Subbasin of the Sacramento Valley Basin Butte. The subbasin is bounded in the south by the Sutter Subbasin, in the west by the Sacramento River and the Colusa Subbasin, in the north by the Corning and Vina Subbasins, and in the east by the Feather River and the Wyandotte Creek Subbasin. The Butte Subbasin has been identified by the DWR as a medium-priority subbasin. Per the Sustainable Groundwater Management Act (SGMA), local Groundwater Sustainability Agencies (GSAs) in medium- or high-priority subbasins are required to prepare and adopt a Groundwater

Sustainability Plan (GSP). The 11 GSAs in the Butte Subbasin cooperatively developed the Butte Subbasin GSP. The Project Area is under the Butte Water District Groundwater Sustainability Agency (Butte County 2022).

Additionally, Butte County, along with Shasta County, Tehama County, Glenn County, Colusa County, and Sutter County, developed the Northern Sacramento Valley Integrated Regional Water Management Plan (IRWMP). The IRWMP addresses water quality, water supply management, and flood and stormwater management (Integrated Regional Water Management 2020).

The Butte Subbasin has surface water availability during normal or wet hydrologic conditions and can support irrigation demands and provide recharge over much of the Subbasin. Groundwater pumping is increased during dry periods and drought if surface water supplies are insufficient. Groundwater levels recover following dry periods when surface water availability increases. Through comparisons of 2015 and 2019 groundwater levels, there is no pattern of long-term or chronic decrease in groundwater levels (Butte County 2022). The proposed well would provide 220 gpm of water to replace the current well that exceeds the MCL for TCP, therefore groundwater extraction would be similar to previous extraction. This would not substantially decrease groundwater supplies.

According to the Butte Subbasin GSP, the Project Area is located in an area designated as "moderately good" recharge potential (Butte County 2022). The proposed access road would increase impervious groundcover by approximately 0.3 acre in the northern portion of the Project Area; however, a roadside swale would be constructed for drainage. Grassed or dry swales can provide some groundwater recharge through infiltration. The increase in impervious groundwater would not substantially reduce the amount of groundwater recharge potential or supplies. Therefore, impacts would be less than significant.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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 that would:				
i) result in substantial erosion or siltation on- or off-site;	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(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	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Would the Project:

(iv) impede or redirect flood flows?

Potentially
Significant
Impact☐Less than
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Impact☐**Less Than Significant Impact.**

i) The Proposed Project includes construction of a new access road that would add impervious surfaces that could increase onsite erosion and sediment transport during storm events. The new impervious surfaces would not be located within any streams or rivers so the drainage areas would not be impacted. The Proposed Project would restore areas affected by underground pipeline and electrical conduit installation to pre-project conditions relative to topography and groundcover, to the extent practicable.

To reduce potential runoff, erosion, and siltation associated with construction-related activities, the Proposed Project shall comply with the BMPs in the SWPPP. Impacts would be less than significant.

ii) The Proposed Project includes a new well as well as underground pipelines and electrical conduit, which would not result in an increase of the rate or amount of surface runoff in a manner that would result in flooding on- or off-site. The Proposed Project would restore areas affected by pipeline construction to pre-project conditions relative to topography and groundcover and would not change the drainage pattern of the area. The proposed access road would increase impervious groundcover in the northern portion of the Project Area; however, a roadside swale would be constructed for drainage. Therefore, the Proposed Project would have a less than significant impact on causing flooding on- or off-site.

iii) See discussion of issues i) and ii), above. The Proposed Project includes a new well as well as underground pipelines and electrical conduit, electrical components, a new diesel generator, a chain link fence with privacy slats, an access road, and a roadside swale. The proposed roadside swale would be constructed adjacent to the proposed access road and would provide drainage. The drainage is not expected to exceed the capacity of the County's storm drainage facilities, therefore impacts would be less than significant.

Polluted runoff from the Project Area during construction and operation could include sediment from soil disturbances, oil and grease from construction equipment, and pollutants such as trash and debris. As previously discussed, compliance with the SWPPP BMPs during the construction phase would ensure the effective minimization of excessive soil erosion and sedimentation and eliminate non-stormwater discharge off-site. Therefore, impacts associated with stormwater volumes and polluted runoff during the construction of the Proposed Project would be less than significant.

iv) The FEMA FIRM for the Project Area (Map No. 06007C1125E) shows that the Project Area is in Zone X, which includes areas of 0.2 percent annual chance flood; areas of 1 percent annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1 percent annual chance flood (FEMA 2024). The Proposed Project includes a new well as well as underground pipelines and electrical conduit, which would not impact or redirect flood flows. The proposed access road would increase impervious groundcover; however, a roadside swale is planned for

drainage. Therefore, implementation of the Proposed Project will have a less than significant impact related to impeding or redirecting flood flows.

Would the Project:		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
d)	In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Less Than Significant Impact.

According to the County's General Plan, approximately 35 percent of the unincorporated area of the County is in a designated flood hazard area. Historically the County has been subject to flooding from its various rivers and creeks. The Project Area is not located within a flood hazard zone for the County (Butte County 2023a). Additionally, the FEMA FIRM for the Project Area (Map No. 06007C1125E) shows that the Project Area is in Zone X, which includes areas of 0.2 percent annual chance flood; areas of 1 percent annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1 percent annual chance flood (FEMA 2024).

The County adopted a Local Hazard Mitigation Plan (LHMP) in 2019. The LHMP identified flood problems in the County. The Project is located within the Feather River/Lower Honcut Creek Watershed. Flooding in this watershed is due to the following flood hazards: Dry Creek and its tributaries, stormwater drainage in the City of Oroville, the Feather River, Wyman Ravine, Wyandotte Creek, and North Honcut Creek (Butte County 2019). The Project Area is located approximately 1.3 miles east of the Feather River. High water levels in the river are common in the winter and spring, however protection measures such as dams, levees, overflow weirs, drainage pumping plants, and flood control bypass channels have been established along the Feather River.

The California DWR identified 6 dams with low downstream hazards, 3 with significant downstream hazards, 11 with high downstream hazards, and 4 with extremely high downstream hazards (Butte County 2023a). The Project Area is located within an Extremely High Dam Inundation Zone. The nearest dam to the Project Area is the Oroville Dam, which is classified as having an extremely high downstream hazard with the expectation of considerable loss of human life or an inundation area with a population of 1,000 people or more. Consideration of risks from dam inundation for these facilities is coordinated between the Bureau of Reclamation, Butte County Department of Development Services, and Butte County Office of Emergency Management.

The Project Area is not located near the ocean and therefore the Project is not in a tsunami inundation zone. Seiches have not been recorded in any of the reservoirs in Butte County within the California Division of Dam Safety's jurisdiction, however, there is still potential for seiches to occur from landslides or strong earthquakes. Landslides in Butte County are not common but are more likely to occur on slopes greater than 15 percent. The mountainous central area of the County has the highest landslide potential. The Proposed Project is located in a part of the County with low to no landslide potential. An unidentified, inactive fault is located approximately 10 miles north of the Project Area. The only active earthquake fault

in the County, the Cleveland Hills fault, is located approximately 13 miles east of the Project Area. Seismically induced ground shaking can be expected anywhere in the County, with larger intensity ground motions more likely to occur from earthquakes on more distant faults (Butte County 2023a).

The Project includes the demolition of the existing well, installation of a new well, the installation of PVC piping and PVC underground electrical conduit from the new well location to the existing well location, a new diesel generator, a chain link fence installed around the well and generator, and an access road. Proposed Project is anticipated to require the use of some hazardous materials such as diesel fuel and oil for construction vehicles/equipment used during construction. However, there would be a small volume and low concentration of these materials used during construction. The construction contractor would be required to use standard construction controls and safety procedures that would avoid and minimize the potential for accidental release of such substances into the environment.

Based on the discussion above, the Project risk release of pollutants due to project inundation would be less than significant.

Would the Project:		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
e)	Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

No Impact.

Northern Sacramento Valley Integrated Regional Water Management Plan

Butte County, along with Shasta County, Tehama County, Glenn County, Colusa County, and Sutter County, developed the Northern Sacramento Valley IRWMP. The IRWMP addresses water quality, water supply management, and flood and stormwater management (Integrated Regional Water Management 2020). The IRWMP's goals are water supply reliability, flood protection and planning, water quality protection and enhancement, watershed protection and management, Integrated Regional Water Management sustainability, and public education and information dissemination.

The Proposed Project would replace the existing well for the MESD. The new well would supply 200 gpm of potable and non-potable water to MESD. As discussed in items (a) through (d) above, the Proposed Project would have less than significant impacts on water quality, water supply, groundwater recharge, runoff, siltation, and release of pollutants due to inundation. Additionally, the Proposed Project would not interfere with public education and information dissemination. Therefore, the Project would not conflict with or obstruct implementation of the IRWMP. No impact would occur.

Butte Subbasin Groundwater Sustainability Plan

The Butte Subbasin has been identified by the DWR as a medium-priority subbasin and per the SGMA local GSAs in medium- or high-priority subbasins are required to prepare and adopt a Groundwater GSP. The 11 GSAs in the Butte Subbasin cooperatively developed the Butte Subbasin GSP.

The Butte Subbasin GSP outlines a sustainability goal to maintain locally managed sustainable groundwater resources to preserve and enhance the economic viability, social well-being, and culture of all beneficial uses and users without experiencing undesirable results. The GSP assesses undesirable results using six sustainability indicators: chronic lowering of groundwater levels, reduction in groundwater storage, seawater intrusion, degraded water quality, inelastic land subsidence, and/or depletions of interconnected surface water (Butte County 2022).

As discussed above, comparisons of 2015 and 2019 groundwater levels of the Butte Subbasin show there is no pattern of long-term or chronic decrease in groundwater levels (Butte County 2022). The proposed well would replace the current well that exceeds the drinking water MCL for TCP. The new well would provide 220 gpm of potable and non-potable water, which is similar to that of the existing well prior to contamination. Therefore groundwater extraction would be similar to previous extraction. The Proposed Project would not substantially decrease groundwater supplies or reduce groundwater storage. Seawater intrusion is not an applicable sustainability standard in the Subbasin because of the distance of the Subbasin to the ocean. Construction activities could result in the release of pollutants such as sediment, construction materials, and hazardous materials to surface waters and/or groundwater which could affect water quality. However, implementation of the BMPs in the SWPPP and compliance with the requirements of the NPDES Construction Activities Stormwater General Permit would ensure that the Proposed Project would not create or contribute to any violations of water quality standards or waste discharge requirements. As described previously, all new infrastructure would be required to comply with the current county code, including any required subsidence measures. Additionally, Butte County's General Plan Health and Safety Element Policy HS-P10.1 calls for continuing work with Groundwater Sustainability Agencies to ensure groundwater withdrawals do not lead to inelastic subsidence. As such, the potential for impacts due to subsidence would be less than significant. Therefore, the Project would not conflict with or obstruct implementation of the GSP. No impact would occur.

4.10.3 Mitigation Measures

No significant impacts were identified, and no mitigation measures are required.

4.11 Land Use and Planning

4.11.1 Environmental Setting

The Project includes the demolition of the existing well, installation of a new well, the installation of PVC piping and PVC underground electrical conduit from the new well location to the existing well location, a new diesel generator, a chain link fence installed around the well and generator, and an access road. The Project Area is within the General Plan land use designations of Public (P) and Agriculture (AG) (Butte County 2023a). The zoning designation is Public (PB) and Agriculture, 20-acre min. parcel size (AG-20) (Butte County 2015). A General Plan Amendment would be required for APN 024-120-059-000 to amend the General Plan land use designation from Agriculture to Public. A Rezone amending the zoning map from AG-20 to Public would also be required for APN 024-120-059-000.

4.11.2 Land Use and Planning (XI) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

No Impact.

Construction of the Proposed Project would take place on the existing MESD property and does not include any project features that would physically divide an established community. No impact would occur.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Less Than Significant Impact.

The Proposed Project would require a General Plan Amendment for APN 024-120-059-000 to amend the General Plan land use designation from Agriculture to Public. Additionally, a Rezone amending the zoning map from AG-20 to Public would also be required for APN 024-120-059-000. Once the General Plan amendment and rezone are complete, the Proposed Project would not conflict with existing zoning. Impacts would be less than significant.

4.11.3 Mitigation Measures

No significant impacts were identified, and no mitigation measures are required.

4.12 Mineral Resources

4.12.1 Environmental Setting

The state-mandated Surface Mining and Reclamation Act of 1975 (SMARA) requires the identification and classification of mineral resources in areas within the State subject to urban development or other irreversible land uses that could otherwise prevent the extraction of mineral resources. These designations categorize land into four different Mineral Resource Zones (MRZ).

- MRZ-1: Areas where adequate information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence.
- MRZ-2: Areas where adequate information indicates that significant mineral deposits are present, or where it is judged that a high likelihood for their presence exists.

- MRZ-3: Areas containing mineral deposits, the significance of which cannot be evaluated from available data.
- MRZ-4: Areas where available information is inadequate for assignment into any other MRZ.

The State Geologist has not yet mapped the mineral resources in Butte County. However, public or private entities can petition the State Mining and Geology Board to classify specific lands that contain significant mineral deposits and that are threatened by land use incompatibilities (Butte County 2023b).

4.12.2 Mineral Resources (XII) Environmental Checklist and Discussion

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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

No Impact.

Sand and gravel mining are the main mining activities in Butte County and the largest sand and gravel deposits occur along the Sacramento River and within an area down the center of the county. Gold mining also occurs in the County (Butte County 2023a, 2023b). As discussed above, the mineral resources in the County have not been mapped. The Project Area is not located within the vicinity of any of the County's permitted mine sites and is not known to contain any mineral resources of value to the region. Therefore, construction of the Proposed Project would not result in the loss of availability of known mineral resources. No impact would occur.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

No Impact.

The Project Area is not identified as a mineral resource recovery site by the County. There would be no impact in this area.

4.12.3 Mitigation Measures

No significant impacts were identified, and no mitigation measures are required.

4.13 Noise

4.13.1 Environmental Setting

4.13.1.1 Noise Fundamentals

Noise is generally defined as sound that is loud, disagreeable, or unexpected. The selection of a proper noise descriptor for a specific source is dependent on the spatial and temporal distribution, duration, and fluctuation of the noise. The noise descriptors most often encountered when dealing with traffic, community, and environmental noise include the average hourly noise level (in L_{eq}) and the average daily noise levels/community noise equivalent level (in L_{dn} /CNEL). The L_{eq} is a measure of ambient noise, while the L_{dn} and CNEL are measures of community noise. Each is applicable to this analysis and defined as follows:

- **Equivalent Noise Level (L_{eq})** is the average acoustic energy content of noise for a stated period of time. Thus, the L_{eq} of a time-varying noise and that of a steady noise are the same if they deliver the same acoustic energy to the ear during exposure. For evaluating community impacts, this rating scale does not vary, regardless of whether the noise occurs during the day or the night.
- **Day-Night Average (L_{dn})** is a 24-hour average L_{eq} with a 10 A-weighted decibel (dBA) *weighting* added to noise during the hours of 10:00 pm to 7:00 am to account for noise sensitivity in the nighttime. The logarithmic effect of these additions is that a 60 dBA 24-hour L_{eq} would result in a measurement of 66.4 dBA L_{dn} .
- **Community Noise Equivalent Level (CNEL)** is a 24-hour average L_{eq} with a 5-dBA weighting during the hours of 7:00 pm to 10:00 pm and a 10-dBA weighting added to noise during the hours of 10:00 pm to 7:00 am to account for noise sensitivity in the evening and nighttime, respectively.

Noise can be generated by a number of sources, including mobile sources, such as automobiles, trucks and airplanes, and stationary sources, such as construction sites, machinery, and industrial operations.

Sound spreads (propagates) uniformly outward in a spherical pattern, and the sound level decreases (attenuates) at a rate of approximately 6 dB for each doubling of distance from a stationary or point source. Sound from a line source, such as a highway, propagates outward in a cylindrical pattern, often referred to as cylindrical spreading. Sound levels attenuate at a rate of approximately 3 dB for each doubling of distance from a line source, such as a roadway, depending on ground surface characteristics. Soft surfaces, such as soft dirt or grass, can absorb sound, so an excess ground-attenuation value of 1.5 dB per doubling of distance is normally assumed (FHWA 2011).

The manner in which older structures in California were constructed generally provides a reduction of exterior-to-interior noise levels of about 20 to 25 dBA with closed windows (Caltrans 2002). The exterior-to-interior reduction of newer structures is generally 30 dBA or more (Harris Miller Miller & Hanson Inc. 2006).

4.13.1.2 Human Response to Noise

The human response to environmental noise is subjective and varies considerably from individual to individual. Noise in the community has often been cited as a health problem, not in terms of actual physiological damage, such as hearing impairment, but in terms of inhibiting general well-being and contributing to undue stress and annoyance. The health effects of noise in the community arise from interference with human activities, including sleep, speech, recreation, and tasks that demand concentration or coordination. Hearing loss can occur at the highest noise intensity levels.

Noise environments and consequences of human activities are usually well represented by median noise levels during the day or night or over a 24-hour period. Environmental noise levels are generally considered low when the CNEL is below 60 dBA, moderate in the 60- to 70-dBA range, and high, above 70 dBA. Examples of low daytime levels are isolated, natural settings with noise levels as low as 20 dBA and quiet, suburban, residential streets with noise levels around 40 dBA. Noise levels above 45 dBA at night can disrupt sleep. Examples of moderate-level noise environments are urban residential or semi-commercial areas (typically 55 to 60 dBA) and commercial locations (typically 60 dBA). People may consider louder environments adverse, but most will accept the higher levels associated with noisier urban residential or residential-commercial areas (60 to 75 dBA) or dense urban or industrial areas (65 to 80 dBA). Regarding increases in dBA, the following relationships should be noted in understanding this analysis:

- Except in carefully controlled laboratory experiments, a change of 1.0 dBA cannot be perceived by humans.
- Outside of the laboratory, a 3.0-dBA change is considered a just-perceivable difference.
- A change in level of at least 5.0 dBA is required before any noticeable change in community response would be expected. An increase of 5.0 dBA is typically considered substantial.
- A 10.0-dBA change is subjectively heard as an approximate doubling in loudness and would almost certainly cause an adverse change in community response.

4.13.1.3 Sensitive Noise Receptors

Noise-sensitive land uses are generally considered to include those uses where noise exposure could result in health-related risks to individuals, as well as places where quiet is an essential element of their intended purpose. Residential dwellings are of primary concern because of the potential for increased and prolonged exposure of individuals to both interior and exterior noise levels. Additional land uses such as parks, historic sites, cemeteries, and recreation areas are considered sensitive to increases in exterior noise levels. Schools, churches, hotels, libraries, and other places where low interior noise levels are essential are also considered noise-sensitive land uses. The nearest offsite sensitive receptors to the Project Area include adjacent rural residences in all directions. Additionally, the Manzanita Elementary School is a noise-sensitive receptor itself when school is in session.

4.13.1.4 Vibration Fundamentals

Ground vibration can be measured several ways to quantify the amplitude of vibration produced, including through peak particle velocity (PPV) or root mean square velocity. These velocity measurements measure maximum particle at one point or the average of the squared amplitude of the signal, respectively. Vibration impacts on people can be described as the level of annoyance and can vary depending on an individual's sensitivity. Generally, low-level vibrations may cause window rattling but do not pose any threats to the integrity of buildings or structures.

4.13.1.5 Existing Ambient Noise Environment

The Project Area is impacted by noise sources typical of a rural area dominated by rural residences. It is subject to typical neighborhood noise such as noise generated by local traffic, heavy machinery, and day-to-day outdoor activities. Mobile sources of noise, especially cars and trucks, are the most common source of noise in the community.

The American National Standards Institute (ANSI) Standard 12.9-2013/Part 3 *Quantities and Procedures for Description and Measurement of Environmental Sound – Part 3: Short-Term Measurements with an Observer Present* provides a table of approximate background sound levels in L_{dn} , daytime L_{eq} , and nighttime L_{eq} , based on land use and population density. The ANSI standard estimation divides land uses into six distinct categories. Descriptions of these land use categories, along with the typical daytime and nighttime levels, are provided in Table 4.13-1. At times, one could reasonably expect the occurrence of periods that are both louder and quieter than the levels listed in the table. ANSI notes, "95% prediction interval [confidence interval] is on the order of ± 10 dB" (ANSI 2013). The majority of the Project Area would be considered ambient noise Category 6.

Table 4.13-1. ANSI Standard 12.9-2013/Part 3 A-weighted Sound Levels Corresponding to Land Use and Population Density						
Category	Land Use	Description	People per Square Mile	dba		
				Typical Ldn	Daytime Leq	Nighttime Leq
1	Noisy Commercial & Industrial Areas and Very Noisy Residential Areas	Very heavy traffic conditions, such as in busy, downtown commercial areas; at intersections for mass transportation or other vehicles, including elevated trains, heavy motor trucks, and other heavy traffic; and at street corners where many motor buses and heavy trucks accelerate.	63,840	67	66	58

Table 4.13-1. ANSI Standard 12.9-2013/Part 3 A-weighted Sound Levels Corresponding to Land Use and Population Density

2	Moderate Commercial & Industrial Areas and Noisy Residential Areas	Heavy traffic areas with conditions similar to Category 1, but with somewhat less traffic; routes of relatively heavy or fast automobile traffic, but where heavy truck traffic is not extremely dense.	20,000	62	61	54
3	Quiet Commercial, Industrial Areas and Normal Urban & Noisy Suburban Residential Areas	Light traffic conditions where no mass-transportation vehicles and relatively few automobiles and trucks pass, and where these vehicles generally travel at moderate speeds; residential areas and commercial streets, and intersections, with little traffic, compose this category.	6,384	57	55	49
4	Quiet Urban & Normal Suburban Residential Areas	These areas are similar to Category 3, but for this group, the background is either distant traffic or is unidentifiable; typically, the population density is one-third the density of Category 3.	2,000	52	50	44
5	Quiet Residential Areas	These areas are isolated, far from significant sources of sound, and may be situated in shielded areas, such as a small wooded valley.	638	47	45	39
6	Very Quiet Sparse Suburban or rural Residential Areas	These areas are similar to Category 4 but are usually in sparse suburban or rural areas; and, for this group, there are few if any nearby sources of sound.	200	42	40	34

Source: American National Standards Institute (ANSI) 2013

4.13.2 Noise (XIII.) Environmental Checklist and Discussion

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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Less Than Significant Impact.

As previously described, noise-sensitive land uses are locations where people reside or where the presence of unwanted sound could adversely affect the use of the land. Residences, schools, hospitals, guest lodging, libraries, and some passive recreation areas would each be considered noise sensitive and may warrant unique measures for protection from intruding noise. Noise-sensitive rural residences surround the Project Area. Additionally, the Project Area itself is noise-sensitive when school is in session.

4.13.2.1 Onsite Project Construction Noise

Construction noise associated with the Proposed Project would be temporary and would vary depending on the specific nature of the activities being performed. Noise generated would primarily be associated with the operation of off-road equipment for onsite construction activities as well as construction vehicle traffic on area roadways. Construction noise typically occurs intermittently and varies depending on the nature or phase of construction (e.g., site preparation, excavation, paving). Noise generated by construction equipment, including earth movers, pile drivers, and portable generators, can reach high levels. Typical operating cycles for these types of construction equipment may involve one or two minutes of full power operation followed by three to four minutes at lower power settings. Other primary sources of acoustical disturbance would be random incidents, which would last less than one minute (such as dropping large pieces of equipment or the hydraulic movement of machinery lifts). During construction, exterior noise levels could negatively affect sensitive land uses in the vicinity of the construction site.

The County does not promulgate a numeric threshold pertaining to the noise associated with construction. This is because construction noise is temporary, short term, intermittent in nature, and would cease on completion of the Project. Butte County Municipal Code Section 41A-9 states that noise associated with construction, repair, remodeling, demolition, paving, or grading of any real property or public works project located within one thousand feet of residential uses, is exempt, provided said activities do not take place between the following hours: sunset to sunrise on weekdays and non-holidays; Friday commencing at 6:00 p.m. through and including 8:00 a.m. on Saturday, as well as not before 8:00 a.m. on holidays; Saturday commencing at 6:00 p.m. through and including 10:00 a.m. on Sunday; and Sunday after the hour of 6:00 p.m. The Project would be required to comply with this Municipal Code requirement.

To estimate the worst-case onsite construction noise levels that may occur at the nearest noise-sensitive receptors and in order to evaluate the potential health-related effects (physical damage to the ear) from construction noise, the construction equipment noise levels were calculated using the Roadway Construction Noise Model and compared against the construction-related noise level threshold established in the Criteria for a Recommended Standard: Occupational Noise Exposure prepared in 1998 by the National Institute for Occupational Safety and Health (NIOSH). A division of the U.S. Department of Health and Human Services, NIOSH identifies a noise level threshold based on the duration of exposure to the source. The NIOSH construction-related noise level threshold starts at 85 dBA for more than 8 hours per day; for every 3-dBA increase, the exposure time is cut in half. This reduction results in noise level thresholds of 88 dBA for more than 4 hours per day, 92 dBA for more than 1 hour per day, 96 dBA for more than 30 minutes per day, and up to 100 dBA for more than 15 minutes per day. For the purposes of this analysis, the lowest, more conservative threshold of 85 dBA L_{eq} is used as an acceptable threshold for construction noise at the nearby sensitive receptors.

It is acknowledged that the majority of construction equipment is not situated at any one location during construction activities, but rather spread throughout the Project Area and at various distances from sensitive receptors. Table 4.13-2 presents the anticipated short-term construction noise levels generated for the necessary equipment for each construction phase.

Table 4.13-2. Construction Average (dBA) Noise Levels at Nearest Receptors (75 Feet Distant)			
Equipment	Estimated Exterior Construction Noise Level @ Closest Noise Sensitive Receptor (dBA L_{eq})	Construction Noise Standards (dBA L_{eq})	Exceeds Standards?
Site Preparation	79.7	85	No
Grading	80.1	85	No
Well Construction & Paving	81.3	85	No

Notes: Construction equipment used during construction derived from the California Emissions Estimator Model. This model contains default construction equipment and usage parameters for typical roadway construction projects.

L_{eq} = The equivalent energy noise level, is the average acoustic energy content of noise for a stated period of time. Thus, the L_{eq} = Equivalent Noise Level; of a time-varying noise and that of a steady noise are the same if they deliver the same acoustic energy to the ear during exposure. For evaluating community impacts, this rating scale does not vary, regardless of whether the noise occurs during the day or the night.
dBA = A-weighted decibels

Source: Federal Highway Administration (FHWA) 2006. Refer to Appendix A for Model Data Outputs.

As shown in Table 4.13-2, Project onsite construction activities would not exceed the NIOSH threshold of 85 dBA L_{eq} at the nearest noise-sensitive receptors.

4.13.2.2 Offsite Project Construction Traffic Noise

Construction associated with the Project would result in additional traffic (e.g., worker commutes and material hauling) on adjacent roadways over the period that construction occurs. According to the California Emissions Estimator Model, which is designed to model emissions for land use development projects based on several construction surveys conducted in order to identify such parameters, including those generated by worker commute trips and vendor trips, construction would not instigate more than 57 trips in a single day (up to 10 construction worker commute trips and 47 haul truck trips). According to the Caltrans *Technical Noise Supplement to the Traffic Noise Analysis Protocol* (2013), doubling of traffic on a roadway is required to result in an increase of 3 dB (outside of the laboratory, a 3-dBA change is considered a just-perceivable difference). Project construction would not double the traffic on roadways. Additionally, it is noted that construction is temporary, and construction-related trips would cease upon completion of construction.

4.13.2.3 Project Operational Noise

The Project proposes to construct a new well and demolish the existing well that was found to exceed the drinking water MCL for TCP. Due to the exceedance of TCP, the current onsite well is not used for potable water sources and is used only for irrigation purposes. Once implemented, the new well would supply 200 gpm of potable and non-potable water. Thus, once well replacement is implemented, the new well would not be a greater source of operational noise beyond current conditions.

For the reasons listed above, this impact is less than significant.

Would the Project result in		Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
b)	Generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Less Than Significant Impact.

4.13.2.4 Construction Vibration Analysis

Excessive groundborne vibration impacts result from continuously occurring vibration levels. Increases in groundborne vibration levels attributable to the Proposed Project would be primarily associated with short-term, construction-related activities. Construction in the Project Area would have the potential to result in varying degrees of temporary groundborne vibration, depending on the specific construction equipment used and the operations involved. Ground vibration generated by construction equipment spreads through the ground and diminishes in magnitude with increases in distance.

Construction-related ground vibration is normally associated with impact equipment such as pile drivers, jackhammers, and the operation of some heavy-duty construction equipment, such as dozers and trucks. Vibration decreases rapidly with distance, and it is acknowledged that construction activities would occur

throughout the Project Area and would not be concentrated at the point closest to sensitive receptors. Groundborne vibration levels associated with construction equipment are summarized in Table 4.13-3.

Table 4.13-3. Representative Vibration Source Levels for Construction Equipment	
Equipment Type	Peak Particle Velocity at 25 Feet (inches per second)
Large Bulldozer	0.089
Pile Driver	0.170
Loaded Trucks	0.076
Hoe Ram	0.089
Jackhammer	0.035
Small Bulldozer/Tractor	0.003
Vibratory Roller	0.210

Source: Federal Transit Administration (FTA) 2018

Butte County does not regulate vibrations associated with construction. However, a discussion of construction vibration is included for full disclosure purposes. For comparison purposes, the Caltrans (2020) recommended standard of 0.3 inches per second PPV with respect to the prevention of structural damage for older residential buildings is used as a threshold. This is also the level at which vibrations may begin to annoy people in buildings.

Based on the representative vibration levels presented for various construction equipment types in Table 4.13-3 and the construction vibration assessment methodology published by the FTA (2018), it is possible to estimate the potential project construction vibration levels. The FTA provides the following equation:

$$[PPV_{\text{equip}} = PPV_{\text{ref}} \times (25/D)^{1.5}]$$

Table 4.13-4 presents the expected Project related vibration levels at a distance of 75 feet.

Table 4.13-4. Construction Vibration Levels at 75 Feet							
Receiver PPV Levels (in/sec)¹					Peak Vibration	Threshold	Exceed Threshold
Large Bulldozer, Caisson Drilling, & Hoe Ram	Loaded Trucks	Jack- hammer	Pile Driver	Vibratory Roller			
0.02	0.01	0.01	0.03	0.04	0.04	0.3	No

Note: PPV = Peak Particle Velocity

Source: California Department of Transportation (Caltrans) 2020, Federal Transit Administration (FTA) 2018

As shown in Table 4.13-4, vibration as a result of construction activities would not exceed 0.3 PPV. Thus, Project construction would not exceed the recommended threshold. This impact is less than significant.

4.13.2.5 Project Operational Vibration

Project operations would not include the use of any stationary equipment that would result in excessive groundborne vibration levels. Therefore, the Project would result in no groundborne vibration impacts during operations. No impact would occur.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

No Impact.

No airport is located in the Project vicinity. The Project Area is located outside of any airport land use plan. Furthermore, the Project Area is located beyond two miles from any airport. The Proposed Project will not expose people residing or working in the Project Area to excess airport noise levels. Therefore, no impact would occur.

4.13.3 Mitigation Measures

No significant impacts were identified, and no mitigation measures are required.

4.14 Population and Housing

4.14.1 Environmental Setting

According to the County’s General Plan, the population of unincorporated Butte County was approximately 67,600 in 2020. This is a decrease from the 2010 population of 83,800; the decrease is attributed to the 2018 Camp Fire and 2020 North Complex Fire which displaced many residents. The Butte County Association of Governments estimates that in the recovery from these fires, population of the unincorporated areas of the County would grow 11 percent by 2025 (Butte County 2023a).

4.14.2 Population and Housing (XIV) Environmental Checklist and Discussion

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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

No Impact.

The Proposed Project does not include the construction of any new homes the extension of any roads or new public infrastructure. The proposed new well would provide potable water to MESD. Therefore, direct or indirect increases in population growth would not occur as a result of the Proposed Project.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

No Impact.

No persons or residences would be displaced or removed as a result of the Proposed Project, and the Project would have no impact in this area.

4.14.3 Mitigation Measures

No significant impacts were identified, and no mitigation measures are required.

4.15 Public Services

4.15.1 Environmental Setting

4.15.1.1 Police Services

Butte County Sheriff's Office (BCSO), the California Highway Patrol (CHP), and police agencies in the Cities of Chico, Oroville, Gridley, and Biggs and the Town of Paradise provide law enforcement services in the County (Butte County 2023a). The unincorporated areas of the County are serviced by both BCSO and CHP, and the BCSO has designated area deputies that serve the outlying areas of the county. The BCSO operates a community service center in Chico, with a sub-station in Magalia. The CHP divides the county into north and south regions at the SR-99 and SR-149 intersection (Butte County 2023b). The Project Area would be located in CHP's south region. CHP's south office is located in Oroville, approximately 13.5 miles northeast of the Project Area.

4.15.1.2 Fire Services

Fire protection services for the unincorporated areas of Butte County; the Cities of Biggs, Oroville, and Gridley; and the Town of Paradise are provided by six fire departments (CAL FIRE Butte Unit, Butte County Fire Department, Biggs Fire Department, Gridley Fire Department, Oroville Fire Department, and Town of Paradise Fire Department) operating together as one department called the Butte County Cooperative Fire Protection. The Butte County Cooperative Fire Protection provides fire prevention, suppression, and investigation; emergency medical care; water rescue; and hazardous materials response to 1,677 square miles in Butte County and 97 square miles of southeast Tehama County (Butte County 2024b). The South Division is comprised of Battalions 5, 6, 7, and 9 (Butte County 2024c).

The Project Area is within Battalion 7, which covers the southwest portion of Butte County including the Cities of Richvale, Biggs, and Gridley (Butte County 2024d). The nearest fire station to the Project Area is Station 74 Gridley at 47 East Gridley Road, approximately 2.3 miles northwest.

4.15.1.3 Schools

Butte County is served by 13 school districts. The Project Area is located within the Manzanita Elementary School District and on MESD property. MESD covers 11 square miles and operates one school, Manzanita Elementary School. MESD provides education for kindergarten through eighth grade and has a student enrollment of 296 students for the 2019 to 2020 school year (Butte County 2023b).

4.15.1.4 Parks

Butte County does not have a parks and recreation program, however there are five independent park districts providing services to most of the County. These districts include the Chico Area Recreation and Park District, Durham Recreation and Park District, Feather River Recreation and Park District, Paradise Recreation and Park District, and Richvale Recreation and Park District. The Gridley and Biggs areas do not have a recreation and park district; the cities provide recreation facilities. Additionally, the County also contains federal and state parks (Butte County 2023a).

The Project Area is not within any of the five park districts. Manuel Vierra Park, a park in the City of Gridley, is located approximately 2.25 miles northwest of the Project Area.

4.15.1.5 Other Public Facilities

Other public facilities found in the Project vicinity include the Butte County Library, which provides library services to all county residents. Butte County Library has branches in the Cities of Oroville, Biggs, Chico, Durham, and Gridley and in the Town of Paradise (Butte County 2023a). The nearest branch to the Project Area is the Gridley Branch of the Butte County Library located at 299 Spruce Street. The Gridley Branch is located approximately 2.6 miles northwest of the Project Area.

4.15.2 Public Services (XV) Environmental Checklist and Discussion

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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Police Protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Other Public Facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

*Fire Protection***No Impact.**

The Project includes the demolition of the existing well, installation of a new well, the installation of PVC piping and PVC underground electrical conduit from the new well location to the existing well location, a new diesel generator, a chain link fence installed around the well and generator, and an access road. All improvements from the Project would be maintained by MESD and would not require fire protection services beyond existing conditions. The Proposed Project would not result in an increase in population which in turn would impact public facilities. As such, the Proposed Project would not affect fire protection. No impact would occur.

*Police Protection***No Impact.**

The Project includes the demolition of the existing well, installation of a new well, the installation of PVC piping and PVC underground electrical conduit from the new well location to the existing well location, a new diesel generator, a chain link fence installed around the well and generator, and an access road. The Proposed Project would not result in population growth which would increase the need for additional public facilities. The Proposed Project would not change the existing demand for police services because no increase in population or employment would occur from the improvements to the school property. As such, the Proposed Project would not affect police protection. No impact would occur.

Schools

No Impact.

The Project includes the demolition of the existing well, installation of a new well, the installation of PVC piping and PVC underground electrical conduit from the new well location to the existing well location, a new diesel generator, a chain link fence installed around the well and generator, and an access road. These improvements would all be on MESD property and would provide potable water to MESD. The Proposed Project would not change existing demand for school facilities because no increase in population growth or employment would occur from the proposed improvements. No impact would occur.

Parks

No Impact.

The Project includes the demolition of the existing well, installation of a new well, the installation of PVC piping and PVC underground electrical conduit from the new well location to the existing well location, a new diesel generator, a chain link fence installed around the well and generator, and an access road. The Proposed Project would not change existing demand for parks because no increase in population growth or employment would occur from the proposed improvements. No impact would occur.

Other Public Facilities

No Impact.

The Project includes the demolition of the existing well, installation of a new well, the installation of PVC piping and PVC underground electrical conduit from the new well location to the existing well location, a new diesel generator, a chain link fence installed around the well and generator, and an access road. All improvements from the Project would be maintained by MESD and would not require public services beyond existing conditions. The Proposed Project would not result in an increase in population which in turn would impact public facilities. As such, the Proposed Project would not affect other public facilities. Therefore, no impact would occur.

4.15.3 Mitigation Measures

No significant impacts were identified, and no mitigation measures are required.

4.16 Recreation

4.16.1 Environmental Setting

As stated previously, Butte County does not have a parks and recreation program, however there are five independent park districts providing services to most of the County. These districts include the Chico Area Recreation and Park District, Durham Recreation and Park District, Feather River Recreation and Park District, Paradise Recreation and Park District, and Richvale Recreation and Park District. The Gridley and Biggs areas do not have a recreation and park district; the cities provide recreation facilities. Additionally, the County also contains federal and state parks (Butte County 2023a).

There are approximately 134,840 acres of federally owned National Forest Land within Butte County, including Plumas National Forest and Lassen National Forest. Lake Oroville State Recreation Area provides 12 separate recreation areas on 47,000 acres (Butte County 2023b). Unincorporated Butte County contains 618 acres of parkland, however much of this parkland is not accessible for residents and is open space (Butte County 2023a).

4.16.2 Recreation (XVI) Materials Checklist

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

No Impact.

The need for additional parkland is primarily based on an increase in population to an area. Given that the Proposed Project would not increase population, the Project would not burden any parks in the surrounding area beyond capacity by generating additional recreational users. Therefore, the Proposed Project would not increase the use of park and recreational facilities resulting in substantial physical deterioration of the facility. No impact would occur.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

No impact.

The Proposed Project does not include recreational facilities and would not increase population. Therefore, the Project would not burden any recreational facilities in the surrounding area beyond capacity by generating additional recreational users. The Project would not require the construction or expansion of additional off-site recreational facilities. As such, the Proposed Project would have no impact in this issue area.

4.16.3 Mitigation Measures

No significant impacts were identified, and no mitigation measures are required.

4.17 Transportation

4.17.1 Environmental Setting

The Proposed Project includes the demolition of the existing well, installation of a new well, the installation of PVC piping and PVC underground electrical conduit from the new well location to the existing well location, a new diesel generator, a chain link fence installed around the well and generator, and an access road. The Project would be constructed entirely within the MESD property which is accessible along East Evans Reimer Road. The proposed well would be accessible via the proposed access road on Center Avenue. Construction operators shall access the site from Larkin Road and provide temporary improvements to access the site, as necessary.

4.17.1.1 Roadway Facilities

Butte County is not served regionally by an interstate freeway. The regional highways in Butte County include SR-32, SR-70, SR-99, SR-149, SR-162, and SR-191. SR-70 connects north to the City of Oroville and northeast to Quincy. SR-32 connects the Chico area to I-5 in Glenn County and to Lassen County. SR-70 serves the City of Oroville and connects Sutter County to Plumas County. SR-99 connects the County with Yuba City and the City of Sacramento to the south and the City of Red Bluff to the northwest. SR-149 connects SR-99 and SR-70 and connects the City of Chico to the City of Oroville. SR-162 connects southern Butte County with I-5 in Glenn County. SR-191 begins at SR-70 and continues north to the Town of Paradise (Butte County 2023a, 2023b).

SR-99 is located approximately 1.2 miles west of the Project Area. The Project Area is bordered to the north by Center Avenue, to the south by East Evans Reimer Road, and to the west by Larkin Road. Larkin Road is designated as a major road. East Evans Reimer Road is designated as a minor road east of Larkin Road, but a major road west of Larkin Road (Butte County 2023a).

4.17.1.2 Transit Facilities

Butte Regional Transit (B-Line) provides fixed route bus and paratransit services to unincorporated Butte County; the Cities of Biggs, Chico, Gridley, and Oroville; and the Town of Paradise. B-Line operates three routes for intercity buses. Route 20 connects the City of Chico to the City of Oroville. Route 30 connects the City of Oroville to the City of Biggs. Route 40/41 connects the Town of Paradise to the City of Chico (Butte County 2023b). The nearest transit stop is located at the Farm Labor Housing complex along East Gridley Road, approximately 2 miles northeast of the Project Area.

4.17.1.3 Bicycle Facilities

Bicycle facilities in unincorporated Butte County include Class I, Class II, and Class III bikeways in the unincorporated areas around the City of Chico; Class I and Class II bike lanes in the unincorporated areas around the City of Oroville; a Class II Bike Lane in the Durham area; and a Class I Bike Path in the Palermo area (Butte County 2023a). There are no bicycle facilities near the Project Area.

4.17.1.4 Pedestrian Facilities

Pedestrian facilities in unincorporated Butte County consist of sidewalks or paved shoulders. Under the County's Capital Improvement Program, older sidewalk facilities are being updated gradually to meet County and Americans with Disability Act standards (Butte County 2023a, 2023b). Sidewalks are provided on the MESD property along East Evans Reimer Road. No pedestrian facilities are provided along Larkin Road or Center Road.

4.17.2 Transportation (XVII) Environmental Checklist and Discussion

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, roadways, bicycle and pedestrian facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

No Impact.

The demolition and replacement of the existing well and other improvements to the MESD property does not include any changes to the County's circulation system including transit, roadways, bicycle, and pedestrian facilities. The Proposed Project would not conflict with any program, plan, ordinance, or policy addressing the circulation system in the County's General Plan. No impact would occur.

Would the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
b) Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

No Impact.

CEQA Guidelines Section 15064.3, subdivision (b) provides criteria for analyzing transportation impacts based on a vehicle miles traveled (VMT) methodology instead of the now superseded (as of January 1, 2019) level of service methodology. Pertinent to the Proposed Project are those criteria identified in Section 15064.3(b)(1) Land Use Projects. According to this section:

"Vehicle miles traveled exceeding an applicable threshold of significance may indicate a significant impact. Generally, projects within one-half mile of either an existing major transit stop or a stop along an existing high-quality transit corridor should be presumed to cause a less than significant transportation impact. Projects that decrease vehicle miles traveled in the project area compared to existing conditions should be presumed to have a less than significant transportation impact."

However, Section 15064.3(b)(3) allows an agency to determine a project's transportation impact on a qualitative basis if a VMT methodology is unavailable, as is the case with the Proposed Project.

Section 15064.3(b)(3) is as follows:

"Qualitative Analysis. If existing models or methods are not available to estimate the vehicle miles traveled for the particular project being considered, a lead agency may analyze the project's vehicle miles traveled qualitatively. Such a qualitative analysis would evaluate factors such as the availability of transit, proximity to other destinations, etc. For many projects, a qualitative analysis of construction traffic may be appropriate."

The Proposed Project would result in a short-term increase in the amount of traffic on the local roadways during construction. Following completion of the Project there would be no increase in traffic beyond current conditions. The Project does not propose any new commercial, industrial, residential or other development that would increase traffic trips in the area. Therefore, no impact would occur.

Would the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

No Impact.

The Project would not result in the re-design of the existing roadway system. Nor would the Project introduce incompatible uses to the roadways. No impact would occur.

Would the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
d) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

No Impact.

The Project includes the demolition of the existing well, installation of a new well, the installation of PVC piping and PVC underground electrical conduit from the new well location to the existing well location, a new diesel generator, a chain link fence installed around the well and generator, and an access road. No long-term modifications to roadway features are proposed as part of the Project and therefore would not result in any long-term adverse impact on emergency access. Traffic disruption that may occur during Project construction, however, the area of impact is limited to small areas and alternative routes are available in adjacent roadways. Additionally, the emergency services provided by the County will be well informed of the Project construction and appropriate measures for emergency access will be established

prior to any emergency. Therefore, the Proposed Project would not result in inadequate emergency services. No impact would occur.

4.17.3 Mitigation Measures

No significant impacts were identified, and no mitigation measures are required.

4.18 Tribal Cultural Resources

4.18.1 Environmental Setting

The following information was provided by ECORP Consulting, Inc. (2024b) as a part of the Historic Properties Evaluation Report for the Proposed Project. The information provided below is an abridged version of this report and is provided here to afford a brief context of the Native Americans in the Project Area.

4.18.1.1 Ethnography

Ethnographically, the Project Area is located in the Central Valley which includes the Penutian-speaking Wintu, Nomlaki, Konkow, River Patwin, Nisenan, Miwok, and Yokuts. The Central area (as defined by Kroeber [1925]) encompasses the current APE and includes the Konkow. The Konkow, or Northwestern Maidu, occupied the Northern Sacramento Valley and surrounding foothills of the Sierra Nevada range. The Maidu, on the basis of cultural and linguistic differences, have been differentiated into three major related divisions: the Northeastern (Mountain Maidu), Northwestern (Konkow), and Southern (Nisenan) (Dixon 1905; Kroeber 1925).

As with most pre-contact populations, tribal boundaries were not static, but rather were plastic and constantly changing in part as a reflection of resource exploitation patterns or changes in socio-political relationships between groups.

Maidu-Konkow

Powers (1877), Dixon (1905), and Kroeber (1925) have provided the earliest documentation of the Maidu and Konkow, and their thorough observations have depicted the life and culture of these related groups. Additional ethnographic descriptions for the Maidu and Konkow can be found in Riddell (1978), Hill (1970), and Kowta (1988), among others. Because the Maidu and Konkow are believed to have been so closely related, ethnographers tended to group them as one.

The Konkow occupied territory immediately to the southwest of the Mountain Maidu, along the Feather and Sacramento rivers to their southern boundary at the Sutter Buttes. The Konkow were primarily located in the lower elevations of the Sierra Nevada and along the valley floor (Riddell 1978). Tribal territories adjacent to the Maidu and Konkow included the Atsugewi and Yana to the north, the Nomlaki and Patwin to the west, the Paiute and Washoe to the east, and the Nisenan to the south (Heizer 1978).

Settlement patterns of the Maidu and Konkow were seasonal in nature. The Konkow inhabited a savanna-like habitat on the valley floor and in the lower elevations of the Sierra foothills during the winters.

Resources exploited in this environment include wild rye, pine nuts, acorns, fish, and invertebrates (Kroeber 1925; Riddell 1978). Summers in the mountains gave them access to deer meat, skins, and other items for food, clothing, and shelter for the winter months.

The village community, the primary settlement type among the Maidu-Konkow, consisted of three to five small villages, each composed of about 35 members. Among the mountain Maidu, village communities were well defined and based on geography. In contrast, the Konkow were dispersed throughout the valley floor along river canyons, and as a result, village communities were less concentrated or definable (Kroeber 1925). In terms of permanent occupation sites, both groups preferred slightly elevated locations that provided visibility of the surrounding area and were away from the water-laden marshes and meadows (Dixon 1905; Riddell and Pritchard 1971; Riddell 1978). The Mechoopda Village, formerly located near downtown Chico, was home to many Maidu well into the historic-era.

Among the villages, the male occupant of the largest *kum*, or semi-subterranean earth-covered lodge, governed the community (Dixon 1905; Kroeber 1925; Riddell 1978). Two other types of ethnographically documented structures in use included the winter-occupied conical bark structure and the summer shade shelter (Riddell 1978).

Clothing, accessories and other personal items were manufactured using elaborate basket weaving techniques, shell and bone ornamenting, and by incorporating feathers, game skins, plant roots, and stems into objects (Riddell 1978). Shell, in the form of beads for currency or as valuable jewelry, was very desirable and was exchanged for food, obsidian, tobacco, and pigments (Kroeber 1925; Riddell 1978).

4.18.2 Regulatory Setting

4.18.2.1 Assembly Bill 52

Effective July 1, 2015, AB 52 amended CEQA to require that: 1) a lead agency provide notice to those California Native American tribes that requested notice of projects proposed by the lead agency; and 2) for any tribe that responded to the notice within 30 days of receipt with a request for consultation, the lead agency must consult with the tribe. Topics that may be addressed during consultation include TCRs, the potential significance of Project impacts, type of environmental document that should be prepared, and possible mitigation measures and Project alternatives.

Pursuant to AB 52, Section 21073 of the PRC defines California Native American tribes as “a Native American tribe located in California that is on the contact list maintained by the NAHC for the purposes of Chapter 905 of the Statutes of 2004.” This includes both federally and non-federally recognized tribes.

Section 21074(a) of the PRC defines TCRs for the purpose of CEQA as:

- 1) Sites, features, places, cultural landscapes (geographically defined in terms of the size and scope), sacred places, and objects with cultural value to a California Native American tribe that are either of the following:
 - a) Included or determined to be eligible for inclusion in the California Register of Historical Resources; and/or

- b) Included in a local register of historical resources as defined in subdivision (k) of Section 5020.1; and/or
- c) 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 Section 5024.1. In applying the criteria set forth in subdivision (c) of Section 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.

Because criteria a and b also meet the definition of a historical resource under CEQA, a TCR may also require additional consideration as a historical resource. TCRs may or may not exhibit archaeological, cultural, or physical indicators.

Recognizing that California tribes are experts in their TCRs and heritage, AB 52 requires that CEQA lead agencies provide tribes that requested notification an opportunity to consult at the commencement of the CEQA process to identify TCRs. Furthermore, because a significant effect on a TCR is considered a significant impact on the environment under CEQA, consultation is used to develop appropriate avoidance, impact minimization, and mitigation measures.

4.18.3 Tribal Coordination

In addition to the records search, ECORP contacted the California NAHC on January 26, 2024, to request a search of the SLF for the APE. This search determines whether or not the California Native American tribes within the APE have recorded Sacred Lands, because the SLF is populated by members of the Native American community with knowledge about the locations of tribal resources. In requesting a search of the SLF, ECORP solicited information from the Native American community regarding TCRs, but the responsibility to formally consult with the Native American community lies exclusively with the federal and local agencies under applicable state and federal laws. The lead agencies do not delegate government-to-government authority to any private entity to conduct tribal consultation.

On February 15, 2024, the District sent Project notification letters to the following California Native American tribes to request information regarding the identification of sites of religious and cultural significance within the APE:

- Konkow Valley Band of Maidu
- Mooretown Rancheria of Maidu Indians
- Nevada City Rancheria Nisenan Tribe

The Tsi Akim Maidu tribe is listed on the NAHC Native American Contact List for Butte County, however, tribal notification letters sent to the Tsi Akim Maidu have been “returned to sender” since 2020 and the Cultural Director expressed he is no longer responding to letters. Based on this information, a tribal notification letter for this Project was not sent to the Tsi Akim Maidu.

Follow up emails in regard to the tribal notification letter for the Project were sent to the Tribes on February 29, 2024. No response has been received as of the date of preparation of the cultural report.

4.18.4 Tribal Cultural Resources (XVIII) Environmental Checklist and Discussion

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, and that is:				
i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k), or	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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 Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Less Than Significant With Mitigation Incorporated

No known cultural resources or significant archaeological resources have been identified within the Project Area. The Project Area has not been identified as either a site, feature, place, cultural landscape, sacred place, or object with cultural value to a California Native American tribe. However, unanticipated, and accidental discovery of California Native American tribal cultural resources are possible during Project implementation, especially during excavation, and have the potential to impact unique cultural resources. As such, mitigation measure CUL-1 has been included to reduce the potential for impacts to tribal cultural resources to a less than significant level.

4.18.5 Mitigation Measures

Implement mitigation measure CUL-1.

4.19 Utilities and Service Systems

4.19.1 Environmental Setting

4.19.1.1 Water Service

Municipal water departments, private water companies, irrigation districts, and community service districts provide water for the County's residential, commercial, and agricultural uses. A significant portion of domestic water is obtained through private residential wells (Butte County 2023a, 2023b). The Project Area falls within the Butte Water District service area; however, Butte Water District provides only agricultural irrigation water approximately 3,000 parcels. MESD receives water from its onsite well, which would be replaced as part of the Proposed Project. The new well would be located within the Sacramento Valley-Butte Groundwater Basin (Basin Number 5-021.7), which also supplies the City of Gridley with potable water.

4.19.1.2 Wastewater

Municipal wastewater treatment plants, non-municipal wastewater systems, and individual onsite wastewater disposal systems (septic systems) are the three methods of wastewater service in Butte County. There are 5 active municipal wastewater treatment plants, 6 community service areas, and an estimated 50,000 onsite sewage disposal systems (Butte County 2023a). The Project Area is serviced by septic systems on the MESD property.

4.19.1.3 Storm Drainage

The SWRCB ensures stormwater does not contain pollutants through the NPDES permit. The NPDES permit regulates stormwater discharges from Municipal Separate Storm Sewer Systems (MS4), construction activities, and industrial activities. Butte County has its own traditional SWRCB Small Phase II MS4 Program (Order Number 2013-0001-DWQ). This permit covers the County's urbanized areas. The County has also adopted a Stormwater Management and Discharge Ordinance which limits discharges into the County storm drain system, natural surface waters, and water courses, and requires the implementation of best management practices to prevent the discharge of pollutants to the maximum extent practical (Butte County 2023a).

The Project Area is located in the Butte Creek Drainage District No. 1 (DD1) which spans 6,249 acres and serves 845 parcels east and south of the City of Gridley to the Feather River (Butte Local Agency Formation Commission 2018). DD1 collects runoff from agricultural irrigation water and natural storms through a network of drainage ditches.

The Proposed Project includes a new well as well as underground pipelines and electrical conduit, which would not impact or redirect flood flows. The proposed access road would increase impervious groundcover; however, a roadside swale is planned for drainage.

4.19.1.4 Solid Waste

Butte County contains three transfer stations, the Neal Road Recycling and Waste Facility, a private wood waste recycler, and two municipal wood waste recyclers. The primary solid waste disposal site is the County-owned and -operated Neal Road Recycling and Waste Facility. Unincorporated Butte County is divided into three collection service areas and served by three private waste and recycling collection companies via franchise agreements. Waste Management serves the northwest unincorporated area of the County, Northern Recycling and Waste Services serves the northeast unincorporated area, and Recology serves the central and southern unincorporated area. The Proposed Project would be served by Recology, which operates the Recology Butte Colusa Counties Transfer Station in the City of Oroville. Recology's recycling efforts include curbside recycling, residential and commercial yard trimmings, compost, recycling, and garbage collection (Butte County 2023b).

4.19.1.5 Electricity

PG&E provides electrical services to Butte County, including the Project Area, through state-regulated public utility contracts. The County's General Plan notes a new electricity provider called Butte Choice Energy (BCE) which would purchase and/or generate electricity for residential and commercial customers in the unincorporated county. Once it launches in 2024, customers will be able to choose between PG&E or BCE (Butte County 2023a).

The Project Area is currently served by PG&E. PG&E's ability to provide its services concurrently for each project is evaluated during the development review process. The utility company is bound by contract to update its systems to meet any additional demand. No new PG&E electric facilities will be required to provide electricity to the Project.

4.19.2 Utilities and Service Systems (XIX) Environmental Checklist and Discussion

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, or wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Less Than Significant Impact.

4.19.2.1 Water Service

The Proposed Project includes the demolition of MESD's existing well, installation of a new well, the installation of PVC piping and PVC underground electrical conduit from the new well location to the existing well location, a new diesel generator, a chain link fence installed around the well and generator,

and an access road. The Project's Preliminary Engineering Report estimated the potable and non-potable water demands for MESD based on the school's population, peaking factors, and irrigation uses. The peak hourly demand is estimated to be approximately 121 gpm and the maximum daily demand is estimated to be approximately 72 gpm. Non-potable water demands for MESD is estimated to 9 gpm for the irrigation system. Based on the peak hourly potable water use (121 gpm) and the peak non-potable water use (9 gpm), the total peak water supply demand required is 130 gpm (EKI 2024).

The new well would supply 200 gpm of potable and non-potable water to MESD, which meets the water supply demand required. The Proposed Project would not result in the need for additional water supplies or expanded water facilities as the Project is in and of itself an expansion of water facilities for MESD. The Project would have no impact in this area.

4.19.2.2 Wastewater Treatment

The Proposed Project includes the demolition of MESD's existing well, installation of a new well, the installation of PVC piping and PVC underground electrical conduit from the new well location to the existing well location, a new diesel generator, a chain link fence installed around the well and generator, and an access road. The Project would not result in the need for additional wastewater supplies or expanded wastewater facilities. The Project would have no impact in this area.

4.19.2.3 Stormwater Drainage

The Proposed Project includes the demolition of MESD's existing well, installation of a new well, the installation of PVC piping and PVC underground electrical conduit from the new well location to the existing well location, a new diesel generator, a chain link fence installed around the well and generator, and an access road. Construction of the access road would increase impervious surfaces which could impact stormwater drainage. Therefore, a new roadside swale for drainage will be implemented adjacent to the proposed access road. The Project would have a less than significant impact on the County's storm drainage facilities.

4.19.2.4 Electric Power

The Project would not result in the need for additional electricity supplies or expanded electrical facilities. No impact would occur.

4.19.2.5 Natural Gas

The Project would not result in the need for additional natural gas supplies or expanded natural gas facilities. No impact would occur.

4.19.2.6 Telecommunications

The Project would not result in the need for new or additional telecommunication facilities to serve the Project Area. No impact would occur.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Less Than Significant Impact.

The new well would be located within the Sacramento Valley-Butte Groundwater Basin (Basin Number 5-021.7), which also supplies the City of Gridley with potable water. It would supply 200 gpm of potable and non-potable water to MESD. The Northern Sacramento Valley IRWMP addresses water quality, water supply management, and flood and stormwater management (Integrated Regional Water Management 2020).

As previously discussed, the Butte Subbasin has surface water availability during normal or wet hydrologic conditions and can support irrigation demands and provide recharge over much of the Subbasin. Groundwater pumping is increased during dry periods and drought if surface water supplies are insufficient. Groundwater levels recover following dry periods when surface water availability increases. Through comparisons of 2015 and 2019 groundwater levels, there is no pattern of long-term or chronic decrease in groundwater levels (Butte County 2022). The new well would provide 220 gpm of potable and non-potable water, which is similar to that of the existing well prior to contamination. Therefore groundwater extraction would be similar to previous extraction. Therefore, groundwater supplies would not be significantly impacted.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

No Impact.

Implementation of the Project would not result in additional wastewater capacity as no additional demand would result from the new well. Therefore, the Project would have no impact in this area.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Less Than Significant Impact.

No recycling or waste disposal would be required for operation and maintenance of the Proposed Project and therefore would not affect landfill capacity because the amount of construction debris requiring disposal would be minimal and would only occur during the construction period (e.g., cardboard, wood scraps, plastic straps). Impacts would be less than significant.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
e) Comply with federal, state, and local statutes and management and reduction regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

No Impact.

Waste generated by the Proposed Project would comply with all applicable federal, state, and local statutes and regulations related to solid waste. No impact would occur, and no mitigation is required.

4.19.3 Mitigation Measures

No significant impacts were identified, and no mitigation measures are required.

4.20 Wildfire**4.20.1 Environmental Setting**

The risk of wildfire is related to a variety of parameters, including fuel loading (vegetation), fire weather (winds, temperatures, humidity levels and fuel moisture contents), and topography (degree of slope). Steep slopes contribute to fire hazard by intensifying the effects of wind and making fire suppression difficult. Fuels such as grass are highly flammable because they have a high surface area to mass ratio and require less heat to reach the ignition point, while fuels such as trees have a lower surface area to mass ratio and require more heat to reach the ignition point.

A majority of Butte County lies within a wildfire hazard severity zone. CAL FIRE's Fire Hazard Severity Zone Maps designates the foothills and mountainous areas of the County as within a Very High or High Fire Hazard Severity Zone (Butte County 2023a; CAL FIRE 2024). Various foothill communities in the County lie within Wildland-Urban Interface (WUI) areas. In WUI areas, either urban development is intermixed with

wildland vegetation or areas of wildland vegetation occur inside developed areas. Buildings and infrastructure are more likely to be destroyed in fires that occur in WUI areas (Butte County 2023a).

4.20.2 Wildfire (XX) Environmental Checklist and Discussion

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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

No Impact.

The Proposed Project is located along East Evans Reimer Road, east of the City of Gridley. The Proposed Project is located within a local responsibility area; however, it is not located in or near a state responsibility area or in a Very High Fire Hazard Severity Zone (Butte County 2023a; CAL FIRE 2024). No impact would occur.

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
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

No Impact.

The Proposed Project is located along East Evans Reimer Road, east of the City of Gridley. The Proposed Project is not located in or near a state responsibility area or in a very high fire hazard severity zone (Butte County 2023a; CAL FIRE 2024). No impact would occur.

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
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

No Impact.

The Proposed Project is located along East Evans Reimer Road, east of the City of Gridley. The Proposed Project is not located in or near a state responsibility area or in a very high fire hazard severity zone (Butte County 2023a; CAL FIRE 2024). No impact would occur.

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
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

No Impact.

The Proposed Project is located along East Evans Reimer Road, east of the City of Gridley. The Proposed Project is not located in or near a state responsibility area or in a very high fire hazard severity zone (Butte County 2023a; CAL FIRE 2024). No impact would occur.

4.20.3 Mitigation Measures

No significant impacts were identified, and no mitigation measures are required.

4.21 Mandatory Findings of Significance**4.21.1 Mandatory Findings of Significance (XXI) Environmental Checklist and Discussion**

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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Less Than Significant With Mitigation Incorporated.

As discussed throughout this Initial Study, potentially significant impacts were identified for biological resources, cultural resources, paleontological resources, and tribal cultural resources. The Proposed

Project's impacts would be less than significant with the incorporation of Mitigation Measures BIO-1 through BIO-3, CUL-1, GEO-1, and TCR-1.

Does the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Less Than Significant With Mitigation Incorporated.

Cumulative impacts are defined as two or more individual (and potentially less than significant) project effects that, when considered together or in concert with other projects combine to result in a significant impact within an identified geographic area. In order for a project to contribute to cumulative impacts, it must result in some level of impact on a project specific level.

As discussed throughout this Initial Study, potentially significant impacts were identified for biological resources, cultural resources, paleontological resources, and tribal cultural resources. The Proposed Project's contribution to cumulative impacts would not be considerable with the incorporation of Mitigation Measures BIO-1 through BIO-3, CUL-1, GEO-1, and TCR-1. Furthermore, other projects would be subject to CEQA and would undergo the same level of review as the Proposed Project and include mitigation measures to minimize potentially significant impacts.

Does the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c) Have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Less Than Significant With Mitigation Incorporated.

The checklist categories of: Air Quality, Greenhouse Gas Emissions, Hazards and Hazardous Materials, Cultural Resources, Geology and Soils, Hydrology and Water Quality, Population and Housing, Tribal Cultural Resources, Noise, Transportation, and Wildfire evaluate Project impacts that may have adverse effects on human beings, either directly or indirectly. All of the Project's impacts on human beings, both direct and indirect, that are attributable to the Project were identified and mitigated where necessary. Therefore, the Proposed Project would not either directly or indirectly cause substantial adverse effects on human beings because all potentially adverse direct and indirect impacts of the Proposed Project are identified as having no impact, less than significant impact, or less than significant impact with mitigation.

Direct and indirect impacts to human beings would be less than significant with the implementation of mitigation measures listed in this Initial Study.

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5.0 COMPLIANCE WITH FEDERAL REGULATIONS

MESD is seeking funding for the Proposed Project under SWRCB's Clean Water State Revolving Fund Program, within the Division of Financial Assistance, SWRCB. Because of the federal nexus, projects seeking funding through the Drinking Water State Revolving Fund (DWSRF) Program are subject to federal laws and regulations (e.g., federal cross-cutters). Under the DWSRF Program, SWRCB uses a project's CEQA document along with federal cross-cutting documentation in place of a NEPA document; this document is termed a CEQA-Plus document. This section addresses the Project's compliance with federal laws and regulations to satisfy the CEQA-Plus requirements.

5.1 Federal Regulations Evaluation

5.1.1 Clean Air Act

General Conformity ensures that the actions taken by federal agencies do not interfere with a state's plans to attain and maintain national standards for air quality.

Established under the Clean Air Act (section 176(c)(4)), the General Conformity rule plays an important role in helping states improve air quality in those areas that do not meet the National Ambient Air Quality Standards (NAAQS). Under the General Conformity rule, federal agencies must work with state and local governments in a nonattainment or maintenance area to ensure that federal actions conform to the air quality plans established in the applicable state or tribal implementation plan. The overall purpose of the General Conformity rule is to ensure that:

- federal activities do not cause or contribute to new violations of NAAQS;
- actions do not worsen existing violations of the NAAQS; and
- attainment of the NAAQS is not delayed.

Predicted annual construction-generated emissions for the Proposed Project are summarized in Table 4.3-3 in Section 4.3 (Air Quality). Construction-generated emissions are short term and of temporary duration, lasting only as long as construction activities occur, but would be considered a significant air quality impact if the volume of pollutants generated exceeds the Conformity Determination thresholds. Construction related emissions would not exceed USEPA significance thresholds for construction emissions and would not result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is nonattainment under an applicable federal ambient air quality standard.

5.1.2 Coastal Barriers Resources Act

The Coastal Barrier Resources Act of 1982 designated various undeveloped coastal barriers for inclusion in the Coastal Barrier Resources System (System). Areas so designated were made ineligible for direct or indirect federal financial assistance that might support development, including flood insurance, except for emergency life-saving activities. Exceptions for certain activities, such as fish and wildlife research, are provided, and National Wildlife Refuges and other, otherwise protected areas are excluded from the

System. The System includes relatively undeveloped coastal barriers along the Atlantic and Gulf coasts, as well as the Great Lakes, Puerto Rico, and the Virgin Islands.

The Proposed Project is not within the System, as it is in the State of California and the System encompasses areas within the Gulf Coast, Atlantic Ocean, and the Great Lakes but not the Pacific Coast. Therefore, the Coastal Barriers Resources Act does not apply to the Project.

5.1.3 Coastal Zone Management Act

The Coastal Zone Management Act (CZMA) was passed by Congress to encourage coastal states to develop and implement a Coastal Zone Management Plan, or Program. The intents of CZMPs are to protect natural resources; manage development in high hazard areas; give development priority to coastal dependent uses; provide public access for recreation; and coordinate state and federal actions. In 1978, the federal government certified the California Coastal Management Plan, the enforceable policies of which are found in Chapter 3 of the California Coastal Act of 1976, as amended.

The Project would be located in unincorporated Butte County, over 111 miles east of the Pacific coast. None of the Project's components would be located within the coastal zone, and the CZMA does not apply to the Project.

5.1.4 Endangered Species Act

The federal ESA (16 USC 1531 et seq.) and subsequent amendments establish legal requirements for the conservation of endangered and threatened species and the ecosystems upon which they depend. The ESA is administered by the USFWS for terrestrial species, and by the NMFS for marine species and anadromous fish. Under the ESA, the USFWS or NMFS may designate critical habitat for listed species. Section 7 of the ESA requires federal agencies to consult with USFWS or NMFS to ensure that their actions are not likely to jeopardize listed threatened or endangered species, or cause destruction or adverse modification of critical habitat. Section 10 of the ESA requires similar consultation for non-federal applicants.

As described in Section 4.4 (Biological Resources), four special-status species with potential to occur and three special-status species with low potential to occur were identified; however, mitigation measures discussed in Section 4.4 would reduce the potential impacts to a less than significant level. Additionally, no designated critical habitat is mapped within the BSA. Therefore, the Project would not have the potential to violate the ESA.

5.1.5 Environmental Justice

In 1994, President Clinton issued the Executive Order (EO) 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations," to focus federal attention on environmental and human health conditions in minority and low-income communities. EO 12898 promotes nondiscrimination in federal programs that substantially affect human health and the environment, and it provides information access and public participation relating to these matters. This order requires federal agencies (and state agencies receiving federal funds) to identify and address any

disproportionately high or adverse human health or environmental effects of their programs, policies, and activities on minority and/or low-income populations.

The Council on Environmental Quality (CEQ) oversees federal compliance with EO 12898. According to the CEQ environmental justice guidelines, minority individuals must be members of the following population groups: American Indian or Alaskan Native; Asian or Pacific Islander; Black, not of Hispanic origin; or Hispanic (CEQ 1997).

Minority populations should be identified if:

- A minority population percentage either exceeds 50 percent of the population of the affected area, or
- If the minority population percentage of the affected area is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis (e.g., a governing body's jurisdiction, neighborhood census tract, or other similar unit).

Table 5.5-1 shows population by race and ethnicity in Butte County from the County's 2022 – 2030 Housing Element.

Table 5.5-1. Population by Race and Ethnicity in Butte County (2015 – 2019)		
Race/Ethnicity	Unincorporated County Population Percent of Total	Total County Population Percent of Total
Race		
White	84	82
Black or African American	1	2
American Indian and Alaska Native	1	1
Asian	4	5
Native Hawaiian and Other Pacific Islander	0	0
Other	4	5
Two or More Races	6	6
Total	100	100
Ethnicity		
Hispanic or Latino	13	16
Not Hispanic or Latino	87	84
Total	100	100

Note: Due to rounding, the sum of percentages may be greater than 100.

Source: Butte County 2023c

As shown, the minority population in unincorporated Butte County is less than 50 percent, and lower than the greater region in which it is located. Potential adverse impacts of the Project are limited to short-term, construction-related nuisance effects. Once completed, the Project would be beneficial to MESD students and staff by replacing the onsite well and providing clean drinking water. All adverse effects would affect

all segments of the community equally and, therefore, the Project does not involve any activity that would have a disproportionate impact upon minority or low-income populations. As discussed in Section 4.18, *Tribal Cultural Resources*, there are no known Tribal Cultural Resources that are listed in, or are known to be eligible for listing in, the CRHR or local register of historical resources within the proposed Project Area or the 0.5-mile surrounding area. Therefore, the Project does not involve any activity would have a disproportionate impact upon indigenous populations or tribes.

5.1.6 Farmland Protection Policy Act

The Farmland Protection Policy Act (FPPA) is intended to minimize the contribution of federal programs to the unnecessary and irreversible conversion of farmland to nonagricultural uses. It does not authorize the federal government to regulate the use of private land or lands not under federal jurisdiction, or in any way affect the rights of property owners. Under the FPPA, farmland includes prime farmland, unique farmland, and land of statewide or local importance. Farmland subject to FPPA requirements does not have to be currently used for cropland; however, it cannot be open water or urban built-up land.

The DOC identifies the Project Area as Urban and Built-Up Land and Other Land. As such, the Project would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance.

5.1.7 Floodplain Management

EO 13690, *The Federal Flood Risk Management Standard* (January 30, 2015) revises EO 11988, *Floodplain Management* (May 24, 1977), and directs federal agencies to take the appropriate actions to reduce risk to federal investments, specifically to “update their flood-risk reduction standards.” The goal of this directive is to improve the resilience of communities and federal assets against the impacts of flooding and recognizes the risks and losses due to climate change and other threats FEMA’s Flood Insurance Rate Maps are used to determine if properties are located within Special Flood Hazard Areas.

As explained in Section 4.10, *Hydrology and Water Quality*, the Project is not located within a 100-year flood hazard area (FEMA 2024). The Proposed Project includes a new well as well as underground pipelines and electrical conduit, which would not impact or redirect flood flows. The proposed access road would increase impervious groundcover; however, a roadside swale is planned for drainage. Therefore, implementation of the Proposed Project will have a less than significant impact related to impeding or redirecting flood flows.

5.1.8 National Historic Preservation Act

The NHPA of 1966, as amended sets forth the responsibilities that federal agencies must meet in regard to cultural resources, especially in regard to Section 106 as set forth in the regulations (36 CFR Part 800). Federal agencies must conduct the necessary studies and consultations to identify cultural resources that may be affected by an undertaking, evaluate cultural resources that may be affected to determine if they are eligible for the NRHP (that is, whether identified resources constitute historic properties), and assess whether such historic properties would be adversely affected. Historic properties are resources listed on or eligible for listing on the NRHP (36 CFR 800.16[1]). A property may be listed in the NRHP if it meets criteria provided in the NRHP regulations (36 CFR 60.4). Typically, such properties must also be 50 years or

older (36 CFR 60.4[d]). 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, or association and: (A) That are associated with events that have made a significant contribution to the broad patterns of our history; or (B) That are associated with the lives of persons significant in our past; or (C) That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess artistic value, or that represent a significant and distinguishable entity whose components may lack individual distinction; or That have yielded, or may be likely to yield, information important in prehistory or history. Section 106 defines an adverse effect as an effect that alters, directly or indirectly, the qualities that make a resource eligible for listing in the NRHP (36 CFR 800.5[a][1]). Consideration must be given to the property's location, design, setting, materials, workmanship, feeling, and association, to the extent that these qualities contribute to the integrity and significance of the resource. Adverse effects may be direct and reasonably foreseeable or may be more remote in time or distance (36 CFR 8010.5[a][1]).

As discussed in Section 4.5 (Cultural Resources), the Historic Properties Evaluation Report completed by ECORP Consulting (2024), analyzed the APE based on the provisions for the treatment of cultural resources contained within Section 106 of the NHPA. A record search was conducted in order to determine the potential for the Project to adversely affect cultural resources eligible for listing on the NRHP. As part of this process, the horizontal APE consists of all areas where activities associated with the Project are proposed and in the case of the current project, equals the Project Area subject to environmental review under NEPA. This includes areas proposed for construction, vegetation removal, grading, trenching, stockpiling, staging, paving, and other elements in the official Project description.

The vertical APE is described as the maximum depth below the surface to which excavations for project foundations and facilities will extend. Therefore, the vertical APE for this project includes all subsurface areas where archaeological deposits could be affected. The subsurface vertical APE varies across the Project but is expected to extend to approximately 550 feet at the location of the well; all other portions of the Project is estimated to be up to 10 feet below the current surface, and therefore, a review of geologic and soils maps was necessary to determine the potential for buried archaeological sites that cannot be seen on the surface.

The vertical APE also is described as the maximum height of structures that could impact the physical integrity and integrity of setting of cultural resources, including districts and traditional cultural properties. For this Project, the above-surface vertical APE is up to 15 feet above the surface, which is typical for a generator and well pump control facilities such as those proposed.

Previous researchers have conducted 3 previous cultural resource investigations in or within 1 mile of the APE, covering approximately 5 percent of the total area surrounding the property within the records search radius. None of the previous studies were conducted within the APE. These studies revealed the presence of pre-contact sites, including lithic scatters and habitation sites, and historic-era sites, including rock walls and sites associated with historic mining activities. The previous studies were conducted between 1976 and 2014 and vary in size from 1 to 45 acres. The results of the records search indicate that none of the property has been previously surveyed for cultural resources.

The records search of the CHRIS also determined that no previously recorded pre-contact or historic-era cultural resources are located within 1 mile of the APE, however, the NEIC search of the Archaeological Resources Directory (dated September 22, 2022) lists one resource within the APE: OHP Property No. 90546, Manzanita School is listed as a *State Point of Historical Interest that does not meet CRHR criteria*.

The 2024 survey by ECORP identified one historic-era road within the APE: MW-02, Center Avenue. The historic-era road (MW-02) underwent evaluation using NRHP and CRHR eligibility criteria and was found to not be eligible for either register.

5.1.9 Magnuson-Stevens Fishery Conservation and Management Act

The Magnuson-Stevens Fishery Conservation and Management Act (MSA) (Public Law 104-267) passed in 1976 and was amended by the Sustainable Fisheries Act of 1996 (Public Law 104-297) and the Magnuson-Stevens Fishery Conservation and Management Reauthorization Act in 2007. The MSA, as amended, governs marine fisheries management in U.S. federal waters out to 200 nautical miles from shore and encourages “long-term biological and economic sustainability of our nation's marine fisheries.” The goals of the MSA are to prevent overfishing, to rebuild overfished stocks, to increase long-term economic and social benefits, and to ensure a safe and sustainable supply of seafood. The act is in place to protect our natural resources, to maximize the possible use of these resources, and to make sure the use of marine resources is done in a safe manner. Amendments to the 1996 MSA require the identification of Essential Fish Habitat (EFH) for federally managed species and the implementation of measures to conserve and enhance this habitat. Any project requiring federal authorization is required to complete and submit an EFH Assessment with the application and either show that no significant impacts to the essential habitat of managed species are expected or identify mitigations to reduce those impacts. Under the MSA, Congress defined EFH as “those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity” (16 USC § 1802(10)). The EFH provisions of the MSA offer resource managers a means to heighten consideration of fish habitat in resource management. Pursuant to section 305(b)(2), federal agencies shall consult with the NMFS regarding any action they authorize, fund, or undertake that might adversely affect EFH. The Proposed Project is over 111 miles inland and would not affect any fisheries or EFH. The MSA does not apply to the Project.

5.1.10 Migratory Bird Treaty Act

The Migratory Bird Treaty Act of 1918 (16 USC 703-711) prohibits the take of any migratory bird, including eggs or active nests, except as permitted by regulation (e.g., licensed hunting of waterfowl or upland game species). Under the MBTA, “migratory bird” is broadly defined as “any species or family of birds that live, reproduce or migrate within or across international borders at some point during their annual life cycle” and thus applies to most native bird species.

As described in Section 4.4 (Biological Resources), there is marginally suitable nesting and foraging habitat for Swainson’s hawk within and in the vicinity of the BSA, nesting habitat for special-status birds, as well as suitable habitat for other migratory birds, non-migratory nongame birds, and raptors protected under the California Fish and Game Code and MBTA. Implementation of Mitigation Measures BIO-1 through BIO-3 would ensure the Project does not violate the MBTA.

5.1.11 Protection of Wetlands

The purpose of EO 11990 (May 24, 1977) is to “minimize the destruction, loss or degradation of wetlands and to preserve and enhance the natural and beneficial values of wetlands.” To meet these objectives, EO 11990 requires federal agencies, in planning their actions, to consider alternatives to wetland sites and limit potential damage if an activity affecting a wetland cannot be avoided. EO 11990 applies to: Acquisition, management, and disposition of federal lands and facilities construction and improvement projects which are undertaken, financed, or assisted by federal agencies; and federal activities and programs affecting land use, including but not limited to water and related land resources planning, regulation, and licensing activities.

As described in Section 4.4 (Biological Resources), the Proposed Project does not contain federally protected wetland habitats as defined by Section 404 of the Clean Water Act. Based on the biological reconnaissance survey there are no aquatic resources, potential waters of the U.S. or state, present within the BSA.

5.1.12 Safe Drinking Water Act, Sole Source Aquifer Protection

The Safe Drinking Water Act of 1974 (SDWA) was established to protect the quality of drinking water in the U.S. This law focuses on all waters actually or potentially designed for drinking use, whether from above ground or underground sources. The SDWA authorizes USEPA to establish minimum standards to protect tap water and requires all owners or operators of public water systems to comply with these primary (health-related) standards. Under the SDWA, USEPA also establishes minimum standards for state programs to protect underground sources of drinking water from endangerment by underground injection of fluids.

The Proposed Project is located in unincorporated Butte County, California. Designated sole source aquifers in California are located in Fresno County, Scotts Valley, and on the California/Mexico border, none of which would be in the vicinity of the Proposed Project (USEPA 2023). Therefore, the SDWA does not apply to the Project.

5.1.13 Wild and Scenic Rivers Act

The Wild and Scenic Rivers Act (16 USC Section 1271 et seq.) establishes a National Wild and Scenic Rivers System for the protection of rivers with important scenic, recreational, fish and wildlife, and other values. Rivers are classified as wild, scenic, or recreational. The Act designates specific rivers for inclusion in the System and prescribes the methods and standards by which additional rivers may be added.

There are no wild and scenic rivers within the vicinity of the Proposed Project. The nearest designated wild and scenic river in the National Wild and Scenic Rivers System is the Middle Fork of the Feather River from its headwaters near Beckwourth, California to Lake Oroville, located approximately 29 miles northeast of the Project Area (National Wild and Scenic River System 2024). Therefore, no portion of the Project is located within or near a designated wild and scenic river.

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6.0 ALTERNATIVES

While an alternatives analysis is not generally required for IS/MNDs, the SWRCB's DWSRF Program requires an environmental alternative analysis for projects that have a ND or MND. This alternatives analysis is based on CEQA Guidelines Section 15126.6, *Consideration and Discussion of Alternatives to the Proposed Project*.

The alternatives analysis consists of the following components: an overview of CEQA requirements for alternatives analysis, descriptions of the alternatives evaluated, evaluation of the alternatives meeting Project objectives, a comparison between the alternatives, and identification of a recommended project alternative. The alternatives were evaluated against the existing baseline. Three alternatives were analyzed and noted no environmental significant environmental effects.

6.1 Introduction

6.1.1 CEQA Requirements for Alternatives

CEQA Guidelines Section 15126 requires that the environmental document describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic project objectives but would avoid or substantially lessen any of the potential significant effects of the project and evaluate the comparative merits of the alternatives. The economic, environmental, social, and technological factors involved should be taken into consideration. A reasonable range of potentially feasible alternatives must be considered to foster informed decision-making and public participation.

The analysis must identify alternatives that were considered by the lead agency but were rejected as infeasible and should briefly explain the reasons underlying the lead agency's determination. Factors that may be used to eliminate alternatives from detailed consideration include failure to meet most of the basic project objectives, infeasibility, or inability to avoid significant environmental impacts (CEQA Guidelines Section 15126.6(c)).

Section 15126.6(d) requires that, if an alternative would cause one or more significant effects in addition to those caused by a proposed project, the significant effects of the alternative shall be discussed, but in less detail than the significant effects of the project as proposed. One of the alternatives analyzed must be the "No Project" alternative (CEQA Guidelines Section 15126.6(e)).

CEQA Guidelines Section 15126.6(e)(2) requires that the alternatives analysis identify the environmentally superior alternative. If that alternative is the No Project Alternative, the analysis shall also identify an environmentally superior alternative among the other alternatives. The environmentally superior alternative is discussed in Section 6.3.

6.1.2 Development of Project Alternatives

This section discusses the reasoning for selecting and rejecting alternatives. This section also summarizes the assumptions identified for the alternatives. The range of alternatives included for analysis is governed by the "rule of reason." The primary objective is formulating potential alternatives and choosing which ones to analyze to ensure that the selection and discussion of alternatives fosters informed decision-

making and informed public participation. This is accomplished by providing sufficient information to enable readers to reach conclusions themselves about such alternatives. This approach avoids assessing an unmanageable number of alternatives or analyzing alternatives that differ too little to provide additional meaningful insights about their environmental effects. The alternatives addressed in an EIR are selected in consideration of one or more of the following factors:

- The extent to which the alternative would avoid or reduce any of the identified significant effects of the project and yet would accomplish most of the basic objectives of the project.
- The feasibility of the alternative, taking into account site suitability and surrounding existing land uses, and consistency with applicable public plans, policies, and regulations.
- The appropriateness of the alternative in contributing to a reasonable range of alternatives necessary to permit a reasoned choice.

The alternatives analyzed in this IS/MND were ultimately chosen based on each alternative's ability to feasibly attain the basic Project objectives while avoiding or reducing one or more of the Project's significant effects. The analysis provides readers with adequate information to compare the effectiveness of identified mitigation or significant adverse impacts and to enable readers to make decisions about the project. Under CEQA a reasonable range of reasonable alternatives should be addressed, but not all potential alternatives must be addressed.

6.1.3 Project Objectives

As noted above, the IS/MND includes a reasonable range of alternatives to the Project that would feasibly attain the basic Project objectives while avoiding or reducing one or more of the Project's significant effects (CEQA Guidelines Section 15126.6(a)). In identifying the range of alternatives for analysis, the Project objectives are identified below:

- 1) Provide a clean drinking water supply for MESD.
 - a) Provide a suitable approach for water quality compliance with the TCP MCL.
 - b) Meet water supply capacity requirements and all water system demands based on current and future uses of the school site.
- 2) Provide the lowest life cycle costs (over 30 years).
- 3) Offer the best implementation process.

6.1.3.1 Water Quality

As stated in Section 2.0, *Project Description*, zone sampling was conducted to assess water quality variation between different hydrostratigraphic units or depth intervals. The six zones at different depths bgs selected for water quality sampling ranged from 125 feet bgs to 506 feet bgs.

According to the Preliminary Engineering Report, the deeper zones (Zones 1 through 3) generally had better overall water quality with only secondary MCL exceedances for manganese in all three deeper

zones, plus aluminum and iron exceedances in Zone 2. The upper three zones (Zones 4 through 6) had primary MCL exceedances for arsenic and TCP, in addition to secondary MCL exceedances for iron and manganese above their respective secondary MCLs (EKI 2024). Zones 1 through 3, which range from 340 feet bgs to 506 feet bgs, did not exceed the MCL for TCP. These depths would provide better water quality than the current onsite well that exceeds the 0.005 µg/l MCL for TCP in drinking water as established by the SWRCB.

6.1.3.2 Water Supply

Potable and non-potable water demands were developed for MESD based on the school's population, peaking factors, and irrigation uses. The Uniform Plumbing Code recommends calculating WSFU of the building to estimate the water demand of a building. These calculations consider the number and types of fixtures, along with the likelihood of simultaneous use. Table 2.1-1 in Section 2.0, *Project Description*, summarizes the potable water demand for MESD. The peak hourly demand is estimated to be approximately 121 gpm and the maximum daily demand is estimated to be approximately 72 gpm. In addition to potable uses, the well also provides non-potable irrigation water for MESD. According to MESD, the school uses approximately 21,000 gallons per week, or 9 gpm, for irrigation. Since the irrigation system uses a constant flow rate of water, no peaking factor needs to be applied to this use. Based on the peak hourly potable water use (121 gpm) and the peak non-potable water use (9 gpm), the total peak water supply demand currently required is 130 gpm (EKI 2024).

6.2 Alternatives Considered and Rejected

An alternative to rehabilitate the existing well and construct a treatment system to treat the TCP contamination was considered. This alternative would include:

- Redrilling the groundwater well at the existing location and redeveloping the well
- Equipping the rehabilitated well with a new well pump
- Installing new piping connecting the rehabilitated well with existing downstream piping
- Installing electrical controls and a new emergency generator
- Constructing a treatment system to treat the TCP contamination.

This alternative was rejected because the condition of the existing well is too deteriorated to allow for the installation of a treatment system.

6.3 Alternatives Carried Forward for Analysis

6.3.1 Description of Alternatives

6.3.1.1 *Alternative 1: Proposed Project*

MESD is implementing the Manzanita Elementary School Well Replacement Project, which consists of replacing the existing well that was found to have levels of TCP above the 0.005 µg/l MCL for drinking water as established by the SWRCB.

The proposed 550-foot-deep well would be located to the north side of the school property adjacent to the existing solar panels. The new well would supply 200 gpm of potable and non-potable water to MESD and would include screen intervals at deeper zones to avoid the zones with MCL exceedances for TCP. The Project also includes the demolition of the existing well per Butte County standards, the installation of 900 feet of C-900 PVC piping and PVC underground electrical conduit from the new well location to the existing well location, a new 50 kW 240V 3-Phase diesel generator with automatic transfer switch on a concrete slab next to the new well, a 6-foot-high chain link fence with privacy slats installed around the well and generator, and a 15,000 square foot access road. The access road would connect the new well site to Center Avenue, located north of the Project Area. A roadside swale would be constructed to allow for drainage. Electrical components such as meter/main and switchboard, deep well submersible pump and motor with VFD motor controller, and conduit would be installed.

6.3.1.2 *Alternative 2: No Project*

CEQA Guidelines Section 15126.6(e)(1) states that a No Project Alternative must be analyzed. Under Alternative 2, the Project Area would remain in its current state with the existing well. No construction would occur and due to the TCP MCL exceedance, the current well cannot be used for potable water sources and would continue to be used only for irrigation purposes. The school would continue to use bottled water for all their potable water needs.

6.3.1.3 *Alternative 3: Connect to the City of Live Oak*

Alternative 3 is a water system consolidation alternative in which MESD would connect to the City of Live Oak water system. This alternative would include the following infrastructure components:

- Installation of approximately 3.6 miles of pipeline between MESD and the City of Live Oak via Larkin Road
- Construction of a pump station to pump water from the City of Live Oak to MESD

6.3.2 Analysis of Alternatives

The Project alternative is evaluated in less detail than those of the Proposed Project, and the impacts are described in terms of difference in outcome compared with implementing the Proposed Project. Table 6.3-1 at the end of this section compares the Alternative Project to the basic Project objectives.

6.3.2.1 *Alternative 1: Proposed Project*

Sustainable and Reliable Water Supply

Water Quality Compliance

The proposed new well under Alternative 1 would be constructed 550 feet deep and would include screen intervals at deeper zones to avoid the existing contaminated zone. The screens will span between 340 feet to 400 feet bgs and 490 feet to 520 feet bgs, which would provide the required 200 gpm for the well. The well will be 12 inches in diameter. The filter pack envelope would be 8 by 16 which will provide the necessary filtration of sand and water.

Based on the zone sampling results, the deeper zones (Zones 1 through 3) have a better overall water quality with only secondary MCL exceedances for manganese in all three deeper zones. Alternative 1 proposes a 550-foot-deep well which is deeper than Zone 1 which had no exceedances for TCP. The expected concentrations of iron and manganese are close to the MCLs, however the anticipated mixing would result in water quality that is not expected to require treatment. This alternative would provide better water quality than the existing onsite well (Alternative 2) and would result in similar water quality as the water provided by the City of Live Oak's system (Alternative 3).

Water Supply Capacity

The new well under Alternative 1 (Proposed Project) is designed to supply 200 gpm of potable and non-potable water to MESD. This flowrate meets the needs of the school, which was estimated to have a water supply demand of 130 gpm.

The new well would be located within the Sacramento Valley-Butte Groundwater Basin (Basin Number 5-021.7), which also supplies the City of Gridley with potable water. According to census data, in 2010 the population of Gridley was 6,584 and in 2022 the population was 7,227 with a peak in 2020 of 7,421. The population of Gridley has remained stable. Additionally, the school's future water demand is expected to remain relatively stable in the future due to lack of growth in the area, and flows may decrease due to ongoing water conservation efforts. As such, the design criteria of 200 gpm for water flow are sufficient to meet both the present and future needs of the school without impacting the City of Gridley's ability to utilize the basin for their potable water supply.

Lifecycle Cost

Project costs for Alternative 1 include (1) construction, (2) a construction contingency, and (3) soft costs for Project administration and planning, design, construction management, and permitting. The Project is expected to have a useful life of at least 30 years with proper maintenance and periodic equipment replacements (e.g., replacing the well pump after 10 to 15 years). The Engineers Opinion of Probable Cost (EOPC) and operation and maintenance (O&M) costs for Alternative 1 (Proposed Project) are estimated to be approximately \$16,000 annually, or \$480,000 over a 30-year period in 2023 dollars. O&M is anticipated to include routine operations and maintenance of equipment, energy consumption, and potential repairs over the specified period.

Implementation

Implementation of Alternative 1 would be simpler than Alternatives 3. The length of pipe required for this Alternative is relatively short (i.e., only 950 ft), in comparison to the 3.6 miles of pipeline required for Alternative 3 to connect MESD to the City of Live Oak. Construction would also require less coordination with the City of Live Oak and property owners adjacent to the pipeline alignment.

6.3.2.2 *Alternative 2: No Project*

Sustainable and Reliable Water Supply

Water Quality Compliance

In 2018, TCP was detected in the existing Manzanita Elementary School well above the MCL of 0.005 ug/L. As a result of the TCP detection, this contaminated well is currently being used for irrigation purposes but is no longer being used for potable water uses. The school currently uses bottled water for all their potable water needs. Under Alternative 2 (No Project), water quality in the existing well would remain as is and the school would not be able to use it for potable purposes; it does not meet the water quality needs of MESD.

Water Supply Capacity

Manzanita Elementary School is estimated to have a water supply demand of 130 gpm. Under Alternative 2, the existing well would continue to provide 9 gpm for the irrigation system. However, the existing contaminated well is not used for potable water uses and therefore bottled water would continue to be used for the school's potable water needs. Alternative 2 does not meet the water supply needs of MESD.

Lifecycle Cost

The cost associated with this Alternative 2 is the cost of bottled water to meet the potable water needs of the school. Over a 30-year period, the cost of using bottled water for all potable water needs would total approximately \$280,000.

Implementation

Alternative 2 does not involve an implementation process, as it is the No Project alternative.

6.3.2.3 *Alternative 3: Connect to the City of Live Oak*

Sustainable and Reliable Water Supply

Water Quality Compliance

The water quality for Alternative 3 would be equivalent to that of the existing system in the City of Live Oak. The City of Live Oak tracks the Title 22 Drinking Water contaminants of concern with the required monitoring and testing to ensure that the MCLs are not exceeded. This includes a myriad of biological, physical, chemical characteristics of the water, including TCP. It can therefore be assumed that this water

quality would meet the requirements of this project. This alternative would provide better water quality than the existing contaminated well (Alternative 2) and would result in similar water quality as the Proposed Project (Alternative 1).

Water Supply Capacity

Alternative 3 would be able to supply the required water supply to MESD. As shown by the current capacity in the City of Live Oak's Public Utilities 2030 General Plan and the 2009 Water Master Plan, it is reasonable to assume that the City of Live Oak will have the necessary water capacity to handle the additional 200 gpm required by the school for potable and non-potable uses.

Lifecycle Cost

The total cost for Alternative 3 includes (1) construction, including both onsite and offsite construction, (2) a constriction contingency, and (3) soft costs for Project administration and planning, design, construction management, and permitting. The EOPC and O&M costs for Alternative 3 are estimated to be approximately \$34,000 annually, or \$1,020,000 over a 30-year period in 2023 dollars. O&M is anticipated to include routine operations and maintenance of equipment and pipeline, energy consumption, and potential repairs over the specified period. This lifecycle cost is greater than the lifecycle cost of Alternative 1.

Implementation

Compared to Alternative 1, this Alternative would be difficult to implement due to the length of pipe that would need to be installed. A length of 3.6 miles of pipe would be required, which involves a more difficult design and more complicated construction, like open trench installation. The alternative also requires more extensive coordination with the City of Live Oak.

6.4 Recommended Project Alternative

Table 6.3-1 illustrates a comparison of the project objectives and alternatives. These objectives are the major considerations for the design of the Project.

Table 6.3-1. Comparison Project Objectives and Alternatives			
Objective	Alternative 1	Alternative 2	Alternative 3
Provide a clean drinking water supply for MESD.	X	–	X
Provide a suitable approach for water quality compliance with the TCP MCL.	X	–	X
Meet water supply capacity requirements and all water system demands based on current and future uses of the school site.	X	–	X
Provide the lowest life cycle costs (over 30 years).	X	–	–
Offer the best implementation process.	X	–	–

Note: MCL = Maximum Contaminant Level; MESD = Manzanita Elementary School District; TCP = 1,2,3-trichloropropane; X = Meets project objective

Based on the evaluation contained in Section 6.2, Alternative 1 meets all the Project objectives and is therefore the Alternative 1 (Proposed Project) which proposed a new well is the recommended alternative.

The alternative analysis has demonstrated that the new well project (Alternative 1) is the most cost-effective alternative and is the alternative that would have the water capacity and quality compliance that is required to meet this Project's needs and the simplest implementation.

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APPENDIX A

Air Quality/Climate Change Technical Report

Manzanita School Well Replacement Custom Report

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Manzanita School Well Replacement
Construction Start Date	8/5/2024
Operational Year	2024
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.90
Precipitation (days)	12.0
Location	627 E Evans Reimer Rd, Gridley, CA 95948, USA
County	Butte
City	Unincorporated
Air District	Butte County AQMD
Air Basin	Sacramento Valley
TAZ	225
EDFZ	3
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.21

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
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Other Non-Asphalt Surfaces	15.0	1000sqft	0.34	0.00	0.00	0.00	—	—
Other Asphalt Surfaces	1.00	Acre	1.00	0.00	0.00	1.00	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	1.79	20.1	17.0	0.04	0.80	3.71	4.51	0.75	1.59	2.34	—	5,870	5,870	0.13	0.55	7.69	6,045
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.40	3.78	4.67	0.01	0.14	0.00	0.14	0.13	0.00	0.13	—	754	754	0.03	0.01	0.00	757
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.15	1.45	1.69	< 0.005	0.06	0.07	0.13	0.05	0.03	0.08	—	329	329	0.01	0.01	0.07	333
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.03	0.26	0.31	< 0.005	0.01	0.01	0.02	0.01	0.01	0.02	—	54.4	54.4	< 0.005	< 0.005	0.01	55.1

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
--------	-----	-----	----	-----	-------	-------	-------	--------	--------	--------	------	-------	------	-----	-----	---	------

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	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
Area	0.01	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Energy	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	11.6	11.6	< 0.005	< 0.005	—	11.7
Water	—	—	—	—	—	—	—	—	—	—	0.00	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005
Waste	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Stationary	1.14	3.17	4.12	0.01	0.17	0.00	0.17	0.17	0.00	0.17	0.00	581	581	0.02	< 0.005	0.00	583
Total	1.15	3.17	4.12	0.01	0.17	0.00	0.17	0.17	0.00	0.17	0.00	593	593	0.03	< 0.005	0.00	595
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	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
Area	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	11.6	11.6	< 0.005	< 0.005	—	11.7
Water	—	—	—	—	—	—	—	—	—	—	0.00	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005
Waste	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Stationary	1.14	3.17	4.12	0.01	0.17	0.00	0.17	0.17	0.00	0.17	0.00	581	581	0.02	< 0.005	0.00	583
Total	1.15	3.17	4.12	0.01	0.17	0.00	0.17	0.17	0.00	0.17	0.00	593	593	0.03	< 0.005	0.00	595
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	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
Area	0.01	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Energy	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	11.6	11.6	< 0.005	< 0.005	—	11.7
Water	—	—	—	—	—	—	—	—	—	—	0.00	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005
Waste	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

Stationary	0.08	0.22	0.28	< 0.005	0.01	0.00	0.01	0.01	0.00	0.01	0.00	39.8	39.8	< 0.005	< 0.005	0.00	39.9
Total	0.09	0.22	0.28	< 0.005	0.01	0.00	0.01	0.01	0.00	0.01	0.00	51.4	51.4	< 0.005	< 0.005	0.00	51.6
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	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
Area	< 0.005	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Energy	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	1.92	1.92	< 0.005	< 0.005	—	1.94
Water	—	—	—	—	—	—	—	—	—	—	0.00	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005
Waste	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Stationary	0.01	0.04	0.05	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	6.59	6.59	< 0.005	< 0.005	0.00	6.61
Total	0.02	0.04	0.05	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	8.50	8.50	< 0.005	< 0.005	0.00	8.55

3. Construction Emissions Details

3.1. Site Preparation (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.43	13.7	12.9	0.02	0.65	—	0.65	0.59	—	0.59	—	2,064	2,064	0.08	0.02	—	2,071
Dust From Material Movement	—	—	—	—	—	2.45	2.45	—	1.17	1.17	—	—	—	—	—	—	—
Onsite truck	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

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.07	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	11.3	11.3	< 0.005	< 0.005	—	11.3
Dust From Material Movement	—	—	—	—	—	0.01	0.01	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.87	1.87	< 0.005	< 0.005	—	1.88
Dust From Material Movement	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.03	0.51	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	63.7	63.7	< 0.005	< 0.005	0.26	64.7
Vendor	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
Hauling	0.08	4.17	0.86	0.02	0.06	0.86	0.92	0.06	0.24	0.30	—	3,324	3,324	0.03	0.53	7.33	3,489
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.32	0.32	< 0.005	< 0.005	< 0.005	0.32
Vendor	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
Hauling	< 0.005	0.02	< 0.005	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	18.2	18.2	< 0.005	< 0.005	0.02	19.1
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.05	0.05	< 0.005	< 0.005	< 0.005	0.05
Vendor	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
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.02	3.02	< 0.005	< 0.005	< 0.005	3.16

3.3. Grading (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.65	15.9	15.4	0.02	0.74	—	0.74	0.68	—	0.68	—	2,454	2,454	0.10	0.02	—	2,462
Dust From Material Movement	—	—	—	—	—	2.77	2.77	—	1.34	1.34	—	—	—	—	—	—	—
Onsite truck	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.22	0.21	< 0.005	0.01	—	0.01	0.01	—	0.01	—	33.6	33.6	< 0.005	< 0.005	—	33.7

Dust From Material Movement	—	—	—	—	—	0.04	0.04	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.04	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.56	5.56	< 0.005	< 0.005	—	5.58
Dust From Material Movement	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.04	0.68	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	84.9	84.9	< 0.005	< 0.005	0.34	86.3
Vendor	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
Hauling	0.08	4.18	0.86	0.02	0.06	0.86	0.93	0.06	0.24	0.30	—	3,331	3,331	0.03	0.53	7.35	3,496
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.05	1.05	< 0.005	< 0.005	< 0.005	1.07
Vendor	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
Hauling	< 0.005	0.06	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	45.6	45.6	< 0.005	0.01	0.04	47.8
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.17	0.17	< 0.005	< 0.005	< 0.005	0.18
Vendor	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

Hauling	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	7.56	7.56	< 0.005	< 0.005	0.01	7.92
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3.5. Well Drilling/Construction (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.40	3.78	4.67	0.01	0.14	—	0.14	0.13	—	0.13	—	754	754	0.03	0.01	—	757
Onsite truck	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.40	3.78	4.67	0.01	0.14	—	0.14	0.13	—	0.13	—	754	754	0.03	0.01	—	757
Onsite truck	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.80	0.99	< 0.005	0.03	—	0.03	0.03	—	0.03	—	159	159	0.01	< 0.005	—	160
Onsite truck	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.15	0.18	< 0.005	0.01	—	0.01	0.01	—	0.01	—	26.3	26.3	< 0.005	< 0.005	—	26.4
Onsite truck	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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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
Vendor	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
Hauling	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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
Vendor	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
Hauling	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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
Vendor	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
Hauling	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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
Vendor	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
Hauling	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

3.7. Paving (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.53	4.90	6.53	0.01	0.23	—	0.23	0.21	—	0.21	—	992	992	0.04	0.01	—	995
Paving	0.05	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.27	0.36	< 0.005	0.01	—	0.01	0.01	—	0.01	—	54.4	54.4	< 0.005	< 0.005	—	54.5
Paving	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.05	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	9.00	9.00	< 0.005	< 0.005	—	9.03
Paving	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.05	0.85	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	106	106	0.01	< 0.005	0.43	108
Vendor	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
Hauling	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	0.04	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	5.27	5.27	< 0.005	< 0.005	0.01	5.35
Vendor	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
Hauling	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.87	0.87	< 0.005	< 0.005	< 0.005	0.89
Vendor	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
Hauling	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

4. Operations Emissions Details

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	11.6	11.6	< 0.005	< 0.005	—	11.7
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	11.6	11.6	< 0.005	< 0.005	—	11.7
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	11.6	11.6	< 0.005	< 0.005	—	11.7

Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	11.6	11.6	< 0.005	< 0.005	—	11.7
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	1.92	1.92	< 0.005	< 0.005	—	1.94
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	1.92	1.92	< 0.005	< 0.005	—	1.94

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	1.14	3.17	4.12	0.01	0.17	0.00	0.17	0.17	0.00	0.17	0.00	581	581	0.02	< 0.005	0.00	583
Total	1.14	3.17	4.12	0.01	0.17	0.00	0.17	0.17	0.00	0.17	0.00	581	581	0.02	< 0.005	0.00	583
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Emergency Generator	1.14	3.17	4.12	0.01	0.17	0.00	0.17	0.17	0.00	0.17	0.00	581	581	0.02	< 0.005	0.00	583
Total	1.14	3.17	4.12	0.01	0.17	0.00	0.17	0.17	0.00	0.17	0.00	581	581	0.02	< 0.005	0.00	583
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	0.01	0.04	0.05	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	6.59	6.59	< 0.005	< 0.005	0.00	6.61
Total	0.01	0.04	0.05	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	6.59	6.59	< 0.005	< 0.005	0.00	6.61

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Site Preparation	Site Preparation	8/6/2024	8/7/2024	5.00	2.00	—
Grading	Grading	8/8/2024	8/14/2024	5.00	5.00	—
Well Drilling/Construction	Building Construction	8/15/2024	11/30/2024	5.00	77.0	—
Paving	Paving	8/15/2024	9/11/2024	5.00	20.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Graders	Diesel	Average	1.00	8.00	148	0.41
Site Preparation	Rubber Tired Dozers	Diesel	Average	1.00	7.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37

Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	7.00	84.0	0.37
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Well Drilling/Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Well Drilling/Construction	Tractors/Loaders/Backhoes	Diesel	Average	1.00	6.00	84.0	0.37
Well Drilling/Construction	Skid Steer Loaders	Diesel	Average	1.00	8.00	71.0	0.37
Well Drilling/Construction	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
Well Drilling/Construction	Dumpers/Tenders	Diesel	Average	1.00	6.00	16.0	0.38
Paving	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Paving	Pavers	Diesel	Average	1.00	6.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	1.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	1.00	7.00	36.0	0.38
Paving	Cement and Mortar Mixers	Diesel	Average	1.00	6.00	10.0	0.56

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	7.50	10.3	LDA,LDT1,LDT2
Site Preparation	Vendor	—	4.50	HHDT,MHDT
Site Preparation	Hauling	46.5	20.0	HHDT

Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	10.0	10.3	LDA,LDT1,LDT2
Grading	Vendor	—	4.50	HHDT,MHDT
Grading	Hauling	46.6	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Well Drilling/Construction	—	—	—	—
Well Drilling/Construction	Worker	0.00	10.3	LDA,LDT1,LDT2
Well Drilling/Construction	Vendor	0.00	4.50	HHDT,MHDT
Well Drilling/Construction	Hauling	0.00	20.0	HHDT
Well Drilling/Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	12.5	10.3	LDA,LDT1,LDT2
Paving	Vendor	—	4.50	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Preparation	0.00	743	1.88	0.00	—
Grading	0.00	1,857	5.00	0.00	—

Paving	0.00	0.00	0.00	0.00	1.34
--------	------	------	------	------	------

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Other Non-Asphalt Surfaces	0.34	100%
Other Asphalt Surfaces	1.00	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2024	0.00	204	0.03	< 0.005

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Other Non-Asphalt Surfaces	20,712	204	0.0330	0.0040	0.00
Other Asphalt Surfaces	0.00	204	0.0330	0.0040	0.00

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor
Emergency Generator	Diesel	1.00	4.00	100	173	0.73

APPENDIX B

Biological Resources Assessment

Biological Resources Assessment for the Manzanita School Well Replacement Project

**Manzanita Elementary School District
Butte County, California**

Prepared For:

Manzanita Elementary School District

Prepared By:

 **ECORP Consulting, Inc.**
ENVIRONMENTAL CONSULTANTS
2525 Warren Drive
Rocklin, California 95677

March 29, 2024

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LIST OF ACRONYMS AND ABBREVIATIONS

Term	Definition
°F	Degrees Fahrenheit
BCC	Birds of Conservation Concern
BIOS	Biogeographic Information and Observation System
BRA	Biological Resources Assessment
BSA	Biological Study Area
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CRPR	California Rare Plant Ranks
CWA	Clean Water Act
DPS	Distinct Population Segment
ESA	Endangered Species Act
GPS	Global Positioning System

Term	Definition
HCP	Habitat Conservation Plan
LSAA	Lake or Streambed Alteration Agreement
MBTA	Migratory Bird Treaty Act
MCV	<i>Manual of California Vegetation Online</i>
MESD	Manzanita Elementary School District
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
NPPA	Native Plant Protection Act
NRCS	Natural Resources Conservation Service
NWI	National Wetlands Inventory
RWQCB	Regional Water Quality Control Board
SSC	Species of Special Concern
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WBWG	Western Bat Working Group
WL	Watch List

1.0 INTRODUCTION

ECORP Consulting, Inc. has conducted a Biological Resources Assessment (BRA) at the request of the Manzanita Elementary School District (MESD), for the proposed Manzanita Elementary School Well Replacement Project (Project) located in unincorporated Butte County, California near the City of Gridley at Assessor's Parcel Numbers 024-120-026-000, 024-120-035-000, and 024-120-059-000. The results of this assessment will support environmental review of the Project in accordance with the California Environmental Quality Act (CEQA) and provide the basis for identifying appropriate measures to lessen or avoid significant impacts to biological resources.

1.1 Project Location and Description

The Project is situated north of East Evans Reimer Road, east of Larkin Road, south of Center Avenue, and west of River Avenue. MESD proposes the Manzanita Elementary School Well Replacement Project to provide a sustainable and reliable water supply for MESD. In 2018, 1, 2, 3-trichloropropane, a volatile organic compound, was detected above the Maximum Contaminant Level of 0.005 micrograms per liter in the existing shallow well on the east side of the school property. Due to the contamination, the current well is not used as a potable water source and is used only for irrigation purposes. The Project proposes to replace the existing well and includes the installation of associated infrastructure including 950 feet of polyvinyl chloride piping, electrical conduit, fencing, a diesel generator, and an access road. Project activities do not involve any tree removal.

1.2 Biological Study Area

The Biological Study Area (BSA) includes all areas where Project-related activities may result in impacts to sensitive biological resources. The 0.84-acre BSA corresponds to an unsectioned portion of the "Gridley, California" 7.5-minute quadrangles (U.S. Geological Survey [USGS] 1952 [photo revised 1973]) (Figure 1). The approximate center of the BSA is located at 39.336303° North and -121.658091° West within the Honcut-Headwaters-Lower Feather watershed (Hydrological Unit Code 18020159, Natural Resources Conservation Service [NRCS] et al., 2019).

1.3 Purpose of this Biological Resources Assessment

The purpose of this BRA is to assess the potential for occurrence of special-status plant and animal species or their habitats, and other sensitive or protected resources such as migratory birds, sensitive natural communities, riparian habitat, oak woodlands, and potential Waters of the U.S. or state, including wetlands, within the BSA. This assessment does not include determinate field surveys conducted according to agency-promulgated protocols. The conclusions and recommendations presented in this report are based upon a review of available literature and the results of site reconnaissance field surveys.

For the purposes of this assessment, special-status species are defined as plants or animals that:

- are listed, proposed for listing, or candidates for future listing as threatened or endangered under the federal Endangered Species Act (ESA);

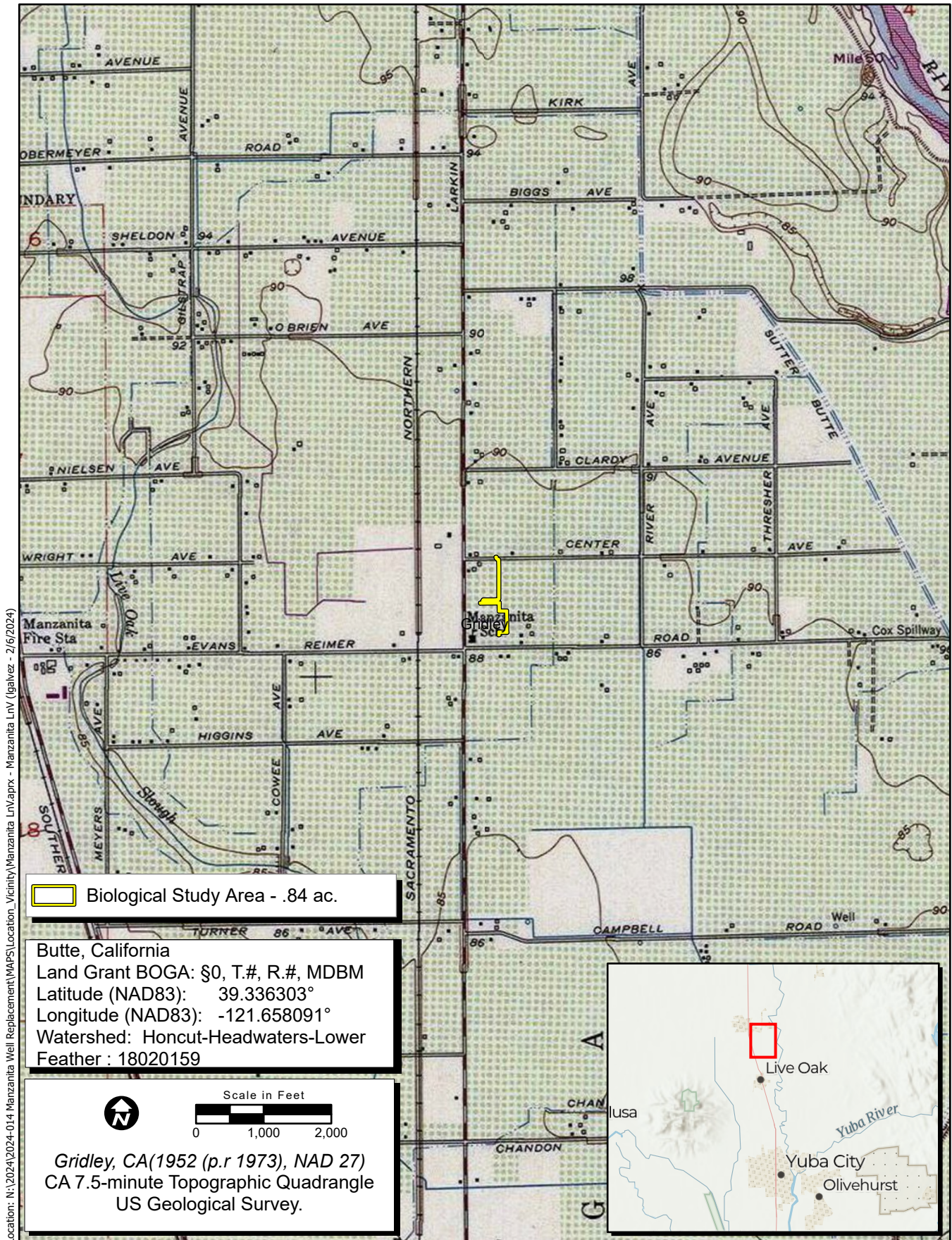


Figure 1. Project Location and Vicinity

- are listed or candidates for future listing as threatened or endangered under the California ESA;
- meet the definitions of endangered or rare under Section 15380 of the CEQA Guidelines;
- are identified as a Species of Special Concern (SSC) by the California Department of Fish and Wildlife (CDFW);
- are birds identified as Birds of Conservation Concern (BCC) by the U.S. Fish and Wildlife Service (USFWS);
- are plants considered by the California Native Plant Society (CNPS) to be "rare, threatened, or endangered in California" or "rare, threatened, or endangered in California but more common elsewhere" (California Rare Plant Ranks [CRPR] 1 and 2), plants listed by CNPS as species about which more information is needed to determine their status (CRPR 3), or plants of limited distribution (CRPR 4);
- are plants listed as rare under the California Native Plant Protection Act (California Fish and Game Code, Section 1900 et seq.); or
- are fully protected in California in accordance with the California Fish and Game Code, Sections 3511 (birds), 4700 (mammals), 5050 (amphibians and reptiles), and 5515 (fishes).

2.0 REGULATORY SETTING

2.1 Federal Regulations

2.1.1 Federal Endangered Species Act

The federal ESA protects plants and animals that are listed as endangered or threatened by the USFWS or the National Marine Fisheries Service (NMFS). Section 9 of the ESA prohibits the taking of listed wildlife, where take is defined as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in such conduct" (50 Code of Federal Regulations [CFR] 17.3). For plants, the ESA prohibits removing or possessing any listed plant on federal land, maliciously damaging or destroying any listed plant in any area, or removing, cutting, digging up, damaging, or destroying any such species in knowing violation of state law (16 U.S. Code 1538). Under Section 7 of ESA, federal agencies are required to consult with the USFWS if their actions, including permit approvals or funding, could adversely affect a listed (or proposed) species (including plants) or its designated Critical Habitat. Through consultation and the issuance of a Biological Opinion, the USFWS may issue an incidental take statement allowing take of a listed species that is incidental to an otherwise authorized activity provided the activity will not jeopardize the continued existence of the species. Section 10 of the ESA provides for issuance of incidental take permits where no other federal actions are necessary provided a Habitat Conservation Plan (HCP) is developed.

2.1.2 Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) implements international treaties between the United States and other nations devised to protect migratory birds, any of their parts, eggs, and nests from activities such as hunting, pursuing, capturing, killing, selling, and shipping, unless expressly authorized in the regulations or by permit. The protections of the MBTA extend to disturbances that result in abandonment of a nest with eggs or young. The USFWS may issue permits to qualified applicants as authorized by the MBTA for the following types of activities: falconry, raptor propagation, scientific collecting, special purposes (rehabilitation, education, migratory game bird propagation, and salvage), take of depredating birds, taxidermy, and waterfowl sale and disposal. The regulations governing migratory bird permits can be found in 50 CFR part 13 General Permit Procedures and 50 CFR part 21 Migratory Bird Permits.

2.1.3 Federal Clean Water Act

The purpose of the federal Clean Water Act (CWA) is to “restore and maintain the chemical, physical, and biological integrity of the nation’s waters.” Section 404 of the CWA prohibits the discharge of dredged or fill material into Waters of the U.S. without a permit from the U.S. Army Corps of Engineers (USACE). The definition of Waters of the U.S. includes rivers, streams, estuaries, the territorial seas, ponds, lakes, and wetlands. Wetlands are defined as those areas:

“...that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions” (33 CFR 328.3 7b).

The U.S. Environmental Protection Agency also has authority over wetlands and may override a USACE permit.

Substantial impacts to wetlands may require an individual permit. Projects that only minimally affect wetlands may meet the conditions of one of the existing Nationwide Permits. A Water Quality Certification or waiver pursuant to Section 401 of the CWA is required for Section 404 permit actions; this certification or waiver is issued by the Regional Water Quality Control Board (RWQCB).

2.2 State or Local Regulations

2.2.1 California Fish and Game Code

2.2.1.1 California Endangered Species Act

The California ESA (California Fish and Game Code Sections 2050-2116) generally parallels the main provisions of the federal ESA, but unlike its federal counterpart, the California ESA applies the take prohibitions to species proposed for listing (called *candidates* by the state). Section 2080 of the California Fish and Game Code prohibits the taking, possession, purchase, sale, and import or export of endangered, threatened, or candidate species, unless otherwise authorized by permit or in the regulations. *Take* is defined in Section 86 of the California Fish and Game Code as “hunt, pursue, catch, capture, or kill, or

attempt to hunt, pursue, catch, capture, or kill.” Section 2081 allows CDFW to authorize incidental take permits if species-specific minimization and avoidance measures are incorporated to fully mitigate the impacts of the project.

2.2.1.2 Fully Protected Species

The State of California first began to designate species as *fully protected* prior to the creation of the federal and California ESAs. Lists of fully protected species were initially developed to provide protection to those animals that were rare or faced possible extinction and included fish, amphibians and reptiles, birds, and mammals. Most fully protected species have since been listed as threatened or endangered under the state and/or federal ESAs. Previously, the regulations that implement the Fully Protected Species Statute (California Fish and Game Code Sections 4700 for mammals, 3511 for birds, 5050 for reptiles and amphibians, and 5515 for fish) provided that fully protected species may not be taken or possessed at any time. However, on July 10, 2023, Senate Bill 147 was signed into law, authorizing CDFW to issue take permits under the California ESA for fully protected species for qualifying projects through 2033. Qualifying projects include:

- a maintenance, repair, or improvement project to the State Water Project, including existing infrastructure, undertaken by the Department of Water Resources;
- a maintenance, repair, or improvement project to critical regional or local water agency infrastructure;
- a transportation project, including any associated habitat connectivity and wildlife crossing project, undertaken by a state, regional, or local agency, that does not increase highway or street capacity for automobile or truck travel;
- a wind project and any appurtenant infrastructure improvement, and any associated electric transmission project carrying electric power from a facility that is located in the State to a point of junction with any California based balancing authority; or
- a solar photovoltaic project and any appurtenant infrastructure improvement, and any associated electric transmission project carrying electric power from a facility that is located in the State to a point of junction with any California-based balancing authority.

CDFW may also issue licenses or permits for take of these species for necessary scientific research or live capture and relocation, and may allow incidental take for lawful activities carried out under an approved Natural Community Conservation Plan within which such species are covered.

2.2.1.3 Native Plant Protection Act

The Native Plant Protection Act (NPPA) of 1977 was created with the intent to “preserve, protect and enhance rare and endangered plants in this State.” The NPPA is administered by CDFW and provided in California Fish and Game Code Sections 1900-1913. The Fish and Wildlife Commission has the authority to designate native plants as *endangered* or *rare* and to protect endangered and rare plants from take. The

California ESA of 1984 (California Fish and Game Code Sections 2050-2116) provided further protection for rare and endangered plant species, but the NPPA remains part of the California Fish and Game Code.

2.2.1.4 California Fish and Game Code Special Protections for Birds

Sections 3503, 3513, and 3800 of the California Fish and Game Code specifically protect birds. Section 3503 prohibits the take, possession, or needless destruction of the nest or eggs of any bird. Subsection 3503.5 prohibits the take, possession, or destruction of any birds in the orders Strigiformes (owls) or Falconiformes (hawks and eagles), as well as their nests and eggs. Section 3513 prohibits the take or possession of any migratory nongame bird as designated in the MBTA. Section 3800 states that, with limited exceptions, it is unlawful to take any nongame bird, defined as all birds occurring naturally in California that are not resident game birds, migratory game birds, or fully protected birds. These provisions, along with the federal MBTA, serve to protect all nongame birds and their nests and eggs, except as otherwise provided in the code.

2.2.1.5 Lake or Streambed Alteration Agreements

Section 1602 of the California Fish and Game Code requires that a Notification of Lake or Streambed Alteration be submitted to CDFW for “any activity that may substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake.” The notification must incorporate proposed measures to protect affected fish and wildlife resources. CDFW may suggest additional protective measures during their review. A Lake or Streambed Alteration Agreement (LSAA) is the final proposal mutually agreed upon by CDFW and the applicant. Projects that require an LSAA often also require a permit from the USACE under Section 404 of the CWA. The conditions of the Section 404 permit and the LSAA frequently overlap in these instances.

2.2.2 California Oak Woodlands Conservation Act

The California Oak Woodlands Conservation Act was passed in 2001 to address loss of oak woodland habitats throughout the State. As a result of the Act, the Oak Woodland Conservation Program was established to provide funding for conservation and protection of California oak woodlands. Public Resources Code Section 21083.4 went into effect as of January 1, 2005 and requires lead agencies to analyze potential effects to oak woodlands during the CEQA process. The lead agency must implement one of several mitigation alternatives, including conservation of oak woodlands through conservation easements, planting or restoration of oak woodlands, contribution of funds to the Oak Woodlands Conservation Fund, or other appropriate mitigation measures if it is determined that a project may have a significant effect on oak woodlands.

2.2.3 Porter-Cologne Water Quality Act

The RWQCB implements water quality regulations under the federal CWA and the Porter-Cologne Water Quality Act. These regulations require compliance with the National Pollutant Discharge Elimination System (NPDES), including compliance with the California Storm Water NPDES General Construction Permit for discharges of storm water runoff associated with construction activities. General Construction

Permits for projects that disturb 1 or more acres of land require development and implementation of a Storm Water Pollution Prevention Plan. Under the Porter-Cologne Water Quality Act, the RWQCB also regulates actions that would involve “discharging waste, or proposing to discharge waste, within any region that could affect the water of the state” (Water Code 13260(a)). Waters of the State are defined as “any surface water or groundwater, including saline waters, within the boundaries of the state” (Water Code 13050 (e)). The RWQCB regulates all such activities, as well as dredging, filling, or discharging materials into Waters of the State, that are not regulated by the USACE due to a lack of connectivity with a navigable water body. The RWQCB may require issuance of Waste Discharge Requirements for these activities.

2.2.4 California Environmental Quality Act

Per CEQA Guidelines Section 15380, a species not protected on a federal or state list may be considered rare or endangered if the species meets certain specified criteria. These criteria follow the definitions in the federal and California ESAs, and Sections 1900-1913 of the California Fish and Game Code, which deal with rare or endangered plants or animals. Section 15380 was included in the CEQA Guidelines primarily to deal with situations where a project under review may have a significant effect on a species that has not yet been listed by either the USFWS or CDFW.

2.2.4.1 CEQA Significance Criteria

Sections 15063-15065 of the CEQA Guidelines address how an impact is identified as significant. Generally, impacts to listed (i.e., rare, threatened, or endangered) species are considered significant. Assessment of *impact significance* to populations of non-listed species (e.g., SSC) usually considers the proportion of the species’ range that will be affected by a project, impacts to habitat, and the regional and population level effects.

Section 15064.7 of the CEQA Guidelines encourages local agencies to develop and publish the thresholds that the agency uses in determining the significance of environmental effects caused by projects under its review. However, agencies may also rely upon the guidance provided by the expanded Initial Study checklist contained in Appendix G of the CEQA Guidelines. Pursuant to Appendix G, impacts to biological resources would normally be considered significant if the project 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 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 CDFW or USFWS;
- have a substantial adverse effect on federally protected Waters of the U.S. including wetlands as defined by Section 404 of the CWA (including, but not limited to, marsh, vernal pool, and coastal) 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 HCP, Natural Community Conservation Plan, or other approved local, regional or state habitat conservation plan.

An evaluation of whether an impact on biological resources would be substantial must consider both the resource itself and how that resource fits into a regional or local context. Substantial impacts would be those that would diminish, or result in the loss of, an important biological resource, or those that would obviously conflict with local, state, or federal resource conservation plans, goals, or regulations. Impacts are sometimes locally important but not significant according to CEQA because although the impacts would result in an adverse alteration of existing conditions, they would not substantially diminish or result in the permanent loss of an important resource on a population-wide or region-wide basis.

2.2.4.2 *Species of Special Concern*

Species of Special Concern (SSC) are defined by the CDFW as a species, subspecies, or distinct population of an animal native to California that are not legally protected under the ESA, the California ESA or the California Fish and Game Code, but currently satisfy one or more of the following criteria:

- The species has been completely extirpated from the State or, as in the case of birds, it has been extirpated from its primary seasonal or breeding role.
- The species is listed as federally (but not State) threatened or endangered, and meets the state definition of threatened or endangered but has not formally been listed.
- The species has or is experiencing serious (nonscyclical) population declines or range retractions (not reversed) that, if continued or resumed, could qualify it for state threatened or endangered status.
- The species has naturally small populations that exhibit high susceptibility to risk from any factor that if realized, could lead to declines that would qualify it for state threatened or endangered status.

SSC are typically associated with threatened habitats. Projects that result in substantial impacts to SSC may be considered significant under CEQA.

2.2.4.3 *USFWS Bird of Conservation Concern*

The 1988 amendment to the Fish and Wildlife Conservation Act mandates the USFWS “identify species, subspecies, and populations of all migratory nongame birds that, without additional conservation actions, are likely to become candidates for listing under ESA.” To meet this requirement, the USFWS published a list of BCC (USFWS 2021) for the U.S. The list identifies the migratory and nonmigratory bird species

(beyond those already designated as federally threatened or endangered) that represent USFWS' highest conservation priorities. Depending on the policy of the lead agency, projects that result in substantial impacts to BCC may be considered significant under CEQA.

2.2.4.4 Watch List Species

The CDFW maintains a list consisting of taxa that were previously designated as "Species of Special Concern" but no longer merit that status, or which do not yet meet SSC criteria, but for which there is concern and a need for additional information to clarify status.

Depending on the policy of the lead agency, projects that result in substantial impacts to species on the Watch List (WL) may be considered significant under CEQA.

2.2.4.5 California Rare Plant Ranks

The CNPS maintains the *Rare Plant Inventory* (CNPS 2024a), which provides a list of plant species native to California that are threatened with extinction, have limited distributions, or low populations. Plant species meeting one of these criteria are assigned to one of six CRPRs. The rank system was developed in collaboration with government, academic, non-governmental organizations, and private sector botanists, and is jointly managed by CDFW and the CNPS. The CRPRs are currently recognized in the California Natural Diversity Database (CNDDDB). The following are definitions of the CNPS CRPRs:

- Rare Plant Rank 1A – presumed extirpated in California and either rare or extinct elsewhere
- Rare Plant Rank 1B – rare, threatened, or endangered in California and elsewhere
- Rare Plant Rank 2A – presumed extirpated in California, but more common elsewhere
- Rare Plant Rank 2B – rare, threatened, or endangered in California but more common elsewhere
- Rare Plant Rank 3 – a review list of plants about which more information is needed
- Rare Plant Rank 4 – a watch list of plants of limited distribution

Additionally, the CNPS has defined Threat Ranks that are added to the CRPR as an extension. Threat Ranks designate the level of threat on a scale of 0.1 through 0.3, with 0.1 being the most threatened and 0.3 being the least threatened. Threat Ranks are generally present for all plants ranked 1B, 2B, or 4, and for the majority of plants ranked 3. Plant species ranked 1A and 2A (presumed extirpated in California), and some species ranked 3, which lack threat information, do not typically have a Threat Rank extension. The following are definitions of the CNPS Threat Ranks:

- Threat Rank 0.1 – Seriously threatened in California (greater than 80 percent of occurrences threatened/high degree and immediacy of threat)
- Threat Rank 0.2 – Moderately threatened in California (20 to 80 percent occurrences threatened/moderate degree and immediacy of threat)

- Threat Rank 0.3 – Not very threatened in California (less than 20% of occurrences threatened/low degree and immediacy of threat or no current threats known)

Factors, such as habitat vulnerability and specificity, distribution, and condition of occurrences, are considered in setting the Threat Rank; and differences in Threat Ranks do not constitute additional or different protection (CNPS 2024a). Depending on the policy of the lead agency, substantial impacts to plants ranked 1A, 1B, 2A, or 2B are typically considered significant under CEQA Guidelines Section 15380. Significance under CEQA is typically evaluated on a case-by-case basis for plants ranked 3 or 4.

2.2.4.6 Sensitive Natural Communities

Sensitive natural communities are vegetation communities that are imperiled or vulnerable to environmental effects of projects. CDFW maintains the California Natural Community List (CDFW 2024e), which provides a list of vegetation alliances, associations, and special stands as defined in *A Manual of California Vegetation Online* (MCV; CNPS 2024b), along with their respective state and global rarity ranks, if applicable. Natural communities with a state rarity rank of S1, S2, or S3 are considered sensitive natural communities. Depending on the policy of the lead agency, impacts to sensitive natural communities may be considered significant under CEQA.

2.2.4.7 Wildlife Movement Corridors and Nursery Sites

Impacts to wildlife movement corridors or nursery sites may be considered significant under CEQA. As part of the California Essential Habitat Connectivity Project, CDFW and California Department of Transportation maintain data on Essential Habitat Connectivity areas. This data is available in the CNDDDB. The goal of this project is to map large intact habitat or natural landscapes and potential linkages that could provide corridors for wildlife. In urban settings, riparian vegetated stream corridors can also serve as wildlife movement corridors. Nursery sites include but are not limited to concentrations of nest or den sites such as heron rookeries, bat maternity roosts, and mule deer critical fawning areas. These data are available through CDFW's Biogeographic Information and Observation System (BIOS) database or as occurrence records in the CNDDDB and are supplemented with the results of the field reconnaissance.

3.0 METHODS

3.1 Literature Review

ECORP biologists performed a review of existing available information for the BSA. Literature sources included current and historical aerial imagery, any previous biological studies conducted for the area, topographic mapping, soil survey mapping available from the NRCS *Web Soil Survey*, USFWS National Wetlands Inventory (NWI) mapping, USFWS Critical Habitat Mapper, NMFS Essential Fish Habitat Mapper, and other relevant literature as cited throughout this document. ECORP reviewed the following resources to identify special-status plant and wildlife species that have been documented in or near the BSA:

- CDFW's CNDDDB data for the "Gridley, California" 7.5-minute quadrangle and the surrounding eight quadrangles (CDFW 2024a);

- CNPS Rare Plant Inventory data for the "Gridley, California" 7.5-minute quadrangle and the surrounding eight quadrangles (CNPS 2024a);
- USFWS Information for Planning and Consultation (IPaC) Resource Report List for the BSA (USFWS 2024);
- NMFS Resources data for the "Gridley, California" 7.5-minute quadrangle (National Oceanic and Atmospheric Administration [NOAA] 2016).

The results of the database queries are provided in Appendix A. Each special-status species identified in the literature review is evaluated for its potential to occur in the BSA in Section 4 based on available information concerning species habitat requirements and distribution, occurrence data, and the findings of the site reconnaissance.

3.2 Site Reconnaissance

ECORP biologist, Jedidiah Dowell, conducted the site reconnaissance visit on February 14, 2024. The biologist visually assessed the BSA while walking meandering transects through all portions of the site, using binoculars to scan all areas of the BSA. The biologist collected the following biological resource information:

- Characteristics of vegetation communities and other land cover types;
- Plant and animal species or their sign directly observed; and
- Incidental observations of special habitat features such as burrows, active raptor nests, potential bat roost sites.

The biologists qualitatively assessed and mapped vegetation communities based on dominant plant composition. Vegetation community classification was based on the classification systems presented in the MCV, paying special attention to identifying those portions of the BSA with the potential to support special-status species or sensitive habitats. Data were recorded on a Global Positioning System (GPS) unit, field notebooks, and/or maps. Photographs were taken during the survey to provide visual representation of the conditions within the BSA.

4.0 RESULTS

4.1 Site Characteristics and Land Use

The BSA is located on level, developed, and/or disturbed terrain within an agriculturally productive area (Figure 2). The BSA is situated at an elevational range of approximately 86 to 93 feet above mean sea level in the Sacramento Valley region of the California floristic province (Jepson eFlora 2024). The average winter low temperature is 51 degrees Fahrenheit (°F) and the average summer high temperature is 75°F; the average annual precipitation is approximately 26 inches at the Oroville Municipal Airport station, which is approximately 11 miles north of the BSA (NOAA 2024a).



Figure 2. Biological Study Area

2024-014 Manzanita School Well Replacement

The BSA is currently occupied by the Manzanita Elementary School District grounds and an adjacent field. Undeveloped portions of the BSA primarily include historically disturbed non-native annual grassland, turf grass, and sparse trees. The Manzanita Elementary School District's developed land cover within the BSA includes roads, hardscape and utility infrastructure, and landscaped vegetation. Vegetation communities and plant species composition are described in further detail below.

Non-native annual grasslands occupy a majority of the BSA. Mowed turf grass containing primarily annual bluegrass (*Poa annua*) with margins of horseweed (*Erigeron canadensis*) occurred within the school grounds. A field exhibiting historic vegetation management occurs to the north of the school and contained mainly weedy forbs and grasses with overhanging canopies of assorted landscaping, orchard, and native tree species. Developed land cover occurs at the south of the BSA and contained primarily hardscape with ornamental shrub and tree species planted within.

Figure 2 provides an overview of the BSA and lands adjacent to the BSA. Land uses surrounding the BSA primarily include orchard agriculture and scattered rural businesses.

Representative photographs of the BSA are provided in Appendix B.

4.2 Soils and Geology

ECORP staff obtained soil survey mapping for the BSA from the NRCS *Web Soil Survey* accessed February 2024 (NRCS 2024a; Figure 3). Table 1 provides an overview of the soil series mapped within the BSA and key features of the soil series, such as hydric rating or presence of serpentine or gabbroic soil material (NRCS 2024b).


Table 1. Soil Series Mapped in the BSA			
Map unit symbol	Map unit name	Rating	Hydric Soil Rating
121	Boga-Loemstone, 0 to 1 percent slopes	loamy alluvium over dense silty alluvium derived from igneous and metamorphic rock	No

4.3 Vegetation Communities and Land Cover Types


The following sections describe vegetation communities and land cover types within the BSA as observed during the site reconnaissance. Vegetation community classification was based on the classification systems presented in *MCV Online* (CNPS 2024b). A list of plants observed onsite can be found in Appendix C.



Map Contents

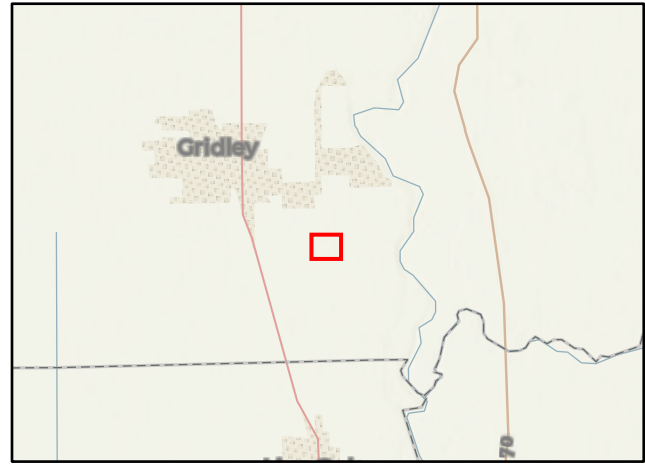
 Biological Study Area

Series Number- Series Name

 121- Boga-Loemstone , 0 to 1 percent slopes

**Natural Resources Conservation Service (NRCS)
Soil Survey Geographic (SSURGO) Database for
BUTTE, CA**

Sources: Esri World Imagery



4.3.1 Non-Native Annual Grassland

The non-native annual grassland community is found within the Manzanita School District grounds and the field to the school's north within the BSA. This field showed signs of historic vegetation management and disc tillage furrows. The annual grassland in the BSA is dominated by nonnative annual grasses including annual bluegrass (*Poa annua*), especially within the schoolyard field, Italian ryegrass (*Festuca perennis*), wild oats (*Avena* sp.), and sedge (*Cyperus* sp.). Forbs included white-stemmed filaree (*Erodium moschatum*), clovers (*Trifolium* sp.), shepherd purse (*Capsella bursa-pastoris*), cheeseweed (*Malva parviflora*), and English plantain (*Plantago lanceolata*). Tree species occurring at the margins or overhanging the BSA and its annual grassland include coast redwood (*Sequoia sempervirens*), valley oak (*Quercus lobata*), walnuts (*Juglans* spp.), chestnuts (*Castanea* sp.), and sycamore (*Platanus* sp.).

The annual grasslands can be characterized as the *Avena* spp. - *Bromus* spp. Herbaceous Semi-Natural Alliance (CNPS 2024b). Semi-natural alliances are strongly dominated by nonnative plants that have become naturalized in the State, do not have state rarity rankings, and are not considered sensitive natural communities.

4.3.2 Disturbed/Developed

The disturbed or developed land cover type is found within the Manzanita School District grounds within the BSA and is composed of primarily hardscape. These areas and their surroundings are either devoid of vegetation or contain infrequent landscaping plantings including an ornamental pine (*Pinus* sp.), red tip photinia (*Photinia x fraseri*), and large fortnight lily (*Dietes iridioides*) within and adjacent to the BSA. Adjacent and fringe hardscape herbaceous coverage is dominated by nonnative ruderal herbaceous species found within the non-native annual grassland as described above.

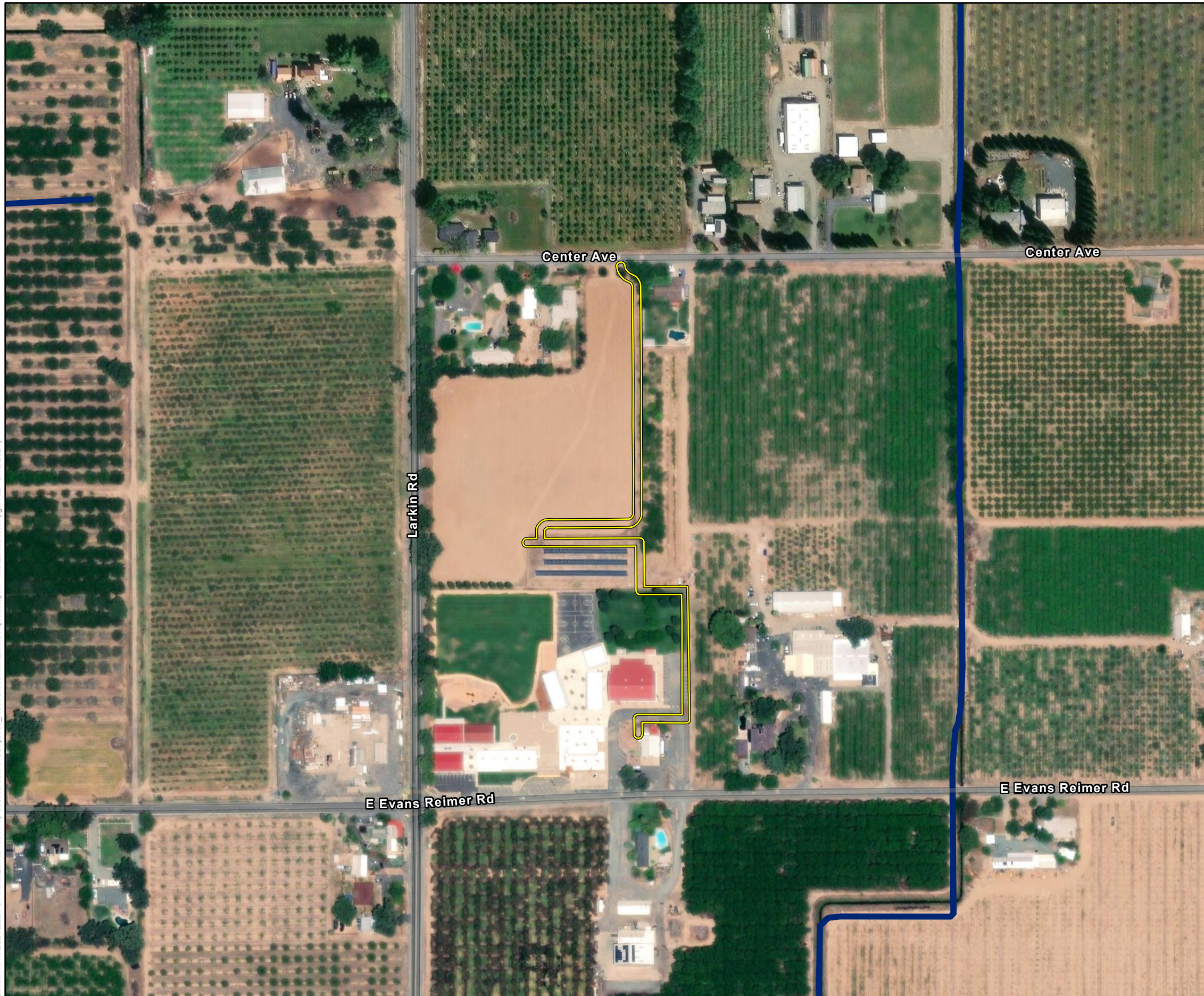
4.4 Aquatic Resources

No aquatic resources were observed during the site reconnaissance survey. Review of the NWI showed no mapped aquatic features within the BSA (Figure 4).


4.5 Wildlife

The BSA provides habitat for a variety of wildlife species. Wildlife species observed onsite include Brewer's blackbird (*Euphagus cyanocephalus*), red-winged blackbird (*Agelaius phoeniceus*), California scrub-jay (*Aphelocoma californica*), turkey vulture (*Cathartes aura*, flying overhead), and black phoebe (*Sayornis nigricans*).

Location: N:\2024\2024-014 Manzanita Well Replacement\MAPS\Aquatic_Resources\Manzanita NWI (galvez - 3/13/2024)



Map Contents

 Biological Study Area

NWI Type

 Riverine

Sources: National Wetlands Inventory, Esri World Imagery



Map Date: 3/1/2024



Figure 4. National Wetlands Inventory

2024-014 Manzanita School Well Replacement

4.6 Special-Status Species

Table 1 presents the full list of special-status plant and animal species identified through the literature review. For each species, the table provides the listing status, a brief description of habitat requirements and/or species ecology, a determination of the potential to occur within the BSA, and the rationale for that determination. The potential for each species to occur onsite was assessed using the following criteria:

- **Present** – Species was observed during the site visit or is known to occur within the BSA based on recent documented occurrences within the CNDDDB or other literature.
- **Potential to Occur** – Suitable habitat (including soils and elevation requirements) occurs in the BSA and the species is known or expected to occur in the Project vicinity based on available data sources or professional knowledge/experience.
- **Low Potential to Occur** – Marginal or limited amounts of habitat occur or the species is not known to occur in the vicinity of the Project based on CNDDDB records and other available information.
- **Presumed Absent** – No suitable habitat (including soils and elevation requirements) or the species is not known to occur within the vicinity of the Project based on CNDDDB records and other documentation.

Table 2. Special-Status Species Evaluation					
Common Name (Scientific Name)	Status			Habitat Description/ Species Ecology	Potential To Occur Onsite
	ESA	CESA/ NPPA	Other		
Plants					
Ferris' milk-vetch <i>(Astragalus tener</i> var. <i>ferrisiae)</i>	–	–	1B.1	Vernally mesic meadows and seeps and in sub–alkaline flats within valley and foothill grasslands. Elevation: 5'–245' Bloom Period: April–May	Presumed absent. No alkaline or mesic habitat within the BSA.
Heartscale <i>(Atriplex cordulata</i> var. <i>cordulata)</i>	–	–	1B.2	Alkaline or saline valley and foothill grasslands, meadows and seeps, and chenopod scrub communities. Elevation: 0'–1,835' Bloom Period: April–October	Presumed absent. No alkaline habitat within the BSA.
Lesser saltscale <i>(Atriplex minuscula)</i>	–	–	1B.1	Alkaline, sandy soils in chenopod scrub, playas, and valley and foothill grassland. Elevation: 50'–655' Bloom Period: May–October	Presumed absent No alkaline habitat within the BSA.

Table 2. Special-Status Species Evaluation

Common Name (Scientific Name)	Status			Habitat Description/ Species Ecology	Potential To Occur Onsite
	ESA	CESA/ NPPA	Other		
Subtle orache (<i>Atriplex subtilis</i>)	–	–	1B.2	Alkaline valley and foothill grasslands. Elevation: 130'–330' Bloom Period: June–September	Presumed absent. No alkaline habitat within the BSA.
Mexican mosquito fern (<i>Azolla microphylla</i>)	–	–	4.2	Marshes and swamps, ponds or slow-moving bodies of water. Elevation: 100'–330' Bloom Period: August	Presumed absent. No aquatic features within the BSA.
Valley brodiaea (<i>Brodiaea rosea</i> ssp. <i>vallicola</i>)	–	–	4.2	Occurs in old alluvial terraces and silt, sandy, or gravelly soils in vernal pools and swales within valley and foothill grassland. Elevation: 35'–1,100' Bloom Period: April–May	Presumed absent. No vernal pool grassland within the BSA.
Pink creamsacs (<i>Castilleja rubicundula</i> var. <i>rubicundula</i>)	–	–	1B.2	Serpentine substrates in chaparral openings, cismontane woodland, meadows and seeps, and valley and foothill grassland. Elevation: 65'–2,985' Bloom Period: April–June	Presumed absent. No serpentine within the BSA.
Pappose tarplant (<i>Centromadia parryi</i> ssp. <i>parryi</i>)	–	–	1B.2	Often on alkaline soils within chaparral, coastal prairie, meadows and seeps, coastal salt marshes and swamps, vernal mesic valley and foothill grassland. Elevation: 0'–1,380' Bloom Period: May–November	Presumed absent. No mesic habitat within the BSA.
Parry's rough tarplant (<i>Centromadia parryi</i> ssp. <i>rudis</i>)	–	–	4.2	Alkaline, vernal mesic areas, and seeps in valley and foothill grassland and vernal pools, sometimes found on roadsides. Elevation: 0'–330' Bloom Period: May–October	Presumed absent. No mesic alkaline habitat within the BSA.

Table 2. Special-Status Species Evaluation

Common Name (Scientific Name)	Status			Habitat Description/ Species Ecology	Potential To Occur Onsite
	ESA	CESA/ NPPA	Other		
Red-stemmed cryptantha (<i>Cryptantha rostellata</i>)	–	–	4.2	Often gravelly volcanic openings and roadsides of cismontane woodland and valley and foothill grassland. Elevation: 130'–2,625' Bloom Period: April–June	Presumed absent. No volcanic habitat within the BSA.
Recurved larkspur (<i>Delphinium recurvatum</i>)	–	–	1B.2	Alkaline habitats within chenopod scrub, cismontane woodland, and valley and foothill grasslands. Elevation: 10'–2,590' Bloom Period: March–June	Presumed absent. No alkaline habitat within the BSA.
Shield-bracted monkeyflower (<i>Erythranthe glaucescens</i>)	–	–	4.3	Serpentine seeps and sometimes streambanks of chaparral, cismontane woodland, lower montane coniferous forest, and valley and foothill grassland. Elevation: 195'–4,070' Bloom Period: February–August	Presumed absent. No serpentine within the BSA.
Mendocino tarplant (<i>Hemizonia congesta</i> ssp. <i>calyculata</i>)	–	–	4.3	Sometimes serpentine substrates of cismontane woodland and valley and foothill grassland. Elevation: 740'–4,595' Bloom Period: July–November	Presumed absent. The BSA is significantly lower than the known elevational range for this species.
Hogwallow starfish (<i>Hesperervax caulescens</i>)	–	–	4.2	Mesic areas with clay soil within valley and foothill grassland, shallow vernal pools, and sometimes alkaline areas. Elevation: 0'–1,655' Bloom Period: March–June	Presumed absent. No mesic habitat within the BSA.
Water star-grass (<i>Heteranthera dubia</i>)	–	–	2B.2	Alkaline (pH of 7 or higher), still or slow-moving, and usually slightly eutrophic waters of marshes and swamps. Elevation: 100'–4,905' Bloom Period: July–October	Presumed absent. No aquatic resources within the BSA.

Table 2. Special-Status Species Evaluation

Common Name (Scientific Name)	Status			Habitat Description/ Species Ecology	Potential To Occur Onsite
	ESA	CESA/ NPPA	Other		
Woolly rose-mallow <i>(Hibiscus lasiocarpus var. occidentalis)</i>	–	–	1B.2	Marshes and freshwater swamps. Often in riprap on sides of levees. Elevation: 0'–395' Bloom Period: June–September	Presumed absent. No aquatic resources within the BSA.
Ahart's dwarf rush <i>(Juncus leiospermus var. ahartii)</i>	–	–	1B.2	Mesic areas in valley and foothill grassland. Species has an affinity for slight disturbance such as farmed fields (USFWS 2005). Elevation: 100'–750' Bloom Period: March–May	Presumed absent. No mesic habitat within the BSA.
Del Norte pea <i>(Lathyrus delnorticus)</i>	–	–	4.3	Often serpentine soils in lower montane coniferous forest and north coast coniferous forest. Elevation: 100'–4,755' Bloom Period: June–July	Presumed absent. No serpentine or coniferous forest within the BSA.
Colusa layia <i>(Layia septentrionalis)</i>	–	–	1B.2	Sandy or serpentine soils in chaparral, cismontane woodland, and valley and foothill grasslands. Elevation: 330'–3,595' Bloom Period: April–May	Presumed absent. No suitable soils within the BSA.
Bristly leptosiphon <i>(Leptosiphon aureus)</i>	–	–	4.2	Chaparral, cismontane woodland, coastal prairie, and valley and foothill grassland. Elevation: 180'–4,920' Bloom Period: April–July	Presumed absent. The grassland within the BSA is only marginally suitable and the species is not likely to occur in this geographic location.
Woolly meadowfoam <i>(Limnanthes floccosa ssp. floccosa)</i>	–	–	4.2	Vernally mesic chaparral, cismontane woodland, valley and foothill grassland, and vernal pools. Elevation: 195'–4,380' Bloom Period: March–May	Presumed absent. No mesic habitat within the BSA.
Veiny monardella <i>(Monardella venosa)</i>	–	–	1B.1	Heavy clay soils in cismontane woodland and valley and foothill grasslands. Elevation: 195'–1,345' Bloom Period: May–July	Presumed absent. No suitable soils within the BSA.

Table 2. Special-Status Species Evaluation

Common Name (Scientific Name)	Status			Habitat Description/ Species Ecology	Potential To Occur Onsite
	ESA	CESA/ NPPA	Other		
Baker's navarretia (<i>Navarretia leucocephala</i> ssp. <i>bakeri</i>)	–	–	1B.1	Vernal pools and mesic areas within cismontane woodlands, lower montane coniferous forests, meadows and seeps, and valley and foothill grasslands. Elevation: 15'–5,710' Bloom Period: April–July	Presumed absent. No mesic habitat within the BSA.
Slender Orcutt grass (<i>Orcuttia tenuis</i>)	FT	CE	1B.1	Vernal pools, often gravelly. Elevation: 115'–5,775' Bloom Period: May–September	Presumed absent. No aquatic resources within the BSA.
Ahart's paronychia (<i>Paronychia ahartii</i>)	–	–	1B.1	Well-drained rocky outcrops, often vernal pool edges, and volcanic upland (Hartman and Rabeler 2012) of cismontane woodland, valley and foothill grassland, and vernal pools. Elevation: 100'–1,675' Bloom Period: February–June	Presumed absent. No suitable soils within the BSA.
Wine-colored tufa moss (<i>Plagiobryoides vinosula</i>)	–	–	4.2	Usually in granitic rock or granitic soil along seeps and streams, sometimes in clay. Elevation: 100'–5,695' Bloom Period: N/A	Presumed absent. No granitic habitat within the BSA.
Hartweg's golden Sunburst (<i>Pseudobahia bahiifolia</i>)	FE	CE	1B.1	Clay, often acidic soils in cismontane woodland, valley and foothill grasslands. Elevation: 50'–490' Bloom Period: March–April	Presumed absent. No suitable habitat within the BSA.
California alkali grass (<i>Puccinellia simplex</i>)	–	–	1B.2	Alkaline, vernal mesic areas and sinks, flats and lake margins in chenopod scrub, meadows and seeps, valley and foothill grassland, and vernal pools. Elevation: 5'–3,050' Bloom Period: March–May	Presumed absent. No alkaline or mesic habitat within the BSA.
Sanford's arrowhead (<i>Sagittaria sanfordii</i>)	–	–	1B.2	Shallow marshes and freshwater swamps. Elevation: 0'–2,135' Bloom Period: May–October	Presumed absent. No aquatic resources within the BSA.

Table 2. Special-Status Species Evaluation

Common Name (Scientific Name)	Status			Habitat Description/ Species Ecology	Potential To Occur Onsite
	ESA	CESA/ NPPA	Other		
English Peak greenbrier (<i>Smilax jamesii</i>)	–	–	4.2	Sometimes mesic depressions, lake margins, sometimes mesic areas, and streambanks of broadleafed upland forest, lower montane coniferous forest, marshes and swamps, north coast coniferous forest, and upper montane coniferous forest. Elevation: 1,655'–6,480' Bloom Period: May–July	Presumed absent. No mesic habitat or coniferous forest within the BSA.
Greene's tuctoria (<i>Tuctoria greenei</i>)	FE	CR	1B.1	Vernal pools. Elevation: 100'–3,510' Bloom Period: May–July	Presumed absent. No aquatic resources within the BSA.
Brazilian watermeal (<i>Wolffia brasiliensis</i>)	–	–	2B.3	Assorted shallow freshwater marshes and swamps. Elevation: 65'–330' Bloom Period: April–December	Presumed absent. No aquatic resources within the BSA.
Invertebrates					
Vernal pool fairy shrimp (<i>Branchinecta lynchi</i>)	FT	–	–	Vernal pools/wetlands. Survey Period: November–April when surface water is present.	Presumed absent. No suitable habitat occurs within the BSA.
California linderiella (<i>Linderiella occidentalis</i>)	–	–	CNDD B	Vernal pools/wetlands. Survey Period: November–April when surface water is present.	Presumed absent. No suitable habitat occurs within the BSA.
Vernal pool tadpole shrimp (<i>Lepidurus packardii</i>)	FE	–	–	Vernal pools/wetlands. Survey Period: November–April when surface water is present.	Presumed absent. No suitable habitat occurs within the BSA.
Valley elderberry longhorn beetle (<i>Desmocerus californicus dimorphus</i>)	FT	–	–	Found exclusively on its host plant, the elderberry shrub, in riparian and oak woodland/oak savannah habitats of California's Central Valley from Shasta to Madera counties.	Presumed absent. No suitable habitat occurs within the BSA.

Table 2. Special-Status Species Evaluation

Common Name (Scientific Name)	Status			Habitat Description/ Species Ecology	Potential To Occur Onsite
	ESA	CESA/ NPPA	Other		
Monarch butterfly <i>(Danaus plexippus)</i>	FC	–	–	Overwinters along coastal California in wind-protected groves of eucalyptus, Monterey pine and cypress with nearby nectar and water sources; disperses in spring throughout California. Adults breed and lay eggs during the spring and summer, feeding on a variety of nectar sources; eggs are laid exclusively on milkweed plants.	Presumed absent. No suitable habitat occurs within the BSA.
Fish					
Green sturgeon <i>(Acipenser medirostris)</i>	FT	–	CDFW: SSC	Anadromous; undammed cold-water rivers having relatively deep pools with large substrates. Survey Period: N/A	Presumed absent. No suitable habitat occurs within the BSA.
Chinook salmon (Central Valley spring-run Evolutionarily Significant Unit) <i>(Oncorhynchus tshawytscha)</i>	FT	CT	–	Undammed rivers, streams, creeks in the Sacramento and San Joaquin River systems. Survey Period: N/A	Presumed absent. No suitable habitat occurs within the BSA.
Steelhead (CA Central Valley DPS) <i>(Oncorhynchus mykiss irideus)</i>	FT	–	–	Fast-flowing, well-oxygenated rivers and streams below dams in the Sacramento and San Joaquin River systems. Survey Period: N/A	Presumed absent. No suitable habitat occurs within the BSA.
Amphibians					
California tiger salamander (Central California DPS) <i>(Ambystoma californiense)</i>	FT	CT	WL	Breeds in vernal pools and seasonal wetlands in grassland or oak woodland habitats; adults are terrestrial using underground refuges such as ground squirrel or gopher burrows. Central Valley and Inner Coast Range. Survey Period: Winter-Spring.	Presumed absent. No suitable habitat occurs within the BSA.

Table 2. Special-Status Species Evaluation

Common Name (Scientific Name)	Status			Habitat Description/ Species Ecology	Potential To Occur Onsite
	ESA	CESA/ NPPA	Other		
Western spadefoot (Northern DPS) <i>(Spea hammondi)</i>	FPT	–	SSC	California endemic species of vernal pools, swales, and seasonal wetlands in grassland, scrub and woodland habitats throughout the Central Valley and South Coast Ranges. Prefers open areas with sandy or gravelly soils. Survey Period: Winter-Spring.	Presumed absent. No suitable habitat occurs within the BSA.
Foothill yellow-legged frog Northeast/Northern Sierra Clade <i>(Rana boylei)</i>	–	CT	SSC	Partly shaded shallow streams and riffles in variety of habitats. Needs cobble-sized substrate for egg-laying and at least 15 weeks of permanent water to attain metamorphosis. Can be active all year in warmer locations; become inactive or hibernate in colder climates. Yuba River to Middle Fork American River and Sutter Buttes. Survey Period: May–October.	Presumed absent. No suitable habitat occurs within the BSA.
Reptiles					
Northwestern pond turtle <i>(Actinemys marmorata)</i>	FPT	–	SSC	Requires basking sites and upland habitats up to 0.5 km from water for egg laying. Uses ponds, streams, detention basins, and irrigation ditches. Survey Period: April-September	Presumed absent. No suitable habitat occurs within the BSA.
Giant garter snake <i>(Thamnophis gigas)</i>	FT	CT	–	Freshwater ditches, sloughs, and marshes in the Central Valley. Almost extirpated from the southern parts of its range. Survey Period: April-October	Presumed absent. No suitable habitat occurs within the BSA.

Table 2. Special-Status Species Evaluation

Common Name (Scientific Name)	Status			Habitat Description/ Species Ecology	Potential To Occur Onsite
	ESA	CESA/ NPPA	Other		
Birds					
Yellow-billed cuckoo (<i>Coccyzus americanus</i>)	FT	CE	–	Breeding habitat is generally open woodland with clearings and low, dense, scrubby vegetation associated with watercourses, and includes desert riparian woodlands with willow, Fremont’s cottonwood, alder, walnut, box-elder, and dense mesquite. Nests are generally found in deciduous hardwoods with thick bushes, vines, or hedgerows providing dense foliage within 10 meters (33 feet) of ground; prefer riparian patches of at least 81 hectares (200 acres) (Hughes 2020). Winters in South America. Nesting: June 15-August 15	Presumed absent. No suitable habitat occurs within the BSA.
California black rail (<i>Laterallus jamaicensis coturniculus</i>)	–	CT	CFP	Salt marsh, shallow freshwater marsh, wet meadows, and flooded grassy vegetation. In California, primarily found in coastal and Bay-Delta communities, but also in Sierran foothills (Butte, Yuba, Nevada, Placer, El Dorado counties). Nesting: March-September	Presumed absent. No suitable habitat occurs within the BSA.

Table 2. Special-Status Species Evaluation

Common Name (Scientific Name)	Status			Habitat Description/ Species Ecology	Potential To Occur Onsite
	ESA	CESA/ NPPA	Other		
Greater sandhill crane <i>(Antigone canadensis tabida)</i>	–	CT	CFP	Breeds in NE California, Nevada, Oregon, Washington, and BC, Canada; winters from CA to Florida. In winter, they forage in burned grasslands, pastures, and feed on waste grain in a variety of agricultural settings (corn, wheat, milo, rice, oats, and barley), tilled fields, recently planted fields, alfalfa fields, row crops and burned rice fields. Nesting: March-August Wintering: September-March	Presumed absent. No suitable habitat occurs within the BSA.
Northern harrier <i>(Circus hudsonius)</i>	–	–	BCC, SSC	Nests on the ground in open wetlands, marshy meadows, wet/lightly grazed pastures, (rarely) freshwater/brackish marshes, tundra, grasslands, prairies, croplands, desert, shrub-steppe, and (rarely) riparian woodland communities. Nesting: April-September	Presumed absent. No suitable habitat occurs within the BSA.
Bald eagle <i>(Haliaeetus leucocephalus)</i>	De-listed	CE	CFP	Typically nests in forested areas near large bodies of water in the northern half of California; nest in trees and rarely on cliffs; wintering habitat includes forest and woodland communities near water bodies (e.g., rivers, lakes), wetlands, flooded agricultural fields, open grasslands. Nesting: February-September Wintering: October-March	Presumed absent. No suitable habitat occurs within the BSA.

Table 2. Special-Status Species Evaluation

Common Name (Scientific Name)	Status			Habitat Description/ Species Ecology	Potential To Occur Onsite
	ESA	CESA/ NPPA	Other		
Swainson's hawk <i>(Buteo swainsoni)</i>	–	CT	–	Nesting occurs in trees in agricultural, riparian, oak woodland, scrub, and urban landscapes. Forages over grassland, agricultural lands, particularly during disking/harvesting, irrigated pastures. Nesting: March-August	Low potential to occur. The BSA provides marginal foraging habitat while off-site trees may provide suitable nesting habitat. Two CNDDDB occurrences within five miles of the BSA.
Burrowing owl <i>(Athene cunicularia)</i>	–	–	BCC, SSC	Nests in burrows or burrow surrogates in open, treeless, areas within grassland, steppe, and desert biomes. Often with other burrowing mammals (e.g., prairie dogs, California ground squirrels). May also use human-made habitat such as agricultural fields, golf courses, cemeteries, roadside, airports, vacant urban lots, and fairgrounds. Nesting: February-August	Potential to occur. The BSA provides suitable foraging habitat and suitable nesting habitat. Small mammal burrows and a debris pile are present within the BSA.
Nuttall's woodpecker <i>(Dryobates nuttalli)</i>	–	–	BCC	Resident from northern California south to Baja California. Nests in tree cavities in oak woodlands and riparian woodlands. Nesting: April-July	Potential to occur. Suitable habitat occurs within the BSA.
Merlin <i>(Falco columbarius)</i>	–	–	CDFW WL	Breeds in Oregon, Washington north into Canada. Winters in southern Canada to South America, including California. Breeds near forest openings, fragmented woodlots, and riparian areas. Wintering habitat includes wide variety, open forests, grasslands, tidal flats, plains, and urban settings. Wintering in the Central Valley: September-April; does not breed in California.	Presumed absent. No suitable habitat occurs within the BSA.

Table 2. Special-Status Species Evaluation

Common Name (Scientific Name)	Status			Habitat Description/ Species Ecology	Potential To Occur Onsite
	ESA	CESA/ NPPA	Other		
Least Bell's vireo <i>(Vireo bellii pusillus)</i>	FE	CE	–	In California, breeding range includes Ventura, Los Angeles, Riverside, Orange, San Diego, and San Bernardino counties, and rarely Stanislaus and Santa Clara counties. Nesting habitat includes dense, low shrubby vegetation in riparian areas, brushy fields, young second-growth woodland, scrub oak, coastal chaparral and mesquite brushland. Winters in southern Baja California Sur. Nesting: April 1-July 31	Presumed absent. No suitable habitat occurs within the BSA.
Yellow-billed magpie <i>(Pica nuttallii)</i>	–	–	BCC	Endemic to California; found in the Central Valley and coast range south of San Francisco Bay and north of Los Angeles County; nesting habitat includes oak savannah with large in large expanses of open ground; also found in urban parklike settings. Nesting: April-June	Potential to occur. Suitable habitat occurs within the BSA.
Oak titmouse <i>(Baeolophus inornatus)</i>	–	–	BCC	Nests in tree cavities within dry oak or oak-pine woodland and riparian; where oaks are absent, they nest in juniper woodland, open forests (gray, Jeffrey, Coulter, pinyon pines and Joshua tree). Nesting: March-July	Potential to occur. Suitable habitat occurs within the BSA.
Bank swallow <i>(Riparia riparia)</i>	–	CT	–	Nests colonially along coasts, rivers, streams, lakes, reservoirs, and wetlands in vertical banks, cliffs, and bluffs in alluvial, friable soils. May also nest in sand, gravel quarries and road cuts. In California, breeding range includes northern and central California. Nesting: May-July	Presumed absent. No suitable habitat occurs within the BSA.

Table 2. Special-Status Species Evaluation

Common Name (Scientific Name)	Status			Habitat Description/ Species Ecology	Potential To Occur Onsite
	ESA	CESA/ NPPA	Other		
Wrentit <i>(Chamaea fasciata)</i>	–	–	BCC	Coastal sage scrub, northern coastal scrub, chaparral, dense understory of riparian woodlands, riparian scrub, coyote brush and blackberry thickets, and dense thickets in suburban parks and gardens. Nesting: March-August	Presumed absent. No suitable habitat occurs within the BSA.
Lawrence's goldfinch <i>(Spinus lawrencei)</i>	–	–	BCC	Breeds in Sierra Nevada and inner Coast Range foothills surrounding the Central Valley and the southern Coast Range to Santa Barbara County east through southern California to the Mojave Desert and Colorado Desert into the Peninsular Range. Nests in arid and open woodlands with chaparral or other brushy areas, tall annual weed fields, and a water source (e.g., small stream, pond, lake), and to a lesser extent riparian woodland, coastal scrub, evergreen forests, pinyon-juniper woodland, planted conifers, and ranches or rural residences near weedy fields and water. Nesting: March-September	Presumed absent. No suitable habitat occurs within the BSA.
Belding's savannah sparrow <i>(Passerculus sandwichensis beldingi)</i>	–	CE	BCC	Resident coastally from Point Conception south into Baja California; coastal salt marsh. Year-round resident; nests March-August	Presumed absent. No suitable habitat occurs within the BSA.
Song sparrow "Modesto" <i>(Melospiza melodia heermanni)</i>	–	–	SSC	Resident in central and southwest California, including Central Valley; nests in marsh, scrub habitat. Nesting: April-June	Presumed absent. No suitable habitat occurs within the BSA.

Table 2. Special-Status Species Evaluation

Common Name (Scientific Name)	Status			Habitat Description/ Species Ecology	Potential To Occur Onsite
	ESA	CESA/ NPPA	Other		
Tricolored blackbird <i>(Agelaius tricolor)</i>	–	CT	BCC, SSC	Breeds locally west of Cascade-Sierra Nevada and southeastern deserts from Humboldt and Shasta counties south to San Bernardino, Riverside and San Diego counties. Central California, Sierra Nevada foothills and Central Valley, Siskiyou, Modoc and Lassen counties. Nests colonially in freshwater marsh, blackberry bramble, milk thistle, tritcale fields, weedy (mustard, mallow) fields, giant cane, safflower, stinging nettles, tamarisk, riparian scrublands and forests, fiddleneck and fava bean fields. Nesting: March-August	Presumed absent. No suitable habitat occurs within the BSA.
Bullock's oriole <i>(Icterus bullockii)</i>	–	–	BCC	Breeding habitat includes riparian and oak woodlands. Nesting: March-July	Presumed absent. No suitable habitat occurs within the BSA.
Saltmarsh common yellowthroat <i>(Geothlypis trichas sinuosa)</i>	–	–	BCC, SSC	Breeds in salt marshes of San Francisco Bay; winters San Francisco south along coast to San Diego County. Nesting: March-July	Presumed absent. No suitable habitat occurs within the BSA.
Mammals					
Pallid bat <i>(Antrozous pallidus)</i>	–	–	SSC	Crevice in rocky outcrops and cliffs, caves, mines, trees (e.g., basal hollows of redwoods, cavities of oaks, exfoliating pine and oak bark, deciduous trees in riparian areas, and fruit trees in orchards). Also roosts in various human structures such as bridges, barns, porches, bat boxes, and human occupied as well as vacant buildings (WBWG 2024). Survey Period: April-September	Low potential to occur. There is marginally suitable roosting habitat within the BSA.

Table 2. Special-Status Species Evaluation

Common Name (Scientific Name)	Status			Habitat Description/ Species Ecology	Potential To Occur Onsite
	ESA	CESA/ NPPA	Other		
Townsend's big-eared bat (<i>Corynorhinus townsendii</i>)	–	–	SSC	Occurs throughout the west and is distributed from the southern portion of British Columbia south along the Pacific coast to central Mexico and east into the Great Plains, with isolated populations occurring in the central and eastern United States. It has been reported in a wide variety of habitat types ranging from sea level to 3,300 meters. Habitat associations include coniferous forests, mixed meso-phytic forests, deserts, native prairies, riparian communities, active agricultural areas, and coastal habitat types. Roosting can occur within caves, mines, buildings, rock crevices, trees. Survey Period: April-September	Low potential to occur. There is marginally suitable roosting habitat within the BSA.
Marysville California kangaroo rat (<i>Dipodomys californicus eximius</i>)	–	–	SSC	Known only from the Sutter Buttes area. Occurs in areas with friable soil in grass-forb stages of chaparral and valley and foothill grassland (CDFW 2024a). Survey Period: Any season	Presumed absent. No suitable habitat occurs within the BSA.
Western mastiff bat (<i>Eumops perotis californicus</i>)	–	–	SSC	Primarily a cliff-dwelling species, found in similar crevices in large boulders and buildings (WBWG 2024). Survey Period: April-September	Presumed absent. No suitable habitat occurs within the BSA.
American badger (<i>Taxidea taxus</i>)	–	–	SSC	Drier open stages of most shrub, forest, and herbaceous habitats with friable soils. Survey Period: Any season	Presumed absent. No suitable habitat occurs within the BSA.

Table 2. Special-Status Species Evaluation

Common Name (Scientific Name)	Status			Habitat Description/ Species Ecology	Potential To Occur Onsite
	ESA	CESA/ NPPA	Other		

Status Codes:

ESA	Federal Endangered Species Act
CESA	California Endangered Species Act
FE	ESA listed, Endangered
FT	ESA listed, Threatened
FPT	Formally Proposed for ESA listing as Threatened
FC	Candidate for ESA listing as Threatened or Endangered
BCC	USFWS Bird of Conservation Concern (USFWS 2021)
CE	California ESA- or NPPA listed, Endangered
CT	California ESA- or NPPA-listed, Threatened
CR	California ESA- or NPPA-listed, Rare
CFP	California Fish and Game Code Fully Protected Species (§ 3511-birds, § 4700-mammals, §5050-reptiles/amphibians)
CDFW WL	CDFW Watch List
CNDDDB	Species that is tracked by CDFW's CNDDDB but does not have any of the above special-status designations otherwise
SSC	CDFW Species of Special Concern
Delisted	Formally Delisted
1B	CRPR/Rare or Endangered in California and elsewhere
2B	CRPR/Plants rare, threatened, or endangered in California but more common elsewhere
4	CRPR/Plants of Limited Distribution – A Watch List
0.1	Threat Rank/Seriously threatened in California (over 80% of occurrences threatened/high degree and immediacy of threat)
0.2	Threat Rank/Moderately threatened in California (20-80% occurrences threatened/moderate degree and immediacy of threat)
0.3	Threat Rank/Not very threatened in California (<20% of occurrences threatened/low degree and immediacy of threat or no current threats known)
Note:	BSA = Biological Study Area; CDFW = California Department of Fish and Wildlife; CNDDDB = California Natural Diversity Database; DPS = Distinct Population Segment; km = kilometer; NPPA = Native Plant Protection Act; WBWG = Western Bat Working Group

4.7 Critical Habitat or Essential Fish Habitat

There is no designated critical habitat mapped within the Study Area (USFWS 2024). Based on the literature review, Chinook Salmon Essential Fish Habitat occurs in the region (NOAA 2024b); however, there are no watercourses or other aquatic resources within the BSA.

4.8 Wildlife Movement Corridors and Nursery Sites

The Essential Connectivity Areas map identifies larger, relatively natural habitat blocks that support native biodiversity and areas essential for connectivity between them. The BSA does not fall within a natural habitat block (CDFW 2024b) or an Essential Habitat Connectivity area (CDFW 2024c). The BSA does not include small natural areas that could support ecological value (CDFW 2024d). The BSA is considered to be within a greater Large Natural Habitat Area of terrestrial connectivity (CDFW 2024c).

For the purposes of this analysis, nursery sites include but are not limited to concentrations of nest or den sites such as heron rookeries or bat maternity roosts. This data is available through CDFW's BIOS database

or as occurrence records in the CNDDDB and is supplemented with the results of the site reconnaissance. No nursery sites have been documented within the BSA (CDFW 2024a) and none were observed during the site reconnaissance. Therefore, the BSA is not expected to support critical wildlife movement corridors or potential nursery sites. However, a variety of common bird species were observed within the BSA during the site reconnaissance and other wildlife species also likely move through the BSA.

5.0 IMPACT ASSESSMENT AND RECOMMENDATIONS

This section specifically addresses questions raised by the Biological Resources section of the Environmental Checklist Form in Appendix G of the CEQA Guidelines. No special-status plants have the potential to occur within the BSA and are therefore not included in impact assessments.

5.1 CEQA Checklist Criteria IV(a) – Special-Status Species

Would the Project:

- a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

5.1.1 Special-Status Wildlife Species

5.1.1.1 Nesting Birds (including Raptors)

The BSA contains marginally suitable nesting and foraging habitat for Swainson's hawk within and in the vicinity of the BSA, nesting habitat for special-status birds, as well as suitable habitat for other migratory birds, non-migratory nongame birds, and raptors protected under the California Fish and Game Code and MBTA. If Project-related activities occur during the nesting season, the removal of active nests or disruption of nesting activities leading to abandonment of an active nest with eggs or young would be considered a violation of the MBTA and California Fish and Game Code and would be considered a significant impact under CEQA.

BIO-1 through BIO-3 are recommended to avoid impacts to active nests potential impacts forging habitat is considered less than significant, due to the developed nature of the BSA.

BIO-1: Swainson's Hawk

Swainson's hawk has the potential to occur within and immediately adjacent to the BSA. In order to avoid potential impacts to Swainson's hawk, the following avoidance and minimization measures are recommended:

- If Project activities are scheduled during the Swainson's hawk nesting season (March 1 to August 31), then prior to beginning work on the Project a qualified biologist shall survey for Swainson's hawk nesting activity. The survey area shall include a 0.5-mile distance surrounding the Project

site. The qualified biologist shall conduct surveys according to the Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley (Swainson's Hawk Technical Advisory Committee 2000) or, if proposing an alternate survey methodology, shall submit the proposed survey timing and methods to CDFW for review and written approval prior to initiation of surveys. Survey results shall be submitted to CDFW for review. If Swainson's hawk nesting activity is observed during the survey, then the survey results shall be submitted to CDFW for review and acceptance prior to starting Project activities. If the qualified biologist identifies nesting Swainson's hawks, then the biologist shall recommend a no-disturbance buffer, and the contractor shall implement the buffer under the supervision of a qualified biologist. Project activities shall be prohibited within the no-disturbance buffer between March 1 to August 31, unless otherwise approved in writing by CDFW, which may include consultation pursuant to California ESA and an Incidental Take Permit, or a qualified biologist determining that the nest is no longer active.

BIO-2: Burrowing Owl. Burrowing owl has a low potential to occur in the annual grassland vegetation community within the BSA. In order to avoid potential impacts to burrowing owl, the following avoidance and minimization measure is recommended:

- A preconstruction survey for nesting burrowing owl will be conducted by a qualified biologist within 14 days prior to commencement of Project activities within the Study Area and a 250-foot buffer. Surveys shall be conducted at appropriate times and in appropriate weather conditions to maximize detection. If active burrowing owl burrows are found, an avoidance buffer will be immediately established, and an avoidance plan will be prepared in consultation with CDFW prior to the commencement of any ground-disturbing activities. If there is a lapse in Project-related work of 14 days or longer, then an additional survey shall be conducted prior to resuming Project activities.

BIO-3: Other Nesting Birds (Including Raptors). Nuttall's woodpecker, yellow-billed magpie, oak titmouse, and other MBTA-protected birds, including raptors, have the potential to nest within the BSA. The following measure is recommended to minimize potential impacts to nesting birds and raptors:

- If Project activities are to occur during the nesting season (generally February 1 through August 31), conduct a preconstruction nesting bird survey of all suitable nesting habitat within 14 days of the commencement of Project activities. The survey shall be conducted within a 500-foot radius of Project work areas for raptors and within a 100-foot radius for other nesting birds. If any active nests are observed, these nests shall be designated a sensitive area and protected by an avoidance buffer implemented by the contractor and under the supervision of a qualified biologist until the breeding season has ended or until a qualified biologist has determined that the young have fledged and are no longer reliant upon the nest or parental care for survival. A Preconstruction Nesting Bird Survey Report will be prepared by a qualified biologist that includes surveyors' names and affiliation, dates

and times of surveys, methods, results, and recommendations. If there is a lapse in Project-related work of 14 days or longer, then an additional survey shall be conducted prior to resuming Project activities.

5.1.1.2 Special-Status Bats

The BSA and its immediate vicinity contains potential roosting habitat for two special-status bats. The Project has the potential to indirectly impact roosting habitat (i.e., trees) during Project construction disturbances such as trenching within a tree's root zone and construction-related noise. Any bats present in the vicinity of the BSA would be outside of harm's way, and such disturbances may cause potentially occurring adjacent bats to relocate as a result of Project activities. Additionally, tree removal is not a part of the Project and suitable maternity roosting sites are absent in the BSA and its immediate vicinity. Therefore, the Project would have a less-than-significant impact on special-status bats.

5.2 CEQA Checklist Criteria IV(b) – Sensitive Natural Communities

Would the Project:

- 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?

No sensitive natural communities were identified within the BSA during the site reconnaissance. Therefore, the Project will have no impact on sensitive natural communities.

5.3 CEQA Checklist Criteria IV(c) – Aquatic Resources

Would the Project:

- c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

There are no aquatic resources present within the BSA. The Project would have no impact on aquatic resources.

5.4 CEQA Checklist Criteria IV(d) – Movement Corridors and Nursery Sites

Would the Project:

- 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?

Project implementation may temporarily disturb and displace wildlife from the BSA. Some wildlife (e.g., birds or nocturnal species) are likely to continue to use the habitats opportunistically for the duration of construction. Once construction is complete, wildlife movements are expected to resume. Therefore, the Project is expected to have a less-than-significant impact on wildlife movement.

There are no documented nursery sites and no nursery sites were observed within the BSA during the site reconnaissance. Therefore there would be no impact on nursery sites.

5.5 CEQA Checklist Criteria IV(e) – Conflicts with Local Policies or Ordinances

Would the Project:

- e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

The BSA is not covered by any local policies or ordinances protecting biological resources. Therefore, the Project would not conflict with any such policy or ordinance.

5.6 CEQA Checklist Criteria IV(f) – Conflicts with Conservation Plans

Would the Project:

- 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?

The BSA is not covered by any local, regional, or State conservation plan. Therefore, the Project would not conflict with any plans.

6.0 REFERENCES

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LIST OF APPENDICES

Appendix A – Results of Database Queries

Appendix B – Representative Photographs

Appendix C – Plant Species Observed



United States Department of the Interior



FISH AND WILDLIFE SERVICE
Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
Phone: (916) 414-6600 Fax: (916) 414-6713

In Reply Refer To:

03/14/2024 22:02:42 UTC

Project Code: 2024-0063320

Project Name: Manzanita School Well Replacement

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed, and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through IPaC by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2))

(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at: <https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf>

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts, see [Migratory Bird Permit | What We Do | U.S. Fish & Wildlife Service \(fws.gov\)](#).

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures, see <https://www.fws.gov/library/collections/threats-birds>.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit <https://www.fws.gov/partner/council-conservation-migratory-birds>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Sacramento Fish And Wildlife Office

Federal Building

2800 Cottage Way, Room W-2605

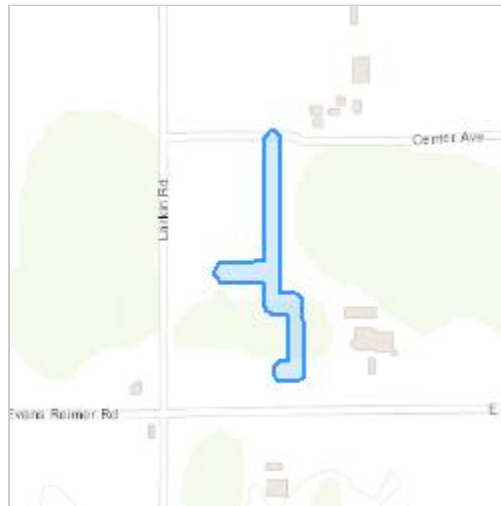
Sacramento, CA 95825-1846

(916) 414-6600

PROJECT SUMMARY

Project Code: 2024-0063320
Project Name: Manzanita School Well Replacement
Project Type: New Constr - Below Ground
Project Description: Well and piping installation.
Project Location:

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@39.33651725,-121.65813256982028,14z>



Counties: Butte County, California

ENDANGERED SPECIES ACT SPECIES

There is a total of 7 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

-
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

REPTILES

NAME	STATUS
Giant Garter Snake <i>Thamnophis gigas</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4482	Threatened
Northwestern Pond Turtle <i>Actinemys marmorata</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1111	Proposed Threatened

AMPHIBIANS

NAME	STATUS
Western Spadefoot <i>Spea hammondi</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5425	Proposed Threatened

INSECTS

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate
Valley Elderberry Longhorn Beetle <i>Desmocerus californicus dimorphus</i> There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/7850	Threatened

CRUSTACEANS

NAME	STATUS
Vernal Pool Fairy Shrimp <i>Branchinecta lynchi</i> There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/498	Threatened
Vernal Pool Tadpole Shrimp <i>Lepidurus packardii</i> There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2246	Endangered

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

IPAC USER CONTACT INFORMATION

Agency: Manzanita Elementary School District

Name: Jedidiah Dowell

Address: 2525 Warren Drive

City: Rocklin

State: CA

Zip: 95677

Email: jdowell@ecorpconsulting.com

Phone: 5307018555



Selected Elements by Element Code

California Department of Fish and Wildlife

California Natural Diversity Database



Query Criteria: Quad IS (Gridley (3912136) OR Biggs (3912146) OR Palermo (3912145) OR Honcut (3912135) OR Sutter (3912126) OR Sutter Buttes (3912127) OR Pennington (3912137) OR West of Biggs (3912147) OR Yuba City (3912125))

Element Code	Species	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
AAAAA01181	<i>Ambystoma californiense pop. 1</i> California tiger salamander - central California DPS	Threatened	Threatened	G2G3T3	S3	WL
AAABF02020	<i>Spea hammondi</i> western spadefoot	Proposed Threatened	None	G2G3	S3S4	SSC
AAABH01053	<i>Rana boylei pop. 3</i> foothill yellow-legged frog - north Sierra DPS	None	Threatened	G3T2	S2	
ABNKC10010	<i>Haliaeetus leucocephalus</i> bald eagle	Delisted	Endangered	G5	S3	FP
ABNKC11011	<i>Circus hudsonius</i> northern harrier	None	None	G5	S3	SSC
ABNKC19070	<i>Buteo swainsoni</i> Swainson's hawk	None	Threatened	G5	S4	
ABNKD06030	<i>Falco columbarius</i> merlin	None	None	G5	S3S4	WL
ABNME03041	<i>Laterallus jamaicensis coturniculus</i> California black rail	None	Threatened	G3T1	S2	FP
ABNMK01014	<i>Antigone canadensis tabida</i> greater sandhill crane	None	Threatened	G5T5	S2	FP
ABNRB02022	<i>Coccyzus americanus occidentalis</i> western yellow-billed cuckoo	Threatened	Endangered	G5T2T3	S1	
ABNSB10010	<i>Athene cunicularia</i> burrowing owl	None	None	G4	S2	SSC
ABPAU08010	<i>Riparia riparia</i> bank swallow	None	Threatened	G5	S3	
ABPBW01114	<i>Vireo bellii pusillus</i> least Bell's vireo	Endangered	Endangered	G5T2	S3	
ABPBXA3013	<i>Melospiza melodia pop. 1</i> song sparrow ("Modesto" population)	None	None	G5T3?Q	S3?	SSC
ABPBXB0020	<i>Agelaius tricolor</i> tricolored blackbird	None	Threatened	G1G2	S2	SSC
ABPBY06100	<i>Spinus lawrencei</i> Lawrence's goldfinch	None	None	G3G4	S4	
AFCAA01031	<i>Acipenser medirostris pop. 1</i> green sturgeon - southern DPS	Threatened	None	G2T1	S1	
AFCHA0205L	<i>Oncorhynchus tshawytscha pop. 11</i> chinook salmon - Central Valley spring-run ESU	Threatened	Threatened	G5T2Q	S2	
AFCHA0209K	<i>Oncorhynchus mykiss irideus pop. 11</i> steelhead - Central Valley DPS	Threatened	None	G5T2Q	S2	



Selected Elements by Element Code
California Department of Fish and Wildlife
California Natural Diversity Database



Element Code	Species	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
AMACC02010	<i>Lasionycteris noctivagans</i> silver-haired bat	None	None	G3G4	S3S4	
AMACC08010	<i>Corynorhinus townsendii</i> Townsend's big-eared bat	None	None	G4	S2	SSC
AMACC10010	<i>Antrozous pallidus</i> pallid bat	None	None	G4	S3	SSC
AMACD02011	<i>Eumops perotis californicus</i> western mastiff bat	None	None	G4G5T4	S3S4	SSC
AMAFD03071	<i>Dipodomys californicus eximius</i> Marysville California kangaroo rat	None	None	G4T1	S1	SSC
AMAFJ01010	<i>Erethizon dorsatum</i> North American porcupine	None	None	G5	S3	
AMAJF04010	<i>Taxidea taxus</i> American badger	None	None	G5	S3	SSC
ARAAD02030	<i>Emys marmorata</i> western pond turtle	Proposed Threatened	None	G3G4	S3	SSC
ARADB36150	<i>Thamnophis gigas</i> giant gartersnake	Threatened	Threatened	G2	S2	
CTT44110CA	<i>Northern Hardpan Vernal Pool</i> Northern Hardpan Vernal Pool	None	None	G3	S3.1	
CTT61410CA	<i>Great Valley Cottonwood Riparian Forest</i> Great Valley Cottonwood Riparian Forest	None	None	G2	S2.1	
CTT61420CA	<i>Great Valley Mixed Riparian Forest</i> Great Valley Mixed Riparian Forest	None	None	G2	S2.2	
CTT61430CA	<i>Great Valley Valley Oak Riparian Forest</i> Great Valley Valley Oak Riparian Forest	None	None	G1	S1.1	
ICBRA03030	<i>Branchinecta lynchi</i> vernal pool fairy shrimp	Threatened	None	G3	S3	
ICBRA06010	<i>Linderiella occidentalis</i> California linderiella	None	None	G2G3	S2S3	
ICBRA10010	<i>Lepidurus packardii</i> vernal pool tadpole shrimp	Endangered	None	G3	S3	
IICOL48011	<i>Desmocerus californicus dimorphus</i> valley elderberry longhorn beetle	Threatened	None	G3T3	S3	
IIHYM24260	<i>Bombus pensylvanicus</i> American bumble bee	None	None	G3G4	S2	
IMBIV19010	<i>Gonidea angulata</i> western ridged mussel	None	None	G3	S2	
PDAST4R0P2	<i>Centromadia parryi ssp. parryi</i> pappose tarplant	None	None	G3T2	S2	1B.2
PDAST5N0F0	<i>Layia septentrionalis</i> Colusa layia	None	None	G2	S2	1B.2



Selected Elements by Element Code
California Department of Fish and Wildlife
California Natural Diversity Database



Element Code	Species	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
PDAST7P010	<i>Pseudobahia bahiifolia</i> Hartweg's golden sunburst	Endangered	Endangered	G1	S1	1B.1
PDCAR0L0V0	<i>Paronychia ahartii</i> Ahart's paronychia	None	None	G3	S3	1B.1
PDCHE040B0	<i>Atriplex cordulata</i> var. <i>cordulata</i> heartscale	None	None	G3T2	S2	1B.2
PDCHE042M0	<i>Atriplex minuscula</i> lesser saltscale	None	None	G2	S2	1B.1
PDCHE042T0	<i>Atriplex subtilis</i> subtle orache	None	None	G1	S1	1B.2
PDFAB0F8R3	<i>Astragalus tener</i> var. <i>ferrisiae</i> Ferris' milk-vetch	None	None	G2T1	S1	1B.1
PDLAM18082	<i>Monardella venosa</i> veiny monardella	None	None	G1	S1	1B.1
PDMAL0H0R3	<i>Hibiscus lasiocarpus</i> var. <i>occidentalis</i> woolly rose-mallow	None	None	G5T3	S3	1B.2
PDPLM0C0E1	<i>Navarretia leucocephala</i> ssp. <i>bakeri</i> Baker's navarretia	None	None	G4T2	S2	1B.1
PDRAN0B1J0	<i>Delphinium recurvatum</i> recurved larkspur	None	None	G2?	S2?	1B.2
PDSCR0D482	<i>Castilleja rubicundula</i> var. <i>rubicundula</i> pink creamsacs	None	None	G5T2	S2	1B.2
PMALI040Q0	<i>Sagittaria sanfordii</i> Sanford's arrowhead	None	None	G3	S3	1B.2
PMJUN011L1	<i>Juncus leiospermus</i> var. <i>ahartii</i> Ahart's dwarf rush	None	None	G2T1	S1	1B.2
PMLEM03020	<i>Wolffia brasiliensis</i> Brazilian watermeal	None	None	G5	S2	2B.3
PMPOA4G050	<i>Orcuttia tenuis</i> slender Orcutt grass	Threatened	Endangered	G2	S2	1B.1
PMPOA53110	<i>Puccinellia simplex</i> California alkali grass	None	None	G2	S2	1B.2
PMPOA6N010	<i>Tuctoria greenei</i> Greene's tuctoria	Endangered	Rare	G1	S1	1B.1
PMPON03010	<i>Heteranthera dubia</i> water star-grass	None	None	G5	S2	2B.2

Record Count: 58



CNPS Rare Plant Inventory

Search Results




32 matches found. Click on scientific name for details

Search Criteria: CRPR is one of [1A:1B:2A:2B:3:4] , Quad is one of [3912136:3912146:3912145:3912135:3912126:3912127:3912137:3912147:3912125]

CA RARE												
▲ SCIENTIFIC NAME	COMMON NAME	FAMILY	LIFEFORM	BLOOMING PERIOD	FED LIST	STATE LIST	GLOBAL RANK	STATE RANK	PLANT RANK	CA ENDEMIC	DATE ADDED	PHOTO
<i>Astragalus tener</i> var. <i>ferrisiae</i>	Ferris' milk-vetch	Fabaceae	annual herb	Apr-May	None	None	G2T1	S1	1B.1	Yes	1994-01-01	No Photo Available
<i>Atriplex cordulata</i> var. <i>cordulata</i>	heartscale	Chenopodiaceae	annual herb	Apr-Oct	None	None	G3T2	S2	1B.2	Yes	1988-01-01	 © 1994 Robert E. Preston, Ph.D.
<i>Atriplex minuscula</i>	lesser saltscale	Chenopodiaceae	annual herb	May-Oct	None	None	G2	S2	1B.1	Yes	1994-01-01	 © 2000 Robert E. Preston, Ph.D.
<i>Atriplex subtilis</i>	subtle orache	Chenopodiaceae	annual herb	(Apr)Jun-Sep(Oct)	None	None	G1	S1	1B.2	Yes	1994-01-01	 © 2000 Robert E. Preston, Ph.D.
<i>Azolla microphylla</i>	Mexican mosquito fern	Azollaceae	annual/perennial herb	Aug	None	None	G5	S4	4.2		1994-01-01	No Photo Available
<i>Brodiaea rosea</i> ssp. <i>vallicola</i>	valley brodiaea	Themidaceae	perennial bulbiferous herb	Apr-May(Jun)	None	None	G5T3	S3	4.2	Yes	2019-01-07	 © 2011 Steven Perry
<i>Castilleja rubicundula</i> var. <i>rubicundula</i>	pink creamsacs	Orobanchaceae	annual herb (hemiparasitic)	Apr-Jun	None	None	G5T2	S2	1B.2	Yes	2001-01-01	 ©2010 Vernon Smith

<u>Centromadia parryi ssp. parryi</u>	pappose tarplant	Asteraceae	annual herb	May-Nov	None	None	G3T2	S2	1B.2	Yes	2004-01-01	 <div>© 2016 John Doyen</div>
<u>Centromadia parryi ssp. rudis</u>	Parry's rough tarplant	Asteraceae	annual herb	May-Oct	None	None	G3T3	S3	4.2	Yes	2007-05-22	 <div>© 2019 John Doyen</div>
<u>Cryptantha rostellata</u>	red-stemmed cryptantha	Boraginaceae	annual herb	Apr-Jun	None	None	G4	S3	4.2		2018-06-26	No Photo Available
<u>Delphinium recurvatum</u>	recurved larkspur	Ranunculaceae	perennial herb	Mar-Jun	None	None	G2?	S2?	1B.2	Yes	1988-01-01	No Photo Available
<u>Erythranthe glaucescens</u>	shield-bracted monkeyflower	Phrymaceae	annual herb	Feb-Aug(Sep)	None	None	G3G4	S3S4	4.3	Yes	1974-01-01	 <div>Neal Kramer 2020</div>
<u>Hemizonia congesta ssp. calyculata</u>	Mendocino tarplant	Asteraceae	annual herb	Jul-Nov	None	None	G5T4	S4	4.3	Yes	1974-01-01	 <div>© 2015 John Doyen</div>
<u>Hesperevax caulescens</u>	hogwallow starfish	Asteraceae	annual herb	Mar-Jun	None	None	G3	S3	4.2	Yes	2001-01-01	 <div>© 2017 John Doyen</div>
<u>Heteranthera dubia</u>	water star-grass	Pontederiaceae	perennial herb (aquatic)	Jul-Oct	None	None	G5	S2	2B.2		2013-10-10	 <div>©2010 Louis-M. Landry</div>
<u>Hibiscus lasiocarpus var. occidentalis</u>	woolly rose-mallow	Malvaceae	perennial rhizomatous herb (emergent)	Jun-Sep	None	None	G5T3	S3	1B.2	Yes	1974-01-01	 <div>© 2020 Steven Perry</div>
<u>Juncus leiospermus var. ahartii</u>	Ahart's dwarf rush	Juncaceae	annual herb	Mar-May	None	None	G2T1	S1	1B.2	Yes	1984-01-01	 <div>© 2004 Carol W. Witham</div>

<u>Lathyrus delnorticus</u>	Del Norte pea	Fabaceae	perennial herb	Jun-Jul	None	None	G4	S3	4.3			1974-01-01	 © 2016 Keir Morse
<u>Layia septentrionalis</u>	Colusa layia	Asteraceae	annual herb	Apr-May	None	None	G2	S2	1B.2	Yes		1994-01-01	 © 2013 Jake Ruygt
<u>Leptosiphon aureus</u>	bristly leptosiphon	Polemoniaceae	annual herb	Apr-Jul	None	None	G4?	S4?	4.2	Yes		1994-01-01	 © 2007 Len Blumin
<u>Limnanthes floccosa ssp. floccosa</u>	woolly meadowfoam	Limnanthaceae	annual herb	Mar-May(Jun)	None	None	G4T4	S3	4.2			1980-01-01	 © 2021 Scot Loring
<u>Monardella venosa</u>	veiny monardella	Lamiaceae	annual herb	May-Jul	None	None	G1	S1	1B.1	Yes		1984-01-01	 © 2007 George W. Hartwell
<u>Navarretia leucocephala ssp. bakeri</u>	Baker's navarretia	Polemoniaceae	annual herb	Apr-Jul	None	None	G4T2	S2	1B.1	Yes		1994-01-01	 © 2018 Barry Rice
<u>Orcuttia tenuis</u>	slender Orcutt grass	Poaceae	annual herb	May-Sep(Oct)	FT	CE	G2	S2	1B.1	Yes		1974-01-01	 © 2013 Justy Leppert
<u>Paronychia ahartii</u>	Ahart's paronychia	Caryophyllaceae	annual herb	Feb-Jun	None	None	G3	S3	1B.1	Yes		1988-01-01	 © 2004 Carol W. Witham
<u>Plagiobryoides vinosula</u>	wine-colored tufa moss	Bryaceae	moss		None	None	G3G4	S3S4	4.2			2014-06-10	No Photo Available
<u>Pseudobahia bahiifolia</u>	Hartweg's golden sunburst	Asteraceae	annual herb	Mar-Apr	FE	CE	G1	S1	1B.1	Yes		1974-01-01	No Photo Available
<u>Puccinellia simplex</u>	California alkali grass	Poaceae	annual herb	Mar-May	None	None	G2	S2	1B.2			2015-10-15	 © 2017 Chris Winchell

<u><i>Sagittaria sanfordii</i></u>	Sanford's arrowhead	Alismataceae	perennial rhizomatous herb (emergent)	May-Oct(Nov)	None	None	G3	S3	1B.2	Yes	1984-01-01	 ©2013 Debra L. Cook
<u><i>Smilax jamesii</i></u>	English Peak greenbrier	Smilacaceae	perennial rhizomatous herb	May-Jul(Aug-Oct)	None	None	G3G4	S3S4	4.2	Yes	1980-01-01	 Sheli Wingo 2004
<u><i>Tuctoria greenei</i></u>	Greene's tuctoria	Poaceae	annual herb	May-Jul(Sep)	FE	CR	G1	S1	1B.1	Yes	1974-01-01	 ©2008 F. Gauna
<u><i>Wolffia brasiliensis</i></u>	Brazilian watermeal	Araceae	perennial herb (aquatic)	Apr-Dec	None	None	G5	S2	2B.3		2001-01-01	 © 2021 Scot Loring

Showing 1 to 32 of 32 entries

Suggested Citation:

California Native Plant Society, Rare Plant Program. 2024. Rare Plant Inventory (online edition, v9.5). Website <https://www.rareplants.cnps.org> [accessed 7 February 2024].

APPENDIX B

Representative Photographs



Photo 1: South-facing view of the BSA's southern boundary and disturbed/developed land cover. Photo taken February 15, 2024.



Photo 3: East-facing view of solar array and annual grassland habitat of the BSA. Photo taken February 15, 2024.



Photo 2: North-facing view of tree driplines overlapping the BSA and school grounds turf grass. Photo taken February 15, 2024.



Photo 4: North-facing view of north end of the BSA, adjacent/overlapping trees, and debris. Photo taken February 15, 2024.



APPENDIX C

Plant Species Observed

SCIENTIFIC NAME	COMMON NAME
ASTERACEAE	SUNFLOWER FAMILY
<i>Chondrilla juncea</i> *	Skeleton weed
<i>Senecio vulgaris</i> *	Common groundsel
<i>Silybum marianum</i> *	Milk thistle
<i>Sonchus asper</i>	Prickly sowthistle
BRASSICACEAE	MUSTARD FAMILY
<i>Capsella bursa-pastoris</i> *	Shepherd purse
CYPERACEAE	SEDGE FAMILY
<i>Cyperus</i> sp.	Sedge
FABACEAE	LEGUME FAMILY
<i>Lotus corniculatus</i> *	Birdsfoot trefoil
<i>Trifolium</i> sp.	Clover
<i>Vicia</i> sp.*	Vetch
FAGACEAE	OAK FAMILY
<i>Castanea</i> sp.	Chestnut
<i>Quercus lobata</i>	Valley oak
GERANIACEAE	GERANIUM FAMILY
<i>Erodium moschatum</i> *	White-stemmed filaree
IRIDACEAE	IRIS FAMILY
<i>Dietes iridioides</i> *	African iris
JUGLANDACEAE	WALNUT FAMILY
<i>Juglans</i> spp.	Walnuts
MALVACEAE	MALLOW FAMILY
<i>Malva parviflora</i> *	Cheeseweed
PINACEAE	PINE FAMILY
<i>Pinus</i> sp.	Pine
PLANTAGINACEAE	PLANTAIN FAMILY
<i>Plantago lanceolata</i> *	English plantain
PLATANACEAE	PLANE-TREE FAMILY
<i>Platanus</i> sp.	Sycamore
POACEAE	GRASS FAMILY
<i>Avena</i> sp.*	Wild oats
<i>Festuca perennis</i> *	Italian ryegrass
<i>Poa annua</i> *	Annual bluegrass
POLYGONACEAE	BUCKWHEAT FAMILY
<i>Rumex crispus</i> *	Curly dock
ROSACEAE	ROSE FAMILY
<i>Photinia × fraseri</i> *	Red tip photinia

*Nonnative Species

SCIENTIFIC NAME	COMMON NAME
SCROPHULARIACEAE	FIGWORT FAMILY
<i>Buddleja davidii</i> *	Butterfly bush
TAXODIACEAE	BALD CYPRESS FAMILY
<i>Sequoia sempervirens</i>	Coast redwood
VITACEAE	GRAPE FAMILY
<i>Vitis</i> sp.*	Grape

*Nonnative Species

APPENDIX C

Cultural Resources Assessment

Historic Properties Inventory Report for the Manzanita School Well Replacement Project

Butte County, California

Prepared For:

Manzanita Elementary School District
627 East Evans Reimer Road
Gridley, California 95948

Prepared By:



ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

2525 Warren Drive
Rocklin, California 95677

March 2024

MANAGEMENT SUMMARY

ECORP Consulting, Inc. was retained in 2023 to conduct a cultural resources inventory for the Manzanita School Well Replacement Project in the City of Gridley in Butte County, California. The Manzanita Elementary School District proposes to construct a replacement well approximately 550 feet deep and install a generator, with associated plumbing and electrical connections to the existing well location, and the demolition of the existing well facilities.

The inventory included a records search, literature review, and field survey. The records search results indicated that no previous cultural resources studies have been conducted within the APE and no resources have been previously recorded. One State Point of Historical Interest is adjacent to the APE: OHP Property No. 90546, Manzanita School, is listed on the OHP Archaeological Resources Directory as a *State Point of Historical Interest that does not meet CRHR criteria* (7P, 06/07/1968, SPHI-BUT-003).

As a result of the field survey, ECORP recorded one historic-era road inside the APE: MW-01, Center Avenue. This resource was evaluated using the National Register of Historic Places and California Register of Historical Resources eligibility criteria and determined not eligible. Recommendations for the management of unanticipated discoveries are provided.

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LIST OF ACRONYMS AND ABBREVIATIONS

Term	Definition
AB	Assembly Bill
ACHP	Advisory Council on Historic Preservation
APE	Area of Potential Effects
APN	Assessor Parcel Number
ARD	Archaeological Resources Directory
BERD	Built Environment Resource Directory
BLM	Bureau of Land Management
BP	Before present
Caltrans	California Department of Transportation
CCR	California Code of Regulations
CCTS	Central California Taxonomic System
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CHL	California Historical Landmarks
CHRIS	California Historical Resources Information System
CRHR	California Register of Historical Resources
CWSRF	Clean Water State Revolving Fund
DPR	Department of Parks and Recreation
GLO	General Land Office
kya	thousand years ago
MLD	Most Likely Descendant
NAHC	Native American Heritage Commission
NEIC	Northeast Information Center
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NPS	National Park Service
NRHP	National Register of Historic Places
OHP	Office of Historic Preservation
PRC	Public Resources Code
Project	Manzanita School Well Replacement Project
RPA	Registered Professional Archaeologist
SHPO	State Historic Preservation Officer
SWRCB	State Water Resources Control Board
TCRs	Tribal Cultural Resources
USC	U.S. Code
USEPA	U.S. Environmental Protection Agency
USGS	U.S. Geological Survey

1.0 INTRODUCTION

ECORP Consulting, Inc. was retained in 2023 to conduct a cultural resources inventory of the proposed Area of Potential Effects (APE) in Butte County, California. A survey of the Area of Potential Effects (APE) was required to identify potentially eligible cultural resources (i.e., archaeological sites and historic buildings, structures, and objects) that could be affected by the Project.

1.1 Project Location and Description

The APE consists of 0.84 acre of property located in Section 8 of Township 17 North, Range 3 East Mount Diablo Base and Meridian as depicted on the 1952 (photorevised 1973, Gridley, California U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle map (Figure 1), between East Evans Reimer Road and Center Avenue in portions of Assessor's Parcel Numbers (APNs) 024-120-035 and 024-120-059, approximately 1.75 miles southeast of the City of Gridley.

The Proposed Project entails the installation of a new well and generator, the dismantling of the existing well at a second location, and the installation of associated plumbing and electrical piping to tie the new well and generator into the existing systems.

1.2 Area of Potential Effects

The APE consists of the horizontal and vertical limits of a project and includes the area within which significant impacts or adverse effects to Historical Resources or Historic Properties could occur as a result of the project. The APE is defined for projects subject to regulations implementing Section 106 (federal law and regulations). For projects subject to the California Environmental Quality Act (CEQA) review, the term Project Area is used rather than APE. The terms Project Area and APE are interchangeable for the purpose of this document.

The horizontal APE consists of all areas where activities associated with a project are proposed and, in the case of this project, equals the Project Area subject to environmental review under the National Environmental Policy Act (NEPA) and CEQA. This includes areas proposed for construction, vegetation removal, grading, trenching, stockpiling, staging, paving, and other elements in the official Project description. The horizontal APE is illustrated in Figure 1 and represents the survey coverage area.

The vertical APE is described as the maximum depth below the surface to which excavations for project foundations and facilities will extend. Therefore, the vertical APE for this project includes all subsurface areas where archaeological deposits could be affected. The subsurface vertical APE varies across the project, but is expected to extend to approximately 550 feet at the location of the well; all other portions of the Project is estimated to be up to 10 feet below the current surface, and therefore, a review of geologic and soils maps was necessary to determine the potential for buried archaeological sites that cannot be seen on the surface.

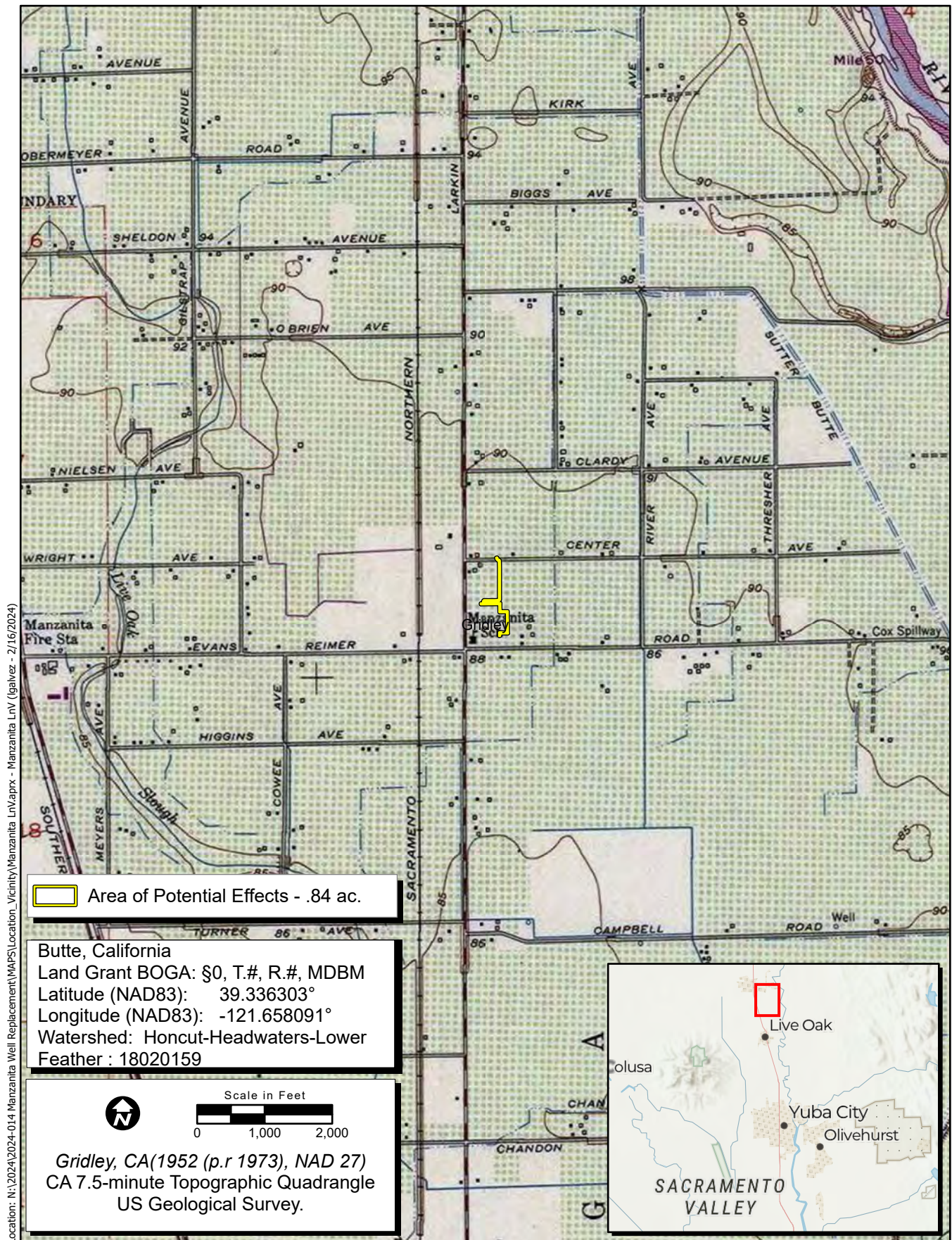


Figure 1. Project Location and Vicinity



Figure 2. Project Overview

The vertical APE also is described as the maximum height of structures that could impact the physical integrity and integrity of setting of cultural resources, including districts and traditional cultural properties. For this Project, the above-surface vertical APE is up to 15 feet above the surface, which is typical for a generator and well pump control facilities such as those proposed.

1.3 Regulatory Context

The CEQA lead agency for this project is State Water Resources Control Board (SWRCB). The NEPA or Section 106 lead agency for this project will be determined later, if needed.

A review of the regulatory context is provided below; however, the inclusion of any of these laws and regulations in this report does not make a law or regulation apply when it otherwise would not. Similarly, the omission of any other laws and regulations from this section does not mean that they do not apply. Rather, the purpose of this section is to provide context in explaining why the study was carried out in the manner documented herein.

1.3.1 National Environmental Policy Act

NEPA establishes national policy for the protection and enhancement of the environment. Part of the function of the federal government in protecting the environment is to “preserve important historic, cultural, and natural aspects of our national heritage.” Cultural resources need not be determined eligible for the National Register of Historic Places (NRHP) through the National Historic Preservation Act (NHPA) of 1966 (as amended) to receive consideration under NEPA. NEPA is implemented by regulations of the Council on Environmental Quality (40 Code of Federal Regulations [CFR] 1500-1508).

The definition of *effects* in the NEPA regulations includes adverse and beneficial effects on historic and cultural resources (40 CFR 1508.8). Therefore, the *Environmental Consequences* section of an Environmental Impact Statement [see 40 CFR 1502.16(f)] must analyze potential effects to historic or cultural resources that could result from the proposed action and each alternative. In considering whether an alternative may “significantly affect the quality of the human environment,” a federal agency must consider, among other things:

- unique characteristics of the geographic area, such as proximity to historic or cultural resources (40 CFR 1508.27(b)(3)), and
- the degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the NRHP (40 CFR 1508.27(b)(8)).

Therefore, because historic properties are a subset of *cultural resources*, they are one aspect of the *human environment* defined by NEPA regulations.

1.3.2 National Historic Preservation Act

The federal law that covers cultural resources that could be affected by federal undertakings is the NHPA of 1966, as amended. Section 106 of the NHPA requires that federal agencies take into account the effects of a federal undertaking on properties listed in or eligible for the NRHP. The agencies must afford the

Advisory Council on Historic Preservation (ACHP) a reasonable opportunity to comment on the undertaking. A federal undertaking is defined in 36 CFR 800.16(y):

“A federal undertaking means a project, activity, or program funded in whole or in part under the direct or indirect jurisdiction of a federal agency, including those carried out by or on behalf of a federal agency; those carried out with Federal financial assistance; and those requiring a Federal permit, license, or approval.”

The regulations that stipulate the procedures for complying with Section 106 are in 36 CFR 800. The Section 106 regulations require:

- definition of the APE;
- identification of cultural resources within the APE;
- evaluation of the identified resources in the APE using NRHP eligibility criteria;
- determination of whether the effects of the undertaking or project on eligible resources will be adverse; and
- agreement on and implementation of efforts to resolve adverse effects, if necessary.

The federal agency must seek comment from the State Historic Preservation Officer (SHPO) and, in some cases, the ACHP, for its determinations of eligibility, effects, and proposed mitigation measures. Section 106 procedures for a specific project can be modified by negotiation of a Memorandum of Agreement or Programmatic Agreement between the federal agency, the SHPO, and, in some cases, the Project proponent.

Effects to a cultural resource are potentially adverse if the lead federal agency, with the SHPO’s concurrence, determines the resource eligible for the NRHP, making it a Historic Property, and if application of the Criteria of Adverse Effects (36 CFR 800.5[a][2] et seq.) results in the conclusion that the effects will be adverse. The NRHP eligibility criteria, contained in 36 CFR 60.4, are as follows:

The quality of significance in American history, architecture, archaeology, and culture is present in districts, sites, buildings, structures, and objects of state and local importance that possess aspects of integrity of location, design, setting, materials, workmanship, feeling, association, and

- A. that are associated with events that have made a significant contribution to the broad patterns of our history; or
- B. that are associated with the lives of persons significant in our past; or
- C. that 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. that have yielded, or may be likely to yield, information important in prehistory.

In addition, the resource must be at least 50 years old, barring exceptional circumstances (36 CFR 60.4). Resources that are eligible for, or listed on, the NRHP are *historic properties*.

Regulations implementing Section 106 of the NHPA (36 CFR 800.5) require that the federal agency, in consultation with the SHPO, apply the Criteria of Adverse Effect to historic properties within the APE. According to 36 CFR 800.5(a)(1):

“An adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property’s location, design, setting, materials, workmanship, feeling or association.”

1.3.3 California Environmental Quality Act

CEQA is the state law that applies to a project’s impacts on cultural resources. A project is an activity that may cause a direct or indirect physical change in the environment and that is undertaken or funded by a state or local agency, or requires a permit, license, or lease from a state or local agency. CEQA requires that impacts to Historical Resources be identified and, if the impacts will be significant, then apply mitigation measures to reduce the impacts.

A Historical Resource is a resource that:

- (1) is listed in or has been determined eligible for listing in the California Register of Historical Resources (CRHR) by the State Historical Resources Commission, or has been determined historically significant by the CEQA lead agency because it meets the eligibility criteria for the CRHR,
- (2) is included in a local register of historical resources, as defined in Public Resources Code (PRC) 5020.1(k), or
- (3) has been identified as significant in a historical resources survey, as defined in PRC 5024.1(g) (California Code of Regulations [CCR] Title 14, Section 15064.5(a)).

The eligibility criteria for the CRHR are as follows (CCR Title 14, Section 4852(b)):

- (1) It is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States;
- (2) It is associated with the lives of persons important to local, California, or national history;
- (3) It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master or possesses high artistic values; or
- (4) It has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation.

In addition, the resource must retain integrity, which is evaluated with regard to the retention of location, design, setting, materials, workmanship, feeling, and association (CCR Title 14, Section 4852(c)). Resources that have been determined eligible for the NRHP are automatically eligible for the CRHR.

Impacts to a Historical Resource, as defined by CEQA (listed in an official historic inventory or survey or eligible for the CRHR), are significant if the resource is demolished or destroyed or if the characteristics that made the resource eligible are materially impaired (CCR Title 14, Section 15064.5(b)). Demolition or alteration of eligible buildings, structures, and features that they would no longer be eligible would result in a significant impact. Whole or partial destruction of eligible archaeological sites would result in a significant impact. In addition to impacts from construction resulting in destruction or physical alteration of an eligible resource, impacts to the integrity of setting (sometimes termed *visual impacts*) of physical features in the Project Area could also result in significant impacts.

Tribal Cultural Resources (TCRs) are defined in Section 21074 of the California PRC as sites, features, places, cultural landscapes (geographically defined in terms of the size and scope), sacred places, and objects with cultural value to a California Native American tribe that are either included in or determined to be eligible for inclusion in the CRHR, or are included in a local register of historical resources as defined in subdivision (k) of Section 5020.1, or are 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 Section 5024.1. Section 1(b)(4) of Assembly Bill (AB) 52 established that only California Native American tribes, as defined in Section 21073 of the California PRC, are experts in the identification of TCRs and impacts thereto. Because ECORP does not meet the definition of a California Native American tribe, it only addresses information in this report for which it is qualified to identify and evaluate, and that which is needed to inform the cultural resources section of CEQA documents. This report, therefore, does not identify or evaluate TCRs. Should California Native American tribes ascribe additional importance to or interpretation of archaeological resources described herein, or provide information about non-archeological TCRs, that information is documented separately in the AB 52 tribal consultation record between the tribe(s) and lead agency and summarized in the TCRs section of the CEQA document, if applicable.

1.3.4 Clean Water State Revolving Fund

This Project is being funded in part by federal money from the Clean Water State Revolving Fund (CWSRF). Because the CWSRF receives at least a portion of funding from the U.S. Environmental Protection Agency (USEPA), such projects are required to comply with federal environmental regulations. The requirements in the Operating Agreement between the California SWRCB and the USEPA that administers the State Revolving Fund federal loan program, known as CEQA Plus, require applicants to demonstrate to the satisfaction of the State Historic Preservation Officer that the project complies with Section 106 of the National Historic Preservation Act (NHPA). The SWRCB is the agency responsible for Section 106 (NHPA) compliance. The SWRCB has established standards to meet both state and federal requirements; as such, this report was prepared in compliance with the requisite federal standards. In complying with CEQA Plus, this cultural resources investigation contributed to compliance with Section 106 of the NHPA and with CEQA (PRC Section 21000 et seq.).

1.4 Report Organization

The following report documents the study and its findings and was prepared in conformance with the California Office of Historic Preservation's (OHP) *Archaeological Resource Management Reports: Recommended Contents and Format* and is consistent with the documentation standards under CEQA Plus. Appendix A includes the results of the records search with the California Historical Resources Information System (CHRIS) and historical society coordination. Appendix B contains documentation of a search of the Sacred Lands File. Appendix C presents photographs of the APE, and Appendix D contains cultural resource site locations and site records.

Sections 6253, 6254, and 6254.10 of the California Code authorize state agencies to exclude archaeological site information from public disclosure under the Public Records Act. In addition, the California Public Records Act (Government Code Section 6250 et seq.) and California's open meeting laws (The Brown Act, Government Code Section 54950 et seq.) protect the confidentiality of Native American cultural place information. Because the disclosure of information about the location of cultural resources is prohibited by the Archaeological Resources Protection Act of 1979 (16 U.S. Code [USC] 552 470hh) and Section 307103 of the NHPA, it is exempted from disclosure under Exemption 3 of the federal Freedom of Information Act (5 USC 552). Likewise, the Information Centers of the CHRIS maintained by the OHP prohibit public dissemination of records search information.

2.0 SETTING

2.1 Environmental Setting

The APE is situated within the Northern Sacramento Valley southeast of the City of Gridley in Butte County. The surrounding area consists of rural farmland, agricultural orchards, and industrial agricultural land. The APE is located on the eastern half of the Manzanita Elementary School Campus, extending into the open field to the north of the campus, and is bounded by Center Avenue to the north and by agricultural areas to the east. The western bank of the Feather River is approximately 1.25 miles east of the APE and State Route 99 is located approximately 1.25 miles westward. Elevations range from 90 to 95 feet above mean sea level.

2.2 Geology and Soils

Rosenthal and Willis (2017:2) describe the geology of the Sacramento Valley as a large, asymmetric, structural trough (syncline) formed by westward-tilting blocks of plutonic and metamorphic rocks on the eastern side, and highly folded and faulted blocks of metamorphic rocks (Franciscan) on the western side. This basin has been partially filled by a thick sequence (up to 12.4 miles [20 kilometers] thick) of sedimentary rocks and alluvial deposits that range from late Jurassic to Historical in age. During the Pleistocene, erosion of the Sierra Nevada led to the deposition of large alluvial fans at the base of the foothills along the eastern side of the Sacramento Valley. Glacial conditions are generally credited for the deposition of these fans, while subsequent interglacial periods are marked by landscape stability, soil formation, and channel incision. Subsequent depositional cycles during the Holocene progressively buried

downstream sections of many older alluvial fans and also led to the formation of inset stream terraces and nested alluvial fans along the foothills (Rosenthal and Willis 2017).

The underlying geology of the APE consists of Modesto Formation (Qm) composed of alluvial terraces and fans of gravel, sand, silt, and clay deposited during the late Pleistocene (126 to 12 thousand years ago [kya]; Saucedo and Wagner 1992). According to the USDA Natural Resources Conservation Service (NRCS) Web Soil Survey (NRCS 2023), one soil type makes up the APE. Boga-Loemstone, 0 to 1 percent slopes, is a moderately well-drained loamy alluvium over dense silty alluvium derived from igneous and metamorphic rock.

As discussed in Section 3, current conservative estimates place initial human occupation of the Northern California Valley at approximately 10 kya. Hence, even though Morrison Slough (Liveoak Slough) is located approximately 1 mile west of the APE and the Feather River is located approximately 1.25 miles east of the APE, the underlying geology predates the earliest human occupation in the area. Although alluvial deposits tend to preserve archaeological material and create an increased likelihood of pre-contact archaeological sites located along perennial waterways, the alluvial soils in the APE (Boga-Loemstone) are the result of deposits that are too old to have buried evidence of human occupation. Therefore, soils and hydrology data indicate a low potential for buried pre-contact archaeological sites within the APE. However, soil composition and proximity to waterways are not the only factors in determining potential for buried resources; this is discussed further in Section 6.2.

2.3 Vegetation and Wildlife

Riparian forests are typically associated with major watercourses like the Feather River. The vegetative composition of plant species in riparian forests is highly variable and depends on geographic location, elevation, substrate, and groundwater elevation. Sacramento Valley woodlands are characterized by woody upper and intermediate overstories with a dense understory of vines and herbaceous and shrubby plants (ICF International, Inc. 2014; Westwood 2005).

Prior to the arrival of European Americans, the Northern Sacramento Valley consisted of a savannah landscape with perennial grasses and oaks forming a natural parkland (Riddell 1978). The section of the Feather River approximately 2.5 miles east of the APE has been historically situated at the interface between habitats of riparian forest and floodplain. The natural levee along the river consisted primarily of deciduous species, and the lower terraces of the multitiered riparian zone were composed of willows and Fremont's cottonwood. On the floodplains adjoining the levee, the overstory included cottonwood, valley oak, California sycamore, and Oregon ash, with a sub canopy including white alder, box elder, buckeye, big leaf maple, and elderberry. The understory of the floodplains was composed of various species of willow, coyote, vines, and dense thickets formed from poison oak, California grape, and Himalayan blackberry (Burcham 1982; Rosenthal and Willis 2017). Buttonbush, wild rose, and blue elderberry are also present in the shrub layer (U.S. Army Corps of Engineers 2013).

During pre-contact times, large game animals such as tule elk and deer would have occupied the APE, along with various species of waterfowl. Valley grasslands around the nearby Feather River would have supported a variety of bird and mammal species, such as elk, pronghorn, grizzly bear, quail, rabbit, and

other small mammals (Schulz 1981; Storm 1986). The river channel itself would have contained abundant fish species such as salmon, steelhead, rainbow trout, and sturgeon.

3.0 CULTURAL CONTEXT

3.1 Regional Pre-Contact History

It is generally believed that human occupation of southern California began at least 10,000 Years Before Present (BP). The archaeological record indicates that between approximately 10,000 and 6,000 BP, a predominantly hunting economy existed, characterized by archaeological sites containing numerous projectile points and butchered large animal bones. Animals that were hunted probably consisted mostly of large species still alive today. Bones of extinct species have been found, but cannot definitely be associated with human artifacts. Although small animal bones and plant grinding tools are rarely found within archaeological sites of this period, small game and vegetal foods were probably exploited on a limited basis. A lack of deep cultural deposits from this period suggests that groups included only small numbers of individuals who did not often stay in one place for extended periods (Wallace 1978).

Around 6,000 years BP, there was a shift in focus from hunting toward a greater reliance on vegetal resources. Archaeological evidence of this trend consists of a much greater number of milling tools (e.g., metates and manos) for processing seeds and other vegetable matter. This period, which extended until around 3,000 years BP, is sometimes referred to as the *Millingstone Horizon* (Wallace 1978). Projectile points are found in archaeological sites from this period, but they are far fewer in number than from sites dating to before 6,000 years BP. An increase in the size of groups and the stability of settlements is indicated by deep, extensive middens at some sites from this period (Wallace 1978).

In sites dating to after about 3,000 years BP, archaeological evidence indicates that reliance on both plant gathering and hunting continued as in the previous period, with more specialized adaptation to particular environments. Mortars and pestles were added to metates and manos for grinding seeds and other vegetable material. Chipped-stone tools became more refined and specialized, and bone tools were more common. During this period, new peoples from the Great Basin began entering Southern California. These immigrants, who spoke a language of the Uto-Aztecan linguistic stock, seem to have displaced or absorbed the earlier population of Hokan-speaking peoples. The exact time of their entry into the region is not known; however, they were present in Southern California during the final phase of prehistory. During this period, known as the *Late Horizon*, population densities were higher than before and settlement became concentrated in villages and communities along the coast and interior valleys (Erlandson 1994; McCawley 1996). Regional subcultures also started to develop, each with its own geographical territory and language or dialect (Kroeber 1925; McCawley 1996; Moratto 1984). These were most likely the basis for the groups encountered by the first Europeans during the 18th century (Wallace 1978). Despite the regional differences, many material culture traits were shared among groups, indicating a great deal of interaction (Erlandson 1994). The introduction of the bow and arrow into the region sometime around 1,500 to 1,000 years BP is indicated by the presence of small projectile points (Moratto 1984).

3.2 Local Pre-Contact History

Ethnographic and archaeological research in the region has led to the development of a cultural chronology and context that can be used to interpret the archaeological record. This section provides a regional overview with contextual elements drawn from California's Central Valley Region, the Western Foothills Region, and from the transition zone itself where the Project lies. There has been more extensive research and study of Central Valley prehistory than the prehistory of the Sierra Nevada foothill zone, but a fair amount of cultural overlap exists within these regions. This section includes the most recent and readily available research of both regions (Rosenthal et al. 2007) and includes some reference to the climactic changes that swept the Sierra Nevada being a catalyst for population movement that led to cultural change in the foothills.

California's Great Central Valley has long held the attention of archaeologists, and was a focus of early research in California. Archaeological work during the 1920s and 1930s led to the cultural chronology for central California presented by Lillard, Heizer, and Fenenga in 1939. This chronology was based on the results of excavations conducted in the lower Sacramento River Valley. This chronology identified three archaeological cultures, named Early, Transitional, and Late (Lillard et al. 1939).

Heizer (1949) redefined the description of these three cultures. He subsumed the three cultural groups into three time periods, designated the Early, Middle, and Late horizons. He primarily focused his research and reexamination of Lillard et al. (1939) on the Early Horizon, which he named Windmill. He also intimated that new research and a reanalysis of existing data would be initiated for cultures associated with the Middle and Late horizons; however, he did not complete this work and other research filled in the gaps.

Following years of documenting artifact similarities among sites in the San Francisco Bay region and the Delta, Beardsley (1948, 1954) formatted his findings into a cultural model known as the Central California Taxonomic System (CCTS). This system proposed a linear, uniform sequence of cultural succession in Central California, and explicitly defined Early, Middle, and Late horizons for cultural change.

Archaeological researchers have subsequently refined and redefined aspects of the CCTS. For instance, Fredrickson (1973, 1974, and 1994) reviewed general economic, technological, and mortuary traits between archaeological assemblages across the region. He separated cultural, temporal, and spatial units from each other and assigned them to six chronological periods: Paleo-Indian (12,000 to 8,000 BP); Lower, Middle, and Upper Archaic (8,000 BP to AD 500) and Upper and Lower Emergent (AD 500 to 1800).

Fredrickson further defined three cultural patterns: The Windmill (named after Heizer 1949 and Lillard et al. 1939), the Berkeley, and the Augustine patterns, and assigned them to the Early, Middle, and Late horizons of the CCTS. These patterns were defined to reflect the general sharing of lifeways within groups in a specific geographic region. The Windmill pattern of the Early Horizon included cultural patterns dating from 5,000 to 3,000 BP; the Berkeley Pattern of the Middle Horizon (also known as the Cosumnes cultural pattern after Ragir 1972), included cultural patterns dating from 3,000 BP to AD 500, and the Augustine Pattern of the Late Horizon included the cultural patterns from AD 500 to the historic period.

Fredrickson's (1974) Paleo-Archaic-Emergent cultural sequence was redefined by Rosenthal, White, and Sutton (2007). Rosenthal et al.'s recalibrated sequence is divided into three broad periods: The

Paleoindian Period (11,550 to 8,550 cal. BC); the three-staged Archaic period, consisting of the Lower Archaic (8,550 to 5,550 cal. BC), Middle Archaic (5,550 to 550 cal. BC), and Upper Archaic (550 cal. BC to cal. AD 1100); and the Emergent Period (cal. AD 1100 to Historic) (Rosenthal et al. 2007). The three divisions of the Archaic Period correspond to climate changes. This is the most recently developed sequence and is now commonly used to interpret Central California prehistory. The aforementioned periods are characterized by the following:

3.2.1 Paleo-Indian Period

This period began when the first people began to inhabit what is now known as the California culture area. It was commonly believed these first people subsisted on big game and minimally processed foods, (i.e., hunters and gatherers), presumably with no trade networks. More recent research indicates these people may have been more sedentary, relied on some processed foods, and traded (Rosenthal et al. 2007). Populations likely consisted of small groups traveling frequently to exploit plant and animal resources.

3.2.2 Archaic Period

This period was characterized by an increase in plant exploitation for subsistence, more elaborate burial accoutrements, and increase in trade network complexity (Bennyhoff and Fredrickson 1994). The three divisions that correspond to prehistoric climate change are characterized by the following aspects (Rosenthal et al. 2007):

- *Lower Archaic Period*—this period is characterized by cycles of widespread floodplain and alluvial fan deposition. Artifact assemblages from this period include chipped stone crescents and early wide-stemmed points, marine shell beads, eastern Nevada obsidian, and obsidian from the north Coast Ranges. These types of artifacts found on the sites dating to this period indicate trade was occurring in multiple directions. A variety of plant and animal species were also utilized, including acorns, wild cucumber, and manzanita berries.
- *Middle Archaic Period*—this period is characterized by a drier climate period. Rosenthal et al. (2007:153) identified two distinct settlement/subsistence patterns in this period: the Foothill Tradition and the Valley Tradition. Functional artifact assemblages consisting primarily of locally sourced flaked-stone and groundstone cobbles characterize the foothills tradition, while the Valley Tradition was generally characterized by diverse subsistence practices and extended periods of sedentism.
- *Upper Archaic Period*—this period is characterized by abrupt change to wetter and cooler environmental climate conditions. Much greater cultural diversity is evident from this period. More specialized artifacts, such as bone tools, ceremonial blades, polished and groundstone plummets, saucer, and saddle *Olivella* shell beads, *Haliotis* shell ornaments, and a variety of groundstone implements are characteristic of this period.

3.2.3 Emergent Period

This period is most notably marked by the introduction of the bow and arrow, the emergence of social stratification linked to wealth, and more expansive trade networks signified by the presence of clam disk beads that were used as currency (Moratto 1984). The Augustine pattern (the distinct cultural pattern of the Emergent Period) is characterized by the appearance of small projectile points (largely obsidian), rimmed display mortars, flanged steatite pipes, flanged pestles, and chevron-designed bird-bone tubes. Large mammals and small seeded resources appear to have made up a larger part of the diet during this period (Fredrickson 1968, Meyer and Rosenthal 1997).

The following discussion summarizes the cultural patterns and the different local developments represented in archaeological deposits in the region surrounding the current APE.

The Windmill Pattern of the Early Horizon (as defined by Beardsley 1948), dates to the Middle Archaic (as defined by Rosenthal et al. 2007) and may be the most extensively studied of all the cultural patterns defined for the Central Valley. In fact, the similarity noted between elements of Windmill and materials from other sites may have been the catalyst for early archaeologists identifying the material cultural *blending* of groups in the Central Valley during this period. The temporal span for Windmill has been updated and reanalyzed several times in the archaeological literature (Fredrickson 1973, 1974; Heizer 1949; Moratto 1984; Ragir 1972). The date originally proposed for the emergence of Windmill was 4,500 BP (Lillard et al. 1939, Ragir 1972), because the culture at 4,000 years ago appeared to have been fully developed and seemed to have been well-integrated into the regional economic system.

Characteristics to identify the Windmill pattern have been presented by multiple authors over time (Fredrickson 1973, 1974; Heizer 1949, Moratto 1984, Ragir 1972). Most notable characteristics are:

- large, heavy stemmed and leaf-shaped projectile points commonly made of a variety of materials other than obsidian;
- perforate charmstones;
- *Haliotis* and *Olivella* shell beads and ornaments;
- trident fish spears;
- baked clay balls (presumably for cooking in baskets);
- flat slab milling stones;
- small numbers of mortars; and
- ventrally extended burials oriented toward the west.

The subsistence pattern of Windmill groups probably emphasized hunting and fishing, with supplemental seed collecting (possibly including acorns) (Heizer 1949; Moratto 1984; Ragir 1972).

Windmill groups acquired obsidian from at least two Coast ranges and three trans-Sierran sources, *Haliotis* and *Olivella* shells and ornaments from the coast, and quartz crystals from the Sierra Nevada foothills (Heizer 1949; Ragir 1972). It is widely hypothesized that the bulk of these materials were acquired

through trade, however some may have been acquired as part of seasonal movements between the Central Valley and the Sierra Nevada foothills.

There is evidence for seasonal transhumance in the distribution of Windmill artifacts, sites, and burial patterns. Johnson's work (1967, 1970) along the edge of the Sierra Nevada foothills at Camanche Reservoir and CA-AMA-56, the Applegate site, suggests a link between Windmill groups of the Central Valley and the Sierra Nevada mortuary caves. Johnson (1970) suggested that his data reveals a pattern of gradual change from the Early through the Middle Horizon (as defined by Beardsley 1948), rather than a displacement of local groups by foreign populations as theorized by Baumhoff and Olmsted (1963) based on ethnolinguistic evidence. Rondeau (1980), also working at the edge of the Central Valley at CA-ELD-426, the Bartleson Mound, identified components of the Early Horizon (as defined by Beardsley 1948). He (1980) even postulated a potential relationship between the Early Horizon cultures and the Martis Complex (a basalt preferring culture in the Martis Valley of the Sierra Nevada). In addition, analysis of Windmill burial orientation (Schulz 1970) and skeletal analyses (e.g., Harris Lines) by McHenry (1968) suggest a high percentage of winter death among Windmill groups. Incorporating all of this data, Moratto (1984) postulated that Windmill groups were exploiting the foothills of the Sierra Nevada during the summer and returning in the winter to villages in the Central Valley as early as 4,000 BP.

Excavations at CA-PLA-500 (Wohlgemuth 1984), the Sailor Flat site located near CA-PLA-101, sites at the Twelve Bridges Golf Course, now the Catta Verdera Golf Course, in Lincoln, and Spring Garden Ravine site CA-PLA-101 provide examples of Windmill sites that had items in their cultural assemblages similar to the material culture of groups elsewhere in California and the foothills.

The succeeding Middle Horizon, namely the Cosumnes Culture after Ragir (1972), the Berkeley Pattern after Fredrickson (1974), and absorbed into the Middle and Upper Archaic designations by Rosenthal et al. (2007) was first recognized at site CA-SAC-66. Much less-published material discusses the patterns defined for this era than does Windmill, nonetheless, some of the most notable characteristics are:

- tightly flexed burials with variable orientation;
- red ochre stains in burials;
- distinctive *Olivella* and *Haliotis* beads and ornaments;
- distinctive charmstones;
- cobble mortars and evidence of wooden mortars;
- numerous bone tools and ornaments;
- large, heavy foliate and lanceolate concave base projectile points made of materials other than obsidian; and
- objects of baked clay.

Further classification of the Middle Archaic (as defined by Rosenthal et al. 2007) into the Foothill Tradition and Valley Tradition helped to clarify the different types of cultural sequences, which occurred during these time periods. Functional artifact assemblages consisting primarily of locally sourced flaked-stone

and groundstone cobbles characterize the Foothills Tradition, with very few trade goods. Sites that represent the Valley Tradition are much fewer in number and are generally characterized by much more diverse subsistence practices and extended periods of sedentism. Specialized tools, trade goods, and faunal refuse that indicate year-round occupation are evident on sites of the Valley Tradition (Rosenthal et al. 2007). Distinct artifacts attributed to this tradition include one of the oldest dated shell bead lots in central California (4,160 BP) and a particular type of pestle used with a wooden mortar (Meyer and Rosenthal 1997).

The Sierra Nevada experienced significant climactic shifts and concomitant vegetation change throughout the Holocene, but pollen analysis and climactic records indicate that the current climate pattern and primary constituents of vegetation communities were in place by the Middle Archaic around 1,000 BC (Hull 2007). Seasonal transhumance practiced by indigenous populations of the Sierra may have become more consistent during this period of relative environmental stasis.

Paleobotanical analysis from sites of the Foothill Tradition including CA-CAL-789, CA-CAL-629, and CA-CAL-630 confirm that acorns and pine nuts were preferred for subsistence (Rosenthal and McGuire 2004, Wohlgemuth 2004). Sites near the APE associated with the Valley Tradition are rare in the early Middle Archaic (ca. 5,550 to 2,050 cal. BC) but include the Reservation Road site (CA-COL-247), and two buried sites in the northern Diablo range (CA-CCO-637 and CA-CCO-18/548). Sites associated with later portions of the Middle Archaic (post-2,050 cal. BC) near the APE include CA-SAC-107 and CA-BUT-233, both of which produced elaborate material culture and diverse dietary and technological assemblages.

The next era in the region is identified as the Late Horizon by Beardsley (1948, 1954), the Hotchkiss Culture by Ragir (1972), and the Augustine Pattern by Fredrickson (1974). The culture was formed by populations during the later Upper Archaic and Emergent periods, as defined by Rosenthal et al. (2007), and ranges in age from around 550 cal. BC to contact (dates vary between the different models of prehistory developed for the region). The Upper Archaic, as discussed above, corresponds with the late Holocene change in environmental conditions to a wetter and cooler climate. The Emergent Period and Late Horizon are markedly represented by the introduction of bow-and-arrow technology, as well as more pronounced cultural diversity as reflected in diversity of burial posturing, artifact styles, and material culture. Cultural patterns for this era are represented in the northern Sacramento Valley, namely within the Whiskeytown Pattern, at sites CA-SHA-47, CA-SHA-571/H, CA-SHA-890, CA-SHA-891, and CA-SHA-892 (Sundahl 1982, 1992).

This era primarily represents both local innovation and the blending of new cultural traits introduced into the Central Valley. The Emergent Occupation (as defined by Rosenthal et al. 2007) coincides with the Augustine Pattern (Fredrickson 1974) in the lower Sacramento Valley/Delta region, and with the Sweetwater and Shasta complexes in the northern Sacramento Valley (Fredrickson 1974, Kowta 1988, Sundahl 1982). The emergence of the Augustine Pattern appears to have been associated with the expansion of Wintun populations from the north, which appears to have led to an increase in settlements in the area after 550 BP (Bennyhoff 1994, Moratto 1984).

During this period in the Sierra Nevada, paleoenvironmental data suggests severe droughts occurred from around AD 892 to 1112 and AD 1210 to 1350 (Hull 2007, Lindström 1990, Stine 1994). These drier

conditions surely affected the seasonal resource procurement rounds of the native populations during this time, and likely led to an influx of population movement and cultural blending into the foothills zone and Central Valley by Sierra Nevada groups.

Despite the varying designations, this emergent era is distinguished in the archaeological record by intensive fishing, extensive use of acorns, elaborate ceremonialism, social stratification, and cremation of the dead. Artifacts associated with the defined patterns (Augustine, Emergent, Hotchkiss) include bow-and-arrow technology (evidenced by small projectile points), mortars and pestles, and fish harpoons with unilaterally or bilaterally placed barbs in opposed or staggered positions (Bennyhoff 1950). Mortuary patterns include flexed burials and cremations, with elaborate material goods found in association with prestigious individuals. A local form of pottery, Cosumnes brown ware, emerged in the lower Sacramento Valley (Rosenthal et al. 2007). Sites contain this ceramic type in their artifact assemblage near the APE include CA-SAC-6, CA-SAC-67, CA-SAC-107, CA-SAC-265, and CA-SAC-329. Human animal effigies are also a marker of this emergent era around the APE, and are present at sites CA-SAC-6, CA-SAC-16, CA-SAC-29, CA-SAC-267, and CA-SAC-267.

3.3 Ethnohistory

Prior to the arrival of Euro-Americans in the region, indigenous groups speaking more than 100 different languages and occupying a variety of ecological settings inhabited California. Kroeber (1925, 1936), and others (i.e., Driver 1961, Murdock 1960), recognized the uniqueness of California's indigenous groups and classified them as belonging to the California culture area. Kroeber (1925) further subdivided California into four subculture areas: Northwestern, Northeastern, Southern, and Central.

When the first European explorers entered the regions between 1772 and 1821, an estimated 100,000 people, about 1/3 of the state's native population, lived in the Central Valley (Moratto 1984). At least seven distinct languages of Penutian stock were spoken among these populations: Wintu, Nomlaki, Konkow, River Patwin, Nisenan, Miwok, and Yokuts. Common linguistic roots and similar cultural and technological characteristics indicate that these groups shared a long history of interaction (Rosenthal et al. 2007). The Central area (as defined by Kroeber (1925) encompasses the current APE and includes the Konkow.

The Konkow, or Northwestern Maidu, occupied the Northern Sacramento Valley and surrounding foothills of the Sierra Nevada range. The Maidu, on the basis of cultural and linguistic differences, have been differentiated into three major related divisions: the Northeastern (Mountain Maidu), Northwestern (Konkow), and Southern (Nisenan) (Dixon 1905; Kroeber 1925).

Powers (1877), Dixon (1905), and Kroeber (1925) have provided the earliest documentation of the Maidu and Konkow, and their thorough observations have depicted the life and culture of these related groups. Additional ethnographic descriptions for the Maidu and Konkow can be found in Riddell (1978), Hill (1970), and Kowta (1988), among others. An in-depth description of Maiduan material culture and resource exploitation has been included in Johnson and Theodoratus (1978). Because the Maidu and Konkow are believed to have been so closely related, ethnographers tended to group them as one.

The Konkow occupied territory immediately to the southwest of the Mountain Maidu, along the Feather and Sacramento rivers to their southern boundary at the Sutter Buttes. The Konkow were primarily located in the lower elevations of the Sierra Nevada and along the valley floor (Riddell 1978). Tribal territories adjacent to the Maidu and Konkow included the Atsugewi and Yana to the north, the Nomlaki and Patwin to the west, the Paiute and Washoe to the east, and the Nisenan to the south (Heizer 1978).

Settlement patterns of the Maidu and Konkow were seasonal in nature. The Konkow inhabited a savanna-like habitat on the valley floor and in the lower elevations of the Sierra foothills during the winters. Resources exploited in this environment include wild rye, pine nuts, acorns, fish, and invertebrates (Kroeber 1925; Riddell 1978). Summers in the mountains gave them access to deer meat, skins, and other items for food, clothing, and shelter for the winter months.

The village community, the primary settlement type among the Maidu-Konkow, consisted of three to five small villages, each composed of about 35 members. Among the mountain Maidu, village communities were well defined and based on geography. In contrast, the Konkow were dispersed throughout the valley floor along river canyons, and as a result, village communities were less concentrated or definable (Kroeber 1925). In terms of permanent occupation sites, both groups preferred slightly elevated locations that provided visibility of the surrounding area and were away from the water-laden marshes and meadows (Dixon 1905; Riddell and Pritchard 1971; Riddell 1978). The Mechoopda Village, formerly located near downtown Chico, was home to many Maidu well into the historic-era.

Among the villages, the male occupant of the largest *kum*, or semi-subterranean earth-covered lodge, governed the community (Dixon 1905; Kroeber 1925; Riddell 1978). Two other types of ethnographically documented structures in use included the winter-occupied conical bark structure and the summer shade shelter (Riddell 1978).

Clothing, accessories and other personal items were manufactured using elaborate basket weaving techniques, shell and bone ornamenting, and by incorporating feathers, game skins, plant roots, and stems into objects (Riddell 1978). Shell, in the form of beads for currency or as valuable jewelry, was very desirable and was exchanged for food, obsidian, tobacco, and pigments (Kroeber 1925; Riddell 1978).

3.4 Regional History

The first Viceroy of New Spain, Antonio de Mendoza, commissioned maritime explorer Hernando de Alarcón to chart the Gulf of California and Colorado River in 1540. Alarcón and his crew became the first Europeans to reach Alta (Upper) California when they set foot on the banks of the Colorado River in what is now Imperial County. In 1542, Juan Rodriguez Cabrillo sailed north up the Pacific coast from Mexico in search of the Strait of Anián. Cabrillo and his crew, the first Europeans to explore the Alta California coast, visited San Diego Bay, Santa Catalina Island, and San Pedro Bay, and may have reached as far north as Point Reyes. In 1579, the English privateer Francis Drake visited Miwok villages north of San Francisco Bay. Sebastian Vizcaíno, sailing north from Mexico, charted Monterey Bay in 1602 (Starr 2005).

Spanish colonization of Alta California began in 1769 with the Portolá land expedition. Led by Captain Gaspar de Portolá and Father Junipero Serra, the expedition proceeded north from San Diego on foot to the Santa Clara Valley, where an advance party of scouts led by José Ortega became the first Europeans to

observe San Francisco Bay. Spain subsequently established a string of 21 Franciscan missions, 4 presidios (forts), and 4 pueblos (towns) in coastal regions of Alta California (Starr 2005). In 1808, the explorer Gabriel Moraga led an expedition from San Jose pueblo into the Central Valley. Moraga named the valley's major rivers, including the Sacramento and San Joaquin, but made no attempt to establish missions, presidios, or pueblos in Alta California's interior (Avella 2003).

The Republic of Mexico achieved independence from Spain in 1821. A year later, Alta California became a territory of Mexico with its capital at Monterey. In 1827, the American fur trapper Jedediah Smith led a party associated with the Rocky Mountain Fur Company across the Mojave Desert to Southern California, north up the Central Valley, and east into Nevada, demonstrating the possibility of overland travel across the Sierra Nevada mountains (Starr 2005).

During the 1830s the Mexican government confiscated mission lands and expelled Alta California's Franciscan friars. Former mission lands, along with unclaimed lands in the Sacramento and San Joaquin valleys, became granted to retired soldiers and other Mexican citizens. Vast swaths of Alta California's coastal regions and interior valleys became private *ranchos*, or cattle ranches. Three of the region's Spanish pueblos—Los Angeles, San Jose, and Sonoma—survived as Mexican towns. Other settlements developed around presidios at San Francisco, Monterey, Santa Barbara, and San Diego. Many rancho owners maintained residences in town, while hired vaqueros and unpaid Native American laborers worked on ranchos to produce cow hides and tallow (cow fat) prized by foreign merchants (Starr 2005).

After 1821, the Mexican government began welcoming non-Hispanic immigrants to Alta California. Hundreds of Americans, British, and other foreigners arrived to establish trading relationships; others became naturalized Mexican citizens and applied for land grants. John Sutter, a German-speaking immigrant from Switzerland, built a fort at the confluence of the Sacramento and American rivers in 1839 and petitioned the Mexican governor of Alta California for a land grant; he received nearly 49,000 acres along the Sacramento River in 1841 (Hurtado 2006).

Following the Mexican-American War of 1846-1848, Mexico ceded Alta California to the United States. Under the Treaty of Guadalupe Hidalgo, Congress agreed to honor the property rights of former Mexican citizens living within the new boundaries of the United States. That meant recognizing Alta California's Mexican land grants. In 1851, Congress passed the California Land Act creating the Board of Land Commissioners to determine the validity of the individual grants, placing the burden of proof on patentees. The Board, with assistance from U.S. courts, confirmed most of California's Mexican land grants in subsequent decades (Starr 2005).

In January 1848, one of John Sutter's hired laborers, James Marshall, discovered gold in the flume of a lumber mill at Coloma on the South Fork of the American River. News of Marshall's discovery spread around the world, leading to the California Gold Rush of 1849. Tens of thousands of prospectors arrived in the Sierra Nevada foothills, prompting the creation of hundreds of small mining camps along streambeds. The cities of Marysville, Sacramento, and Stockton sprang up in the Sacramento and San Joaquin valleys as supply centers for the mines; San Francisco became California's largest city and the focal point for Gold Rush economic activity. In 1850, following a year of rapid growth, Congress admitted California as the 31st U.S. state (Starr 2005). In the following decades, federal surveyors arrived in California to stake out 36-

square-mile townships and 1-square-mile sections on California's unclaimed public lands. At general land offices (GLO), buyers paid cash for public lands. After 1862, many filed homestead applications to obtain 40, 80, and 160-acre tracts at low upfront costs in exchange for establishing farms (Robinson 1948).

3.5 Butte County

The Mexican governors of Alta California, Manuel Micheltorena and Pio Pico, made six lands grants in 1844 and 1845 covering arable lands located between the Sacramento and Feather rivers north and east of the Sutter Buttes. These included ranchos Arroyo Chico, Farwell, Esquon, Aguas Frias, Llano Seco, and Fernandez. During the California Gold Rush, thousands arrived in the northern Sierra Nevada foothills to mine the Feather River and its tributaries for placer gold, prompting the creation of Bidwell Bar, Oroville, and other mining camps. Butte County became one of California's original 27 counties in 1850; Oroville became its county seat in 1856. John Bidwell, one of the earliest Americans to settle in California, made the initial discovery of gold on the Feather River in 1848. Bidwell made a small fortune as a miner and merchant during the early days of the Gold Rush. In 1849 he acquired the 22,000-acre Arroyo Chico rancho and turned his attention to agriculture. In 1860, Bidwell established the town of Chico on the Arroyo Chico rancho. A decade later he helped to organize the California and Oregon Railroad, which traversed the western flatlands of Butte County to Chico and points farther north (Bidwell Mansion Association 2023). The railroad's arrival led to the creation of Gridley, Biggs, Nelson, Nord, and other small towns and settlements along its tracks. After 1870, grain farming and livestock grazing became important activities in western Butte County. Logging and lumber milling gradually eclipsed mining in the county's eastern foothills and mountains. Turn-of-the-century irrigation projects diversified Butte County's agricultural output to include rice, almonds, fruit, and olives, as well as alfalfa and dairy farming. The State Water Project's Oroville Dam, built on the Feather River during the 1960s, created Lake Oroville in the southeastern part of Butte County, inundating many of the county's early gold camps (Hart 1987).

3.6 Gridley

George Washington Gridley of Galena, Illinois arrived in California during the Gold Rush. Fleeing the October 1850 cholera epidemic in Sacramento, Gridley traveled north up the Sacramento Valley. Observing favorable grazing lands on the north side of the Sutter Buttes, Gridley returned to Illinois, purchased a large herd of sheep, and drove it back to Butte County. By 1869, Gridley ranked among the largest landowners in the northern Sacramento Valley with 116,000 head of sheep grazing on 25,000 acres (King and Van de Hay 2015).

The California and Oregon Railroad, laying tracks north from Junction (Roseville), approached Butte County in 1870. George Washington Gridley negotiated with the Railroad to establish a station stop on his lands. Gridley recommended a site 2 miles west of the Feather River on high ground in a grove of live oaks. The site appeared "perpetually fresh and green" (Smith and Elliott 1877). As an incentive for the railroad, Gridley built a warehouse at the site to guarantee regular wool shipments. California and Oregon surveyors who arrived to stake out a grid of streets, blocks, and building lots gave Gridley the privilege of naming the station stop. Gridley chose *Gridley Station*. The town that grew up around Gridley Station became *Gridley* (King and Van de Hay 2015). Later in 1870, the Central Pacific Railroad (forerunner of the Southern Pacific Railroad) acquired the California and Oregon Railroad and integrated it into its growing

western railroad system, connecting Gridley to the major markets of California and other western states (Robertson 1998).

Agricultural production on the outskirts of Gridley fueled the town's early growth. The railroad's arrival made Gridley a focal point for nearby grain farmers. The town's "surroundings are agricultural—fine farms, well improved, and yielding as largely as any portion of the county," noted an observer in 1877. "It is a great grain shipping point" (Smith and Elliott 1877). The Gridley Flour Mill, the town's biggest industry, converted much of the region's grain output to flour for export to distant markets on the railroad. Local farmers also took advantage of arable lands south and east of Gridley to cultivate orchards and vineyards without irrigation. "Many vineyards and orchards are now growing luxuriantly and other vineyards are being planted," observed a Butte County farming authority in 1888 (Wood 1888).

The town of Gridley became an important marketplace for southern Butte County. By 1890, the town's population hovered around 700 residents. At Hazel and Kentucky streets, livery stables, saddleries, a wheelwright, and a harness shop catered to grain farmers who hauled grain to town on horse-drawn wagons. A block to the east, at the corner of Hazel and Virginia streets, a commercial block consisting of drug stores, hardware stores, a bank, a printing press, a barber, a cobbler, and a butcher provided essential services for residents of the region. A lumber yard built along the railroad provided building materials that facilitated Gridley's growth in town and in the countryside. A Masonic Hall on Virginia Street, a school on Ohio Street, and a variety of churches and saloons provided the basis for social and cultural life (Sanborn Map Company 1884).

Gridley experienced significant growth during the first decade of the 20th century. Construction of the Butte Canal (now the Sutter-Butte Canal) a mile east of town in 1905 introduced irrigation water to the area. Irrigation allowed families to farm high-value fruits on lesser acreage, causing land values to rapidly appreciate. Large grain farms near Gridley became subdivided into smaller family farms dedicated to orchards and vineyards. The Hunt Brothers peach cannery, established in 1896, became expanded after 1900 to employ more than 100 workers in town, many of them women (King and Van de Hey 2015).

In town, Gridley residents voted to incorporate the City of Gridley in 1905. Bonds backed by property taxes financed numerous improvements including paved streets, sewer and water mains, and a light and power system (Mansfield 1918). Also in 1905, the California Irrigated Land Company began promoting small farms near Gridley under a marketing campaign called "The Place Where Crops Never Fail." The campaign attracted numerous Mormon settlers from Utah and Idaho drawn to Butte County's milder climate and the low cost of water. By 1908, the town's Mormon population exceeded 500, making the town a major outpost for the Church of Jesus Christ of Latter-Day Saints Church (Gridley Reunion Committee 1980). By 1910, Gridley's population neared 1,000 while the population in the surrounding countryside exceeded 1,100 (Mansfield 1918). In 1920, Libby, McNeil, and Libby acquired the 40-acre Stone prune orchard immediately south of Gridley and built the largest peach cannery in the world. During times of peak production, the Libby Cannery employed 1,500 workers, making it the town's largest 20th-century industry (King and Van de Hey 2015).

3.6.1 Public Roads

California's road networks became neglected and degraded because of the rapid railroad development in the western United States during the latter half of the 19th century. By 1900, "the nation with the greatest railway system in the world had the worst roads" (Johnson 1990:139). Interest in road building revived around the turn of the 20th century, when farmers and ranchers, many disillusioned with high railroad rates, began asking county officials for better surface roads. They were joined by millions of bicyclists who called for smoother roads in town and in the countryside. Joining forces, farmers, ranchers, and bicyclists organized local, state, and national "good roads" campaigns. In response, the federal government established the Office of Road Inquiry in the Department of Agriculture to study new road building techniques (Jackson 1998).

Dusty during summer months and muddy during the winter and spring, unpaved roads played havoc with wagons, carriages, and bicycles. Plank roads made from lumber first appeared in California during the 1850s. Gravel roads and macadam, a form of compacted gravel coated with oil, came into use during the late 19th century. Finally, after 1900, concrete roads topped by a mixture of bitumen, aggregate, and sand called *asphalt* became the standard modern road surface. Durable, smooth, and impervious to water, asphalt withstood winter weather, reduced vehicular wear and tear, and better facilitated drainage (Kostof 1992).

The task of grading and paving rural roads fell to county boards of supervisors. The most heavily trafficked rural roads such as those leading to towns, cities, and schools, or those leading to major sites of production such as ranches, mines, quarries, and mills, received priority attention. Thousands of other rural roads were derived from the Public Land Survey System, the checkerboard of square-mile sections, and 36-square-mile townships established by federal surveyors to facilitate the sale of western public lands. Because they marked property boundaries, section and quarter-section lines became mutually beneficial roadways for neighboring property owners (Johnson 1990). To create section line roads, property owners deeded equal strips of land along section lines to county boards of supervisors in exchange for grading, paving, and other improvements (U.S. Department of Transportation [USDOT] 1976). In California, the same principal applied to Mexican land grants not surveyed under the Public Land Survey System. Instead of tracing section lines, "grant line roads" in California traced older grant line boundaries.

4.0 METHODS

4.1 Personnel Qualifications

Registered Professional Archaeologist (RPA) Christa Westphal, who meets the Secretary of the Interior's Professional Qualifications Standards for prehistoric and historical archaeology, was responsible for this cultural resource investigation. Senior Architectural Historian Jeremy Adams, who meets the Secretary of the Interior's Professional Qualifications Standards for architectural history and history, served as Co-Principal Investigator and supervised all phases of the architectural history investigation and evaluation. Staff Archaeologist Arik J. K. Bord, RPA conducted the fieldwork and prepared the technical report.

Assistant Architectural Historian Jessica Rebollo assisted with the architectural history investigation. Lisa Westwood, RPA provided technical report review and quality assurance.

Christa Westphal, RPA is a Senior Archaeologist with more than 10 years of experience in California cultural resources management. She has experience in many aspects of archaeological fieldwork, laboratory, and reporting. These include archaeological survey, excavation, monitoring, artifact analysis, artifact collections management, graphics production, Geographic Information System analysis, CHRIS records searches, Native American Heritage Commission (NAHC) requests, preparation of Department of Parks and Recreation (DPR) forms and author and contributor of technical reports. She holds a B.A. and M.A. in Anthropology.

Jeremy Adams meets the Secretary of the Interior's Standards for Architectural History and History and serves as the Northern California Cultural Resources Group Manager for ECORP. He holds an M.A. in History (Public History) and a B.A. in History and has 15 years of experience specializing in historic resources of the built environment and is skilled in carrying out historical research at repositories such as city, state, and private archives, libraries, CHRIS information centers, and historical societies. He has experience conducting field reconnaissance and intensive survey and has conducted evaluations of cultural resources for eligibility to the NRHP and CRHR.

Arik J. K. Bord, RPA is a Staff Archaeologist with more than 10 years of experience in Anthropology and Archaeology, particularly in the Caribbean, Florida Gulf, California, and Great Basin regions. He has experience in most aspects of archaeological laboratory and fieldwork, including curation and conservation of archaeological and cultural materials, survey, excavation, data recovery, mapping, analysis, development of field and laboratory methods, public outreach, academic scholarship, and teaching. He holds an A.A. in Social and Behavioral Sciences, B.A. and M.A. degrees in Anthropology, and is currently completing his Ph.D.

Jessica Rebollo is an Assistant Architectural Historian with 1 year of experience in historic preservation and historic research. She is experienced in preparing historic contexts, conducting field surveys, and using NRHP criteria to evaluate historic properties. She holds an M.A. and B.A. in History.

Lisa Westwood, RPA has 29 years of experience and meets the Secretary of the Interior's Professional Qualifications Standards for prehistoric and historical archaeology. She holds a B.A. in Anthropology and an M.A. in Anthropology (Archaeology). She is the Director of Cultural Resources for ECORP.

4.2 Records Search Methods

ECORP requested a records search for the property at the Northeast Information Center (NEIC) of the CHRIS at California State University, Chico on January 26, 2024 (NEIC search #NE24-41; Appendix A). The purpose of the records search was to determine the extent of previous surveys within a 1-mile (1,600-meter) radius of the Proposed Project location, and whether previously documented pre-contact or historic archaeological sites, architectural resources, or traditional cultural properties exist within this area. NEIC staff completed and returned the records search to ECORP on February 5, 2024.

In addition to the official records and maps for archaeological sites and surveys in Butte County, the following references were also reviewed: Built Environment Resource Directory (BERD, OHP 2022a); Historic Property Data File for Butte County (OHP 2012); the National Register Information System (National Park Service [NPS] 2022); Office of Historic Preservation, California Historical Landmarks (CHL; OHP 2022b); CHL (OHP 1996 and updates); California Points of Historical Interest (OHP 1992 and updates); Directory of Properties in the Historical Resources Inventory (1999); Caltrans Local Bridge Survey (California Department of Transportation [Caltrans] 2019); Caltrans State Bridge Survey (Caltrans 2018); and *Historic Spots in California* (Kyle 2002).

Other references examined include a RealQuest Property Search and historic GLO land patent records (Bureau of Land Management [BLM] 2022). Maps reviewed include:

- BLM GLO Plat map for Township 24 North Range 3 West from 1856 and 1871;
- Plat map of the Rancho Boga from 1863 (1:31,680 scale; Beale 1863);
- USGS Marysville, California topographic quadrangle map (1:125,000 scale) from 1888;
- USGS Gridley, California topographic quadrangle map (1:31,680 scale) from 1912; and
- USGS Gridley, California topographic quadrangle map (1:24,000 scale) from 1952 (including the 1973 photorevised version).

ECORP reviewed aerial photographs taken in 1952, 1958, 1962, 1969, 1973, 1984, 1998, 2003 through 2011, 2013, 2015 through 2018, and 2020 through 2023 for any indications of property usage and built environment.

ECORP conducted a search for a local historical registry and could not locate any registries for Butte County or the City of Gridley.

4.3 Sacred Lands File Coordination Methods

In addition to the records search, ECORP contacted the California NAHC on January 26, 2024 to request a search of the Sacred Lands File for the APE (Appendix B). This search will determine whether or not the California Native American tribes within the APE have recorded Sacred Lands, because the Sacred Lands File is populated by members of the Native American community with knowledge about the locations of tribal resources. In requesting a search of the Sacred Lands File, ECORP solicited information from the Native American community regarding TCRs, but the responsibility to formally consult with the Native American community lies exclusively with the federal and local agencies under applicable state and federal laws. The lead agencies do not delegate government-to-government authority to any private entity to conduct tribal consultation.

4.4 Tribal Coordination Methods

ECORP sent project notification letters on February 15, 2024 to the KonKow Valley Band of Maidu, the Mooretown Rancheria of Maidu Indians, and the Nevada City Rancheria Nisenan Tribe, as they were identified by the NAHC as possibly having knowledge of cultural resources within the APE. The purpose of

the letters was to inform each tribe of the Project and provide them the opportunity to help identify any historic properties within the APE that may have traditional and cultural significance to the tribes in anticipation of the SWRCB initiating the Section 106 Consultation Process. In addition, ECORP followed up the letters via email on February 29, 2024 to gather additional information and recommendations. A record of all communications is provided in Appendix B.

In addition to those tribes listed above, the NAHC included contact information for Grayson Coney of the Tsi Akim Maidu. Grayson Coney has previously indicated to ECORP that he no longer works for the tribe and does not wish to be contacted. ECORP therefore did not send a notification letter or email Mr. Coney.

4.5 Other Interested Party Consultation Methods

ECORP mailed letters to the Butte County Historical Society on January 26, 2024 to solicit comments or obtain historical information that the repository might have regarding events, people, or resources of historical significance in the area (Appendix A).

4.6 Field Methods

ECORP subjected the APE to an intensive pedestrian survey on February 14, 2024 under the guidance of the *Secretary of the Interior's Standards for the Identification of Historic Properties* (NPS 1983) using 15-meter transects (Figure 3). ECORP expended 0.5 person-day in the field. At the time, the ground surface was examined for indications of surface or subsurface cultural resources. The general morphological characteristics of the ground surface were inspected for indications of subsurface deposits that may be manifested on the surface, such as circular depressions or ditches. Whenever possible, ECORP examined the locations of subsurface exposures caused by such factors as rodent activity, water or soil erosion, or vegetation disturbances for artifacts or for indications of buried deposits. No subsurface investigations or artifact collections were undertaken during the pedestrian survey.

Standard professional practice requires that all cultural resources encountered during the survey be recorded using DPR 523-series forms approved by the California OHP. The resources are usually photographed, mapped using a handheld Global Positioning System receiver, and sketched as necessary to document their presence using appropriate DPR forms.

5.0 RESULTS

5.1 Records Search

The records search consisted of a review of previous research and literature, records on file with the NEIC for previously recorded resources, and aerial photographs and maps of the vicinity.

5.1.1 Previous Research

Three previous cultural resource investigations have been conducted within 1 mile of the APE, covering approximately 5 percent of the total area surrounding the property within the records search radius (Table 1). None of the previous studies were conducted within the APE. Appendix A lists the reports

located within 1 mile of the APE. These studies revealed the presence of pre-contact sites, including lithic scatters and habitation sites, and historic-era sites, including rock walls and sites associated with historic mining activities. The previous studies were conducted between 1976 and 2014 and vary in size from 1 to 45 acres.

Table 1. Previous Cultural Studies within 1 mile of the APE

Report Number NEIC-	Author(s)	Report Title	Year
2076	Eleanor H. Derr	Archaeological Reconnaissance for Pacific Bell Mobile Services: 400 Turner Road, Gridley, Butte County: Site # SA-530-01	1998
12987	Robert McCann	Cultural Resources Survey Report for NRCS Project 13FY04-0008: Proposed Virginia Dent Micro Irrigation Project located in Butte County, California	2014
14738	Tony F. Weber	Cultural Resource Assessment of the Proposed City of Gridley Wastewater Treatment System Expansion Project	1976

Note: APE = Area of Potential Effects; NEIC = Northeast Information Center

The results of the records search indicate that none of the property has been previously surveyed for cultural resources, and therefore, a pedestrian survey of the APE was warranted.

The records search of the CHRIS also determined that no previously recorded pre-contact or historic-era cultural resources are located within 1 mile of the APE, however, the NEIC search of the Archaeological Resources Directory (ARD; dated September 22, 2022) lists one resource within the APE (Appendix A): OHP Property No. 90546, Manzanita School is listed as a *State Point of Historical Interest that does not meet CRHR criteria* (7P, 06/07/1968, SPHI-BUT-003).



Figure 3. Survey Coverage

5.1.2 Records

The OHP's BERD for Butte County (dated September 23, 2022) lists one resource within 1 mile of the APE (OHP 2022). The Fagan House is located at 935 Larkin Road approximately 850 feet northwest of the APE on the western side of Larkin Road, north of Center Avenue. This resource is listed as a *State Point of Historical Interest that does not meet CRHR criteria* (7P, 08/17/1990, SPHI-BUT-019).

The National Register Information System (NPS 2022) failed to reveal any eligible or listed properties within the APE. The nearest National Register property is the Hazel Hotel, located at the northeastern corner of Hazel and Kentucky streets in the City of Gridley, approximately 2.9 miles northwest of the APE.

ECORP reviewed resources listed as *California Historical Landmarks* (OHP 1996) by the OHP (2022b) on January 19, 2024. The nearest listed landmark is #770 Chinese Temple (plaque located approximately 13.5 miles northeast of the APE in the City of Oroville).

Historic Spots in California (Kyle 2002) mentions that Butte County is one of California's original 27 counties. Early pioneers used the term *Butte* to identify a high place, mountain, or mountain range. In this case, the Sutter Buttes are a group of hills that tower over the valley floor in Sutter County, south of the APE.

Historic GLO land patent records from the BLM's patent information database (BLM 2022) revealed that the entirety of Section 8 was patented to Charles William Flugge and Thomas O Larkin in 1865 as part of the Boga Rancho Spanish/Mexican land grant (BLM Serial No. CA 37168). The California Land Act of 1851 (9 Stat. 631) established a legal process whereby recipients of Mexican Land Grants in California could petition to have their land claim upheld by the U.S. following the Mexican–American War (1846 to 1848).

The results of a RealQuest online property search are shown in Table 2. No other property history information was on record with RealQuest.

Table 2. RealQuest Online Property Search Results			
APN 024-120-	Year Built/Effective Date	Land Use/Zoning	Lot Size (acres)
035	1900	Public or Quasi-Public Facilities (PQ)	3.21
059	None listed	Vacant-Residential (RV)	7.68
060	None listed	Orchard/Agricultural-Kiwis (AK)	29.94

Note: APN = Assessor's Parcel Number

The Caltrans Bridge Local and State Inventories (Caltrans 2018, 2019) lists one bridge in or within 1 mile of the APE. Bridge No. 12C0162 carries Richards Avenue over the Sutter-Butte Canal approximately 0.8 mile north-northeast of the APE. The Bridge was constructed in 1966 and is listed as a Category 5 (*Ineligible for NRHP listing*).

The *Handbook of North American Indians* (Riddell 1978; Wilson and Towne 1978, respectively) lists the nearest Native American villages as *Bauka* and *Bayu*. Both villages are located along the western bank of the Feather River approximately 2 miles north and south, respectively, of the APE.

5.1.3 Map Review and Aerial Photographs

The review of aerial photographs and maps of the APE provide information on the past land uses of the property and potential for buried archaeological sites. This information shows the property was initially used for agriculture until the Manzanita School incorporated the southern portion of the APE into its campus in the 1960s. Following is a summary of the review of maps and photographs.

- The 1856 BLM GLO Plat map for Township 24 North Range 3 West depicts the APE as part of the Fernandez Land Grant situated in Lot Number 37. The Feather River is depicted flowing in a north-south direction and is located east of the APE.
- The 1863 Plat map of the Rancho Boga (1:31680 scale; Beale 1863) depicts the *Road from Marysville to Hamilton* oriented north-south along the western bank of the Feather River approximately 1.25 miles east of the APE.
- 1871 BLM GLO Plat map for Township 24 North Range 3 West depicts the APE as part of the Bogas Rancho Land Grant situated in Lot Number 38. The Feather River is depicted flowing in a north-south direction and is located east of the APE.
- The 1888 USGS Marysville, California topographic quadrangle map (1:125,000 scale) depicts the APE as an undeveloped property southeast of the town grid of Gridley. An east-west-oriented road is depicted approximately 150 feet south of the APE, and it corresponds with the same road alignment of present-day East Evan Reimer Road. A north-south-oriented road corresponding with the present-day Larkin Road is depicted approximately 240 feet west of the APE. The Feather River is depicted approximately 1.25 miles east of the APE. A northeast-southwest-oriented railroad, likely the Oregon Division of the Southern Pacific Railroad, is depicted approximately 1.5 miles west of the APE.
- The 1912 USGS Gridley, California topographic quadrangle map (1:31,680 scale) depicts the Manzanito (sic) School building approximately 300 feet west of the APE on the corner of a north-south-oriented road, which corresponds with the present-day Larkin Road and an east-west-oriented road, which corresponds with the present-day East Evans Reimer Road. A second east-west-oriented road, which corresponds with the present-day Center Avenue, bounds the APE to the north. It terminates at its intersection with Larkin Road to the west and becomes an unimproved road east of another unnamed north-south-oriented road, which corresponds with the Present-day River Avenue. A series of channelized streams or canals with levees on either side are depicted to the east, but outside of the APE.
- The 1952 USGS Gridley, California topographic quadrangle map (1:24,000 scale) depicts the APE as situated within an orchard. At least four structures and a north-south-oriented channelized stream are depicted eastward, but outside of the southern portion of the APE. The "Manzanita School" building is depicted on the northeastern corner of "Larkin Road" and "Evans Reimer

Road” approximately 400 feet west of the southern boundary of the APE. At least three structures are depicted on the southeastern corner of “Larkin Road” and “Center Avenue” to the East of the northern portion of the APE.

- A review of aerial photographs from 1952 and 1958 shows the APE within an orchard. The Manzanita School building is situated west of the southern portion of the APE on the northeastern corner of Larkin Road and East Evans Reimer Road. The school grounds measure approximately 350 by 350 feet and consist of a U-shaped main building with the open end facing Larkin Road. A line of trees is shown within the school grounds lining Larkin Road and East Evans Reimer Road. The school building is just west of the tree line. Two smaller structures are shown in the southeastern quarter within the school grounds. One is toward the center of the school grounds and the other is toward the center of the southeastern quarter. Some trees occupy the northwestern quarter of the school grounds, but the remainder appears to be bare ground.
- An Aerial photograph from 1962 shows the eastern boundary of the school grounds has expanded approximately one row of trees. The rest of the orchard surrounding the school that contains the APE is slightly thinned compared to the 1952 photograph, but still present. The school frontage along East Evans Reimer Road is now approximately 500 feet while the frontage on Larkin Road remains approximately 350 feet. A new rectangular building abuts the southeastern side of the original school building and extends to the approximate midline of the school grounds. The other structures in the southeastern quarter of the school grounds from the previous photographs are no longer present; however, a structure (possibly a sign) is visible along East Evans Reimer Road in the eastern half of the school grounds.
- Aerial photographs from 1969 and 1973 show the Manzanita School grounds have again expanded to nearly their present-day footprint (approximately 650 by 500 feet) so that the southern portion of the APE is now within the school grounds. The rest of the APE is within an orchard. The main Manzanita School building has been dismantled and a new building has been constructed adjacent to the eastern side of the building, which first appeared on the 1962 photograph. The new building has a square footprint and is slightly wider north-south than the other building. An area north of and approximately the same dimensions as the new building appears to be paved. The rest of the school grounds appear to be landscaped. The trees lining Larkin and East Evans Reimer roads within the school grounds on the 1952 photograph are still present, as are other trees near the northwestern quarter of the original school grounds footprint from the 1958 photograph. A line of trees is present along the eastern side of the school grounds within the southern portion of the APE and two north-south-oriented rows of two trees each are located south of the APE north of East Evans Reimer Road. One structure is visible to the south of the APE in the extreme southeastern corner of the school grounds. The other structure or sign from the 1962 photograph is no longer present.
- The 1973 photorevised version of the 1952 USGS Gridley, California topographic quadrangle map (1:24,000 scales) depicts no changes to the original map within the APE.

- Aerial photographs from 1984 show the orchard removed from the northern portion of the APE and replaced with other crops. The structure in the southeastern corner of the school grounds from the 1973 photograph is shown, and another structure is shown adjacent to and southwest of the southwesternmost corner of the APE.
- Aerial photographs from 1998 show the eastern row of the north-south-oriented tree rows shown in the 1973 photograph have been removed and replaced with a third building in the same area as the present-day maintenance shed in the southernmost portion of the APE.
- Photos from 2005, 2009, and 2010 show the western half of the school grounds in their current state with all buildings in their current locations. The rest of the trees surrounding the southern portion of the APE have been removed and the area surrounding the maintenance shed has been paved as a parking lot. A new building is located north of the maintenance shed and the other two buildings in the southeastern quarter of the school grounds shown in the 1998 photograph have been removed. The area along East Evans Reimer Road and the school buildings have been paved as a parking lot, and two new structures are located in the southwestern corner of the school grounds. The field containing the northern portion of the APE contains crops.
- Aerial photographs from 2012, and every two years from 2012 to 2020 show the school's solar panels have been installed outside of the southern boundary of the central portion of the APE to the north of the school grounds. The field comprising the northern portion of the APE is devoid of crops and is vacant land. A trash pile is visible within the APE to the north of the solar panels beginning in the 2018 photographs.
- An aerial photograph from 2020 shows the school is under construction; however, no changes are visible within the APE.
- Aerial photographs from 2021 to 2024 show the APE is in its current state, and with all buildings in their present-day locations.

In sum, the APE was an orchard adjacent to the Manzanita School. Sometime between 1958 and 1962, the school grounds began to expand eastward. By 1969, the grounds had expanded to include the southern portion of the APE and the orchards were removed from that area. The orchards were removed from the remaining portions of the APE between 1973 and 1984, and replaced with various crops until 2012, when it was left vacant.

5.2 Sacred Lands File Results

A search of the Sacred Lands File by the NAHC failed to indicate the presence of Native American cultural resources in the APE. A record of all correspondence is provided in Appendix B.

5.3 Tribal Coordination Results

The results of the tribal coordination efforts are provided in Appendix B. Section 106 Consultation should be initiated by the SWRCB prior to Project approval.

5.4 Other Interested Party Consultation Results

ECORP has not received any responses to the letters sent to the Butte County Historical Society as of the date of the preparation of this document.

5.5 Field Survey Results

ECORP surveyed the APE for cultural resources on February 14, 2024. Weather during the survey was overcast and rainy. Ground visibility was good (60 to 100 percent throughout the APE) with paved and landscaped areas in the southern portion of the APE and 8- to 12-inch-tall grasses with patches of bare ground in the northern portion. The entire APE was surveyed.

ECORP observed a push-pile containing non-diagnostic concrete rubble and metal poles within the APE approximately 50 feet north of the solar panels. Upon review, the rubble pile first appears on the 2018 aerial photograph and therefore, does not meet the 50-year threshold to be considered a cultural resource under CEQA or Section 106.



Figure 4. APE Overview (view south; February 14, 2024).

5.5.1 Cultural Resources

As a result of previous investigations by other firms, no previously recorded resources were located within the APE. The 2024 survey by ECORP identified one historic-era road within the APE: MW-02, Center Avenue. Site descriptions follow, and confidential DPR site records are provided in Appendix D.

5.5.1.1 MW-02 Center Avenue

MW-02 is a 1.03-mile-long segment of Center Avenue originated as a two-lane rural road that extended east from Larkin Road, terminating at a private property 0.20 mile west of the Sutter Butte Canal. The road provided access to farms and ranches. Center first appeared on the 1912 USGS Gridley, CA topographic map as a light duty road from Larkin Road to its intersection with River Avenue. East of River Avenue, the road was unimproved. The 1952 USGS Gridley, CA map shows Center Avenue as a light duty road. According to aerial photography, Center Avenue was paved in asphalt by 1958.

Evaluation of MW-02 Center Avenue

Center Avenue was a rural county road built by 1912. Center Avenue provided vehicular access to local farms and ranches. This function alone, however, did not constitute events that made a significant contribution to the broad patterns of our history. Therefore, Center Avenue is not eligible for the NHRP/CRHR under Criteria A/1.

Generations of unidentifiable Butte County construction crew members improved Center Avenue incrementally throughout the 19th and 20th centuries. Despite their contributions to the county's network of surface roads, the crew members do not represent the lives of persons significant in our past. Therefore, Center Avenue is not eligible for the NHRP/CRHR under Criteria B/2.

Center Avenue is a two-lane rural road that was paved with asphalt by 1958, a ubiquitous form in Butte County and throughout California. Center Avenue does not embody the distinctive characteristics of a type, period, or method of construction, or represent the work of a master, or possesses high artistic values, or represent a significant and distinguishable entity whose components may lack individual distinction. Therefore, Center Avenue is not eligible for the NHRP/CRHR under Criteria C/3.

Center Avenue does not have the potential to yield information important in history. Archival research potential for the road has been exhausted. Simple roads are built environment features that do not have the potential to yield subsurface archaeological data in any statistically valid sample size, and, therefore, the site was not tested. The information in historic roads is typically conveyed through their alignment, route, and setting. There is no potential for the resource to provide additional information that is not already represented in the archival record. Therefore, Center Avenue is not eligible for the NHRP/CRHR under Criteria D/4.

Integrity

The NPS identifies seven aspects of integrity (Location, Association, Setting, Design, Materials, Workmanship, and Feeling) that indicate a property's ability to convey significance achieved during a period of significance. Center Avenue possesses integrity of Location, Association, Setting, and Design and Feeling, but lacks integrity of Workmanship and Materials. Center Avenue remains a two-lane road in rural Butte County that facilitates east-west traffic to local farms and ranches. However, the road was paved by 1958, and no longer conveys the aesthetic of an unpaved, unimproved road in the vicinity of Gridley and Butte County.

Regardless of integrity, due to lack of historical significance, Center Avenue does not meet NRHP or CRHR eligibility criteria as an individual resource, nor as part of any known or suspected historic district, nor as a locally eligible resource in Butte County.

6.0 MANAGEMENT CONSIDERATIONS

6.1 Conclusions

The records search and the 2024 field survey yielded one historic-period road in the APE. MW-02, Center Avenue, was evaluated using NRHP and CRHR eligibility criteria and determined not eligible. Therefore, no known Historic Properties under Section 106 of the NHPA or Historical Resources under CEQA will be affected by the Proposed Project. Until the lead agencies concur with the identification and evaluation of eligibility of cultural resources, no project activity should occur.

6.2 Likelihood for Subsurface Cultural Resources

While Morrison Slough (Liveoak Slough) is located approximately 1 mile west of the APE and the Feather River is located approximately 1.25 miles east of the APE, the underlying geology predates the earliest human occupation in the area. Although alluvial deposits tend to preserve archaeological material and create an increased likelihood of pre-contact archaeological sites located along perennial waterways, the alluvial soils in the APE (Boga-Loemstone) are the result of deposits that are too old to have buried evidence of human occupation. Therefore, soils and hydrology data indicate a low potential for buried pre-contact archaeological sites within the APE. This likelihood is further supported by the following:

- The root systems of orchard trees are known to be invasive and tend to destroy or displace any cultural material buried in the vicinity. Therefore, the historic-era presence of an orchard within the southern portion of the APE until the 1950s, and in the northern portion of the APE until after 1973, would further lower the probability of finding any intact or *in situ* pre-contact cultural remnants buried within the Project Area.
- The nearest Native American villages were purportedly located nearly 2 miles away from the APE and a search of the NAHC Sacred Lands File returned negative results.
- The expansion of the Manzanita Elementary School Campus into the southern portion of the APE after 1969 would have likely uncovered or destroyed any cultural material present within the Proposed depth of disturbance in those areas.

Considering the entirety of the evidence examined in this report, the likelihood of encountering any undiscovered disturbed or intact pre-contact cultural resources during the Project is considered low.

However, the presence of historic-era orchards and farming activities within the APE and in the greater vicinity of the APE, and presence of Manzanita School increase the likelihood of unrecorded historic-era cultural material within the APE, especially considering the school is listed on the ARD as a *State Point of Historical Interest that does not meet CRHR Criteria* (7P). As is the case with the pre-contact probability, the act of removing the historic-era orchard and the expansion and modernization of Manzanita School in the

modern-era would have likely displaced or destroyed any historic-era cultural material buried within the APE.

Therefore, considering the entirety of the evidence examined in this report, the likelihood of encountering any undiscovered disturbed or intact historic-period cultural resources during the Project is considered low.

6.3 Recommendations

6.3.1 Post-Review Discoveries

There always remains the potential for ground-disturbing activities to expose previously unrecorded cultural resources. Both CEQA and Section 106 of the NHPA require the lead agency to address any unanticipated cultural resource discoveries during Project construction. Therefore, ECORP recommends the following procedures.

- If subsurface deposits believed to be cultural or human in origin are discovered during construction, all work must halt within a 100-foot radius of the discovery. A qualified professional archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards for prehistoric and historic archaeology, shall be retained to evaluate the significance of the find, and shall have the authority to modify the no-work radius as appropriate, using professional judgment. The following notifications shall apply, depending on the nature of the find:
 - If the professional archaeologist determines that the find does not represent a cultural resource, work may resume immediately and no agency notifications are required.
 - If the professional archaeologist determines that the find does represent a cultural resource from any time period or cultural affiliation, the archaeologist shall immediately notify the lead agencies. The agencies shall consult on a finding of eligibility and implement appropriate treatment measures, if the find is determined to be a Historical Resource under CEQA, as defined by CEQA or a historic property under Section 106 NHPA, if applicable. Work may not resume within the no-work radius until the lead agencies, through consultation as appropriate, determine that the site either: 1) is not a Historical Resource under CEQA or a Historic Property under Section 106; or 2) that the treatment measures have been completed to their satisfaction.
 - If the find includes human remains, or remains that are potentially human, they shall ensure reasonable protection measures are taken to protect the discovery from disturbance (AB 2641). The archaeologist shall notify the Butte County Coroner (per Section 7050.5 of the Health and Safety Code). The provisions of Section 7050.5 of the California Health and Safety Code, Section 5097.98 of the California PRC, and AB 2641 will be implemented. If the coroner determines the remains are Native American and not the result of a crime scene, the coroner will notify the NAHC, which then will designate a Native American Most Likely Descendant (MLD) for the Project (Section 5097.98 of the PRC). The designated MLD will have 48 hours from the time access to the property is granted to make recommendations concerning

treatment of the remains. If the landowner does not agree with the recommendations of the MLD, the NAHC can mediate (Section 5097.94 of the PRC). If no agreement is reached, the landowner must rebury the remains where they will not be further disturbed (Section 5097.98 of the PRC). This will also include either recording the site with the NAHC or the appropriate Information Center; using an open space or conservation zoning designation or easement; or recording a reinternment document with the county in which the property is located (AB 2641). Work may not resume within the no-work radius until the lead agencies, through consultation as appropriate, determine that the treatment measures have been completed to their satisfaction.

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LIST OF APPENDICES

Appendix A – CHRIS Results and Historical Society Coordination

Appendix B – Sacred Lands File Coordination

Appendix C – APE Photographs

Appendix D – ***Confidential*** Cultural Resource Site Locations and Site Records

CHRIS Results and Historical Society Coordination

California Historical Resources Information System

BUTTE
GLENN
LASSEN
MODOC
PLUMAS
SHASTA

SIERRA
SISKIYOU
SUTTER
TEHAMA
TRINITY

Northeast Information Center
1074 East Avenue, Suite F
Chico, California 95926
Phone (530) 898-6256
neinfocntr@csuchico.edu

February 5, 2024

Arik Bord
ECORP Consulting, Inc.
2525 Warren Drive
Rocklin, CA 95677

IC File # NE24-41 Data Request - Standard

RE: Manzanita Well Replacement Project
Rancho Boga Unsectioned MDBM
USGS Gridley 7.5' (1973) & Gridley 15' (1952) quadrangle maps
Approximately 8.43 acres (Butte County)

Arik Bord:

In response to your request, a records search for the project cited above was conducted by examining the official maps and records for cultural resources and reports in Butte County. Please note, the search includes the requested 1-mile radius surrounding the project area.

RESULTS:

Resources within project area:	None listed
Resources within 1-mile radius:	None listed
Reports within project area:	None listed
Reports within 1-mile radius:	NEIC-002076, NEIC-012987, NEIC-014738

As indicated on your data request form, the locations of resources and reports are provided in the following format: ☒ Custom Maps ☒ GIS Data ☐ N/A

<u>Resource Database Printout (list):</u>	<input type="checkbox"/> enclosed	<input type="checkbox"/> not requested	<input checked="" type="checkbox"/> nothing listed
<u>Resource Database Printout (details):</u>	<input type="checkbox"/> enclosed	<input type="checkbox"/> not requested	<input checked="" type="checkbox"/> nothing listed
<u>Resource Digital Database Records:</u>	<input type="checkbox"/> enclosed	<input type="checkbox"/> not requested	<input checked="" type="checkbox"/> nothing listed
<u>Report Database Printout (list):</u>	<input checked="" type="checkbox"/> enclosed	<input type="checkbox"/> not requested	<input type="checkbox"/> nothing listed
<u>Report Database Printout (details):</u>	<input type="checkbox"/> enclosed	<input checked="" type="checkbox"/> not requested	<input type="checkbox"/> nothing listed
<u>Report Digital Database Records:</u>	<input checked="" type="checkbox"/> enclosed	<input type="checkbox"/> not requested	<input type="checkbox"/> nothing listed
<u>Other Reports: *</u>	<input type="checkbox"/> enclosed	<input checked="" type="checkbox"/> not requested	<input type="checkbox"/> nothing listed
<u>Resource Record Copies:</u>	<input type="checkbox"/> enclosed	<input type="checkbox"/> not requested	<input checked="" type="checkbox"/> nothing listed
<u>Report Copies:</u>	<input checked="" type="checkbox"/> enclosed	<input type="checkbox"/> not requested	<input type="checkbox"/> nothing listed
<u>Built Environment Resources Directory:</u>	<input type="checkbox"/> enclosed	<input type="checkbox"/> not requested	<input checked="" type="checkbox"/> nothing listed
<u>Archaeological Determinations of Eligibility:</u>	<input checked="" type="checkbox"/> enclosed	<input type="checkbox"/> not requested	<input type="checkbox"/> nothing listed
<u>CA Inventory of Historic Resources (1976):</u>	<input checked="" type="checkbox"/> enclosed	<input type="checkbox"/> not requested	<input type="checkbox"/> nothing listed
<u>Caltrans Bridge Survey:</u>	<input type="checkbox"/> enclosed	<input checked="" type="checkbox"/> not requested	<input type="checkbox"/> nothing listed
<u>Ethnographic Information:</u>	<input type="checkbox"/> enclosed	<input checked="" type="checkbox"/> not requested	<input type="checkbox"/> nothing listed
<u>Historical Literature:</u>	<input type="checkbox"/> enclosed	<input checked="" type="checkbox"/> not requested	<input type="checkbox"/> nothing listed
<u>Historical Maps:</u>	<input type="checkbox"/> enclosed	<input checked="" type="checkbox"/> not requested	<input type="checkbox"/> nothing listed
<u>Local Inventories:</u>	<input type="checkbox"/> enclosed	<input type="checkbox"/> not requested	<input checked="" type="checkbox"/> nothing listed
<u>GLO and/or Rancho Plat Maps:</u>	<input type="checkbox"/> enclosed	<input checked="" type="checkbox"/> not requested	<input type="checkbox"/> nothing listed
<u>Shipwreck Inventory:</u>	<input type="checkbox"/> enclosed	<input checked="" type="checkbox"/> not requested	<input type="checkbox"/> nothing listed

Notes: *These are classified as studies that are missing maps or do not have a field work component.

Please refer to the NRCS Soil Survey website for current soil survey information:

<https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm>

Please forward a copy of any resulting reports from this project to the office as soon as possible. Due to the sensitive nature of archaeological site location data, we ask that you do not include resource location maps and resource location descriptions in your report if it is for public distribution.

The provision of California Historical Resources Information System (CHRIS) Data via this records search response does not in any way constitute public disclosure of records otherwise exempt from disclosure under the California Public Records Act or any other law, including, but not limited to, records related to archaeological site information maintained by or on behalf of, or in the possession of, the State of California, Department of Parks and Recreation, State Historic Preservation Officer, Office of Historic Preservation (OHP), or the State Historical Resources Commission.

Not all known cultural resources have been recorded and submitted to the OHP, so this record search should not be considered an exhaustive list of all cultural resources present in your project

area. DPR forms and reports that are used for recording and evaluating sites and individual resources are submitted to the Northeast Information Center by private and public agencies. Please note that the Northeast Information Center is not responsible for misinformation of coordinates presented on the submitted DPR forms. If a discrepancy is found, please contact the lead agency for more information.

Due to processing delays and other factors, it is possible that not all reports and resource records that have been submitted to the OHP are available via this records search. Additional information may be available through the federal, state, and local agencies that produced or paid for cultural resource management work in the search area. Additionally, Native American tribes have cultural resource information not in the CHRIS Inventory, and you should contact the California Native American Heritage Commission for information on local/regional tribal contacts.

An invoice will follow from Chico State Enterprises for billing purposes. Thank you for your concern in preserving California's cultural heritage, and please feel free to contact us if you have any questions or need any further information.

Sincerely,

A handwritten signature in black ink, appearing to read "Casey Hegel".

Casey Hegel, M.A.

Research Associate

Northeast Information Center

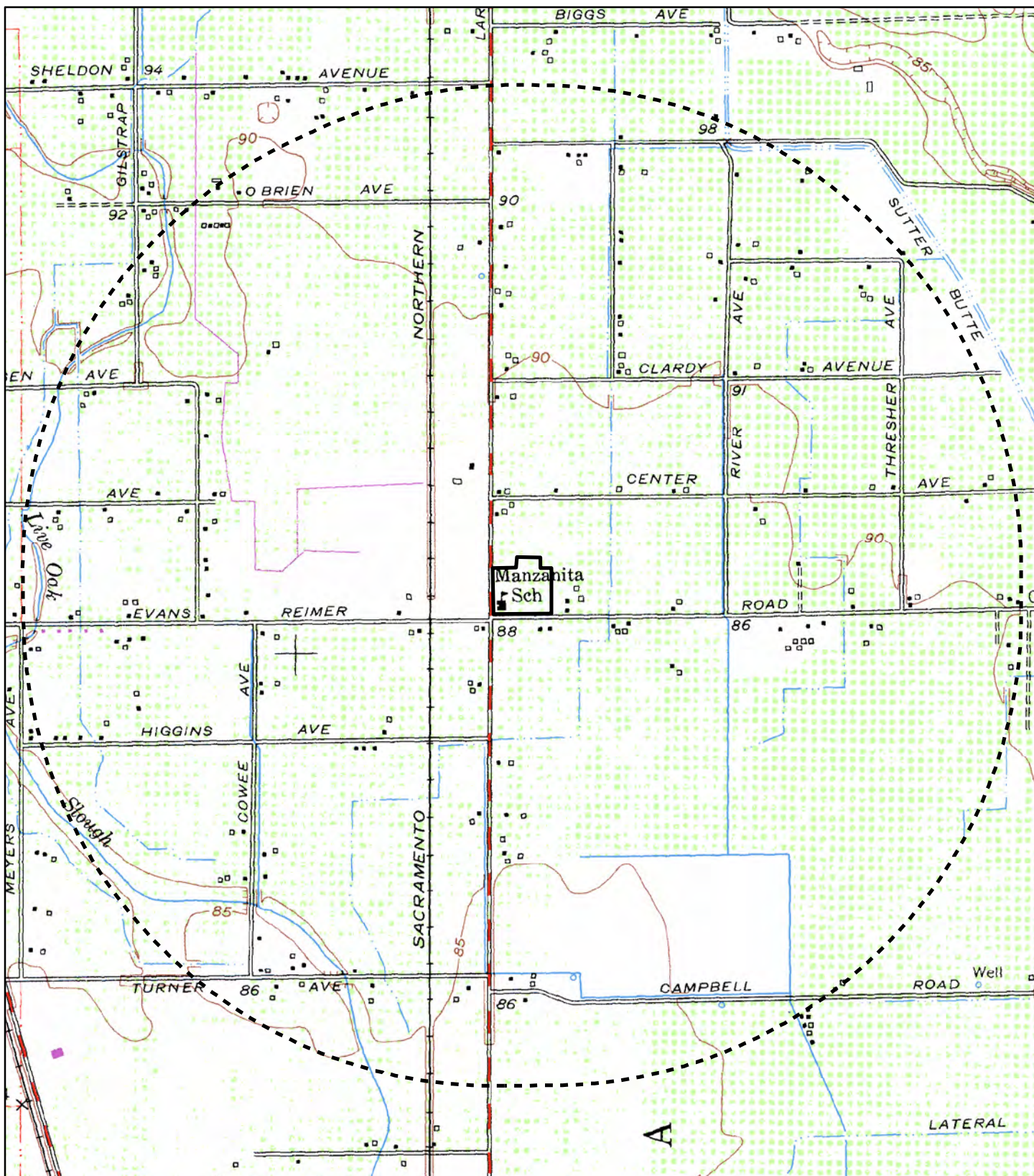
(530) 898-6256

CHRIS Data Request Charge for IC File # NE24-41

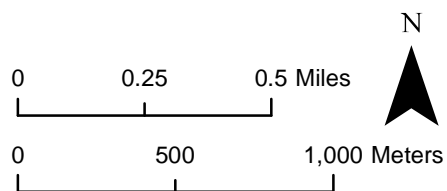
The charge for this records search is **\$190.80**. Please see the table below for an itemization.

THIS IS <u>NOT</u> AN INVOICE *		
<u>Factor</u>	<u>Charge</u>	<u>Your Charge</u>
<u>Information Center Time</u>	\$150.00 per hour	<u>\$150.00</u> (1 hour)
<u>GIS Data</u>	\$12.00 per shape	<u>\$36.00</u> (3 shapes)
<u>Digital Database Records</u>	\$0.25 per row	<u>\$0.75</u> (3 rows)
<u>Copies</u>	\$0.15 per copy	<u>\$4.05</u> (27 copies)
<u>Total Charge</u>		<u>\$190.80</u>



*An invoice will follow from Chico State Enterprises for billing purposes.

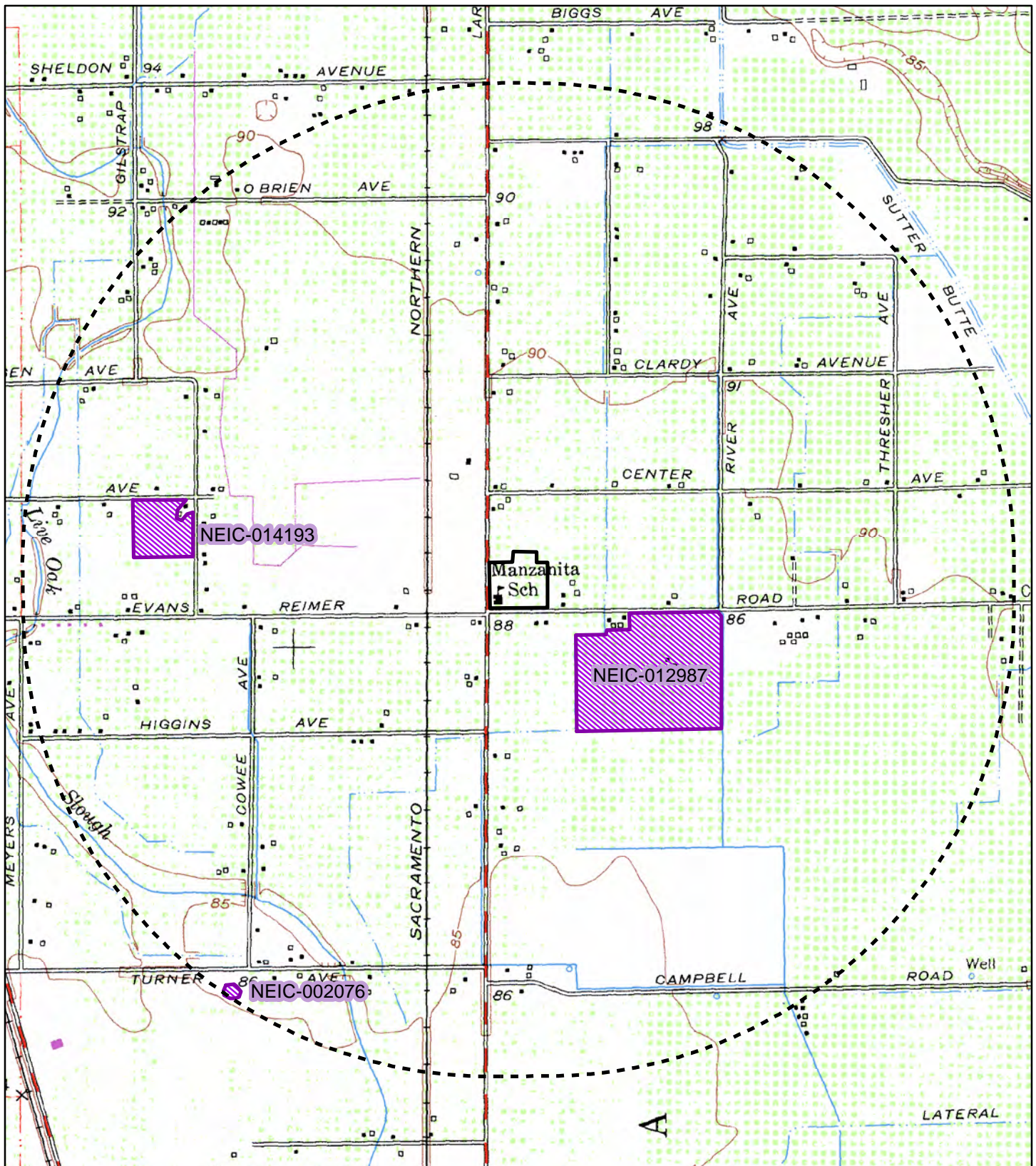


May depict confidential cultural resource locations.
Do not distribute.

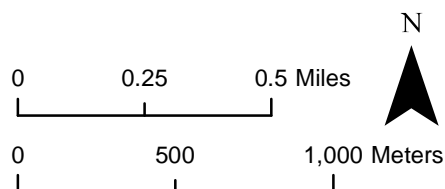


Northeast Information Center
Records Search Results
Manzanita Well Replacement Project
IC File #NE24-41
Resource Locations


 Project Area
 1-Mile Buffer



May depict confidential cultural resource locations.
Do not distribute.



**Northeast Information Center
Records Search Results
Manzanita Well Replacement Project
IC File #NE24-41
Report Locations**

-  Project Area
-  1-Mile Buffer
-  Reports (polygons)

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
NEIC-002076		1998	Eleanor H. Derr	Archaeological Reconnaissance for Pacific Bell Mobile Services: 400 Turner Road, Gridley, Butte County: Site # SA-530-01	Cultural Resources Unlimited	
NEIC-012987	NRCS - 13FY04-0008	2014	Robert McCann	Cultural Resources Survey Report for NRCS Project 13FY04-0008: Proposed Virginia Dent Micro Irrigation Project located in Butte County, California	USDA - NRCS	
NEIC-014738		1976	Tony F. Weber	Cultural Resource Assessment of the Proposed City of Gridley Wastewater Treatment System Expansion Project	Ann S. Peak & Associates	

CULTURAL RESOURCES UNLIMITED

2614 Aramon Drive
Rancho Cordova, CA 95670
(916) 363-8774
Fax: (916) 363-5413

July 22, 1998

QUAD ♦ KNOPF
One Sierragate Plaza, Suite 270 C
Roseville, California 95678
Attn: Shelley Eisner

RE: PACIFIC BELL MOBILE SERVICES: 400 TURNER ROAD, GRIDLEY, BUTTE COUNTY;
SITE # SA-530-01

Dear Ms. Eisner:

Per your request of May 21, 1998 Cultural Resources Unlimited performed a cultural resources study for the above-referenced project, an antenna site located on the south side of Turner Road, east of Highway 99, southeast of the town of Gridley in Butte County. The site consists of an existing A.T. & T. lattice tower which currently contains two microwave sensors just below the top, with eight smaller rectangular sensors on cross beams at the top. This is a co-location with the utility cabinet planned for the space just north of the current cyclone-fenced enclosure, according to the current map. The current enclosure comprises an area of approximately 60' X 60', with a thick layer of medium gravels on the ground, and a short distance adjacent at the driveway/entrance on the east. The current tower legs and cabinet are on cement pads, presumably the proposed cabinet will be similar.

Included in the project study was a Records Search, performed at the Northeast Information Center, CSU, Chico, for previously known prehistoric and/or historic sites and previous cultural resource studies within a one-quarter mile radius of the site. Archival research was also performed to determine if anything pertaining to significant cultural use can be ascertained as to the previous uses of the project land. To this end were used historic maps and recorded histories of the general area, searches of Historic Properties listings, and previous environmental conditions at the project area which may suggest the likelihood of prehistoric use. Such resources included early maps, the National Register of Historic Places, Listings for State and Federal Highway Bridges, and the Historic Preservation Data file. No previous cultural resources study has been done at this location, nor within one-quarter mile, nor are any cultural resource sites known for this area or within one-quarter mile.

Field Assessment

On June 23, a field visit was made to the project site. This site lies along the west side of a small dirt road leading south from Turner Road in an agricultural area surrounded by orchards (almond and peach). The existing fenced area contains an existing tower which will presumably be also used for the PBMS antennae. The base consists of medium gravels, some of which have been scattered outside the fence. The soils consist of light red-brown silty/clay loams with some small river cobbles and gravels. Visibility was excellent, due to discing in the adjacent orchards. Live Oak Slough runs to the north and

Shelley Eisner
Page 2
July 22, 1998

northeast approximately 1200' feet away. This would appear to have been only an intermittent stream at best in prehistoric times. No evidence of significant cultural resources were observed on the site.

Findings

No archaeological resources were located on the project. No historic resources are within the viewshed of the project.

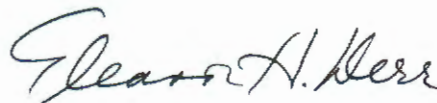
Recommendations

It is always possible for buried remains to occur if any construction excavation is performed. If this should happen, all work must be immediately stopped on this project site until a professional archaeologist can be called out to evaluate the find. If any human bone is found, the Butte County Coroner must also be immediately notified, as must the Native American Heritage Commission in Sacramento so a most-likely descendent may be called in.

With these constraints, the project may proceed as planned.

If you have any questions or comments, please feel free to contact me at your earliest convenience.

Sincerely,



Eleanor H. Derr

Principal Investigator

Attachments:

Maps

Photographs

Shelley Eisner
Page 3
July 22, 1998

References

California, State of

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- 1992 California Points of Historical Interest. Office of Historic Preservation, California Department of Parks and Recreation, Sacramento.

Hoover, M.B. H. E. Rensch & E.G. Rensch

- 1966 Historic Spots in California. Stanford University Press, Palo Alto. Third Edition

Johnson, Patti J.

- 1978 'Patwin' in Handbook of North American Indians: Vol. 8: California. Pp. 350-361. Smithsonian Institution, Washington, D.C.

Riddell, Francis A.

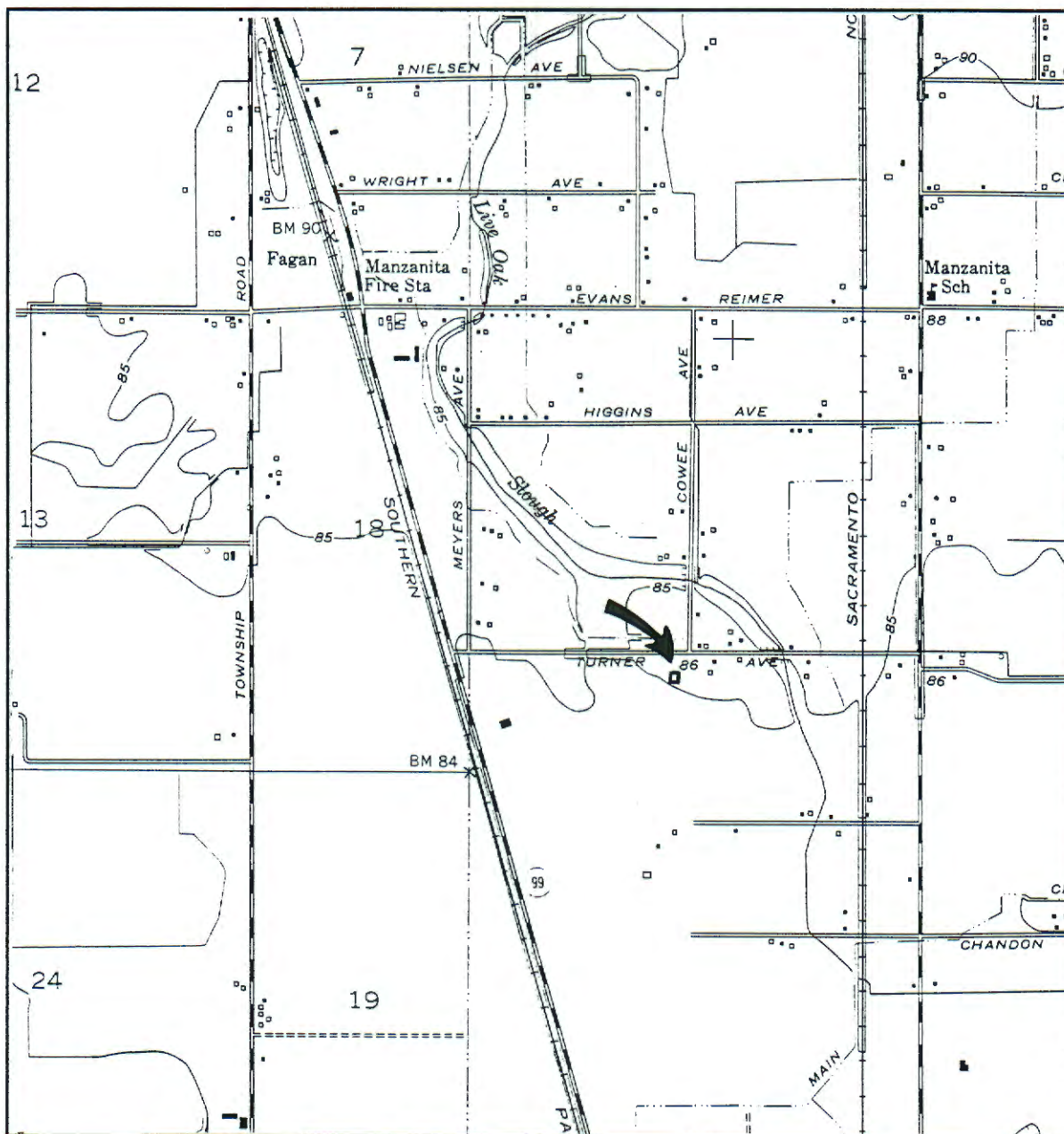
- 1978 'Maidu and Konkow' in Handbook of North American Indians: Vol. 8: California. Pp. 370-386. Smithsonian Institution, Washington, D.C.

United States Government

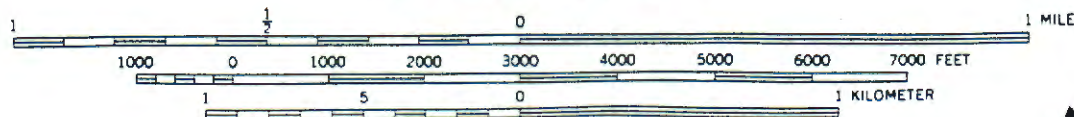
- 1952/73 'Gridley 7.5' Topographic Map'. Department of Geological Services

Wells, Harry L. & W.L. Chambers

- 1888 History of Butte County, California and Biographical Sketches. Reproduced by Howell-North Books, Berkeley 1973.



LOCATION MAP
Scale 1:24000
Contour Interval: 5 feet

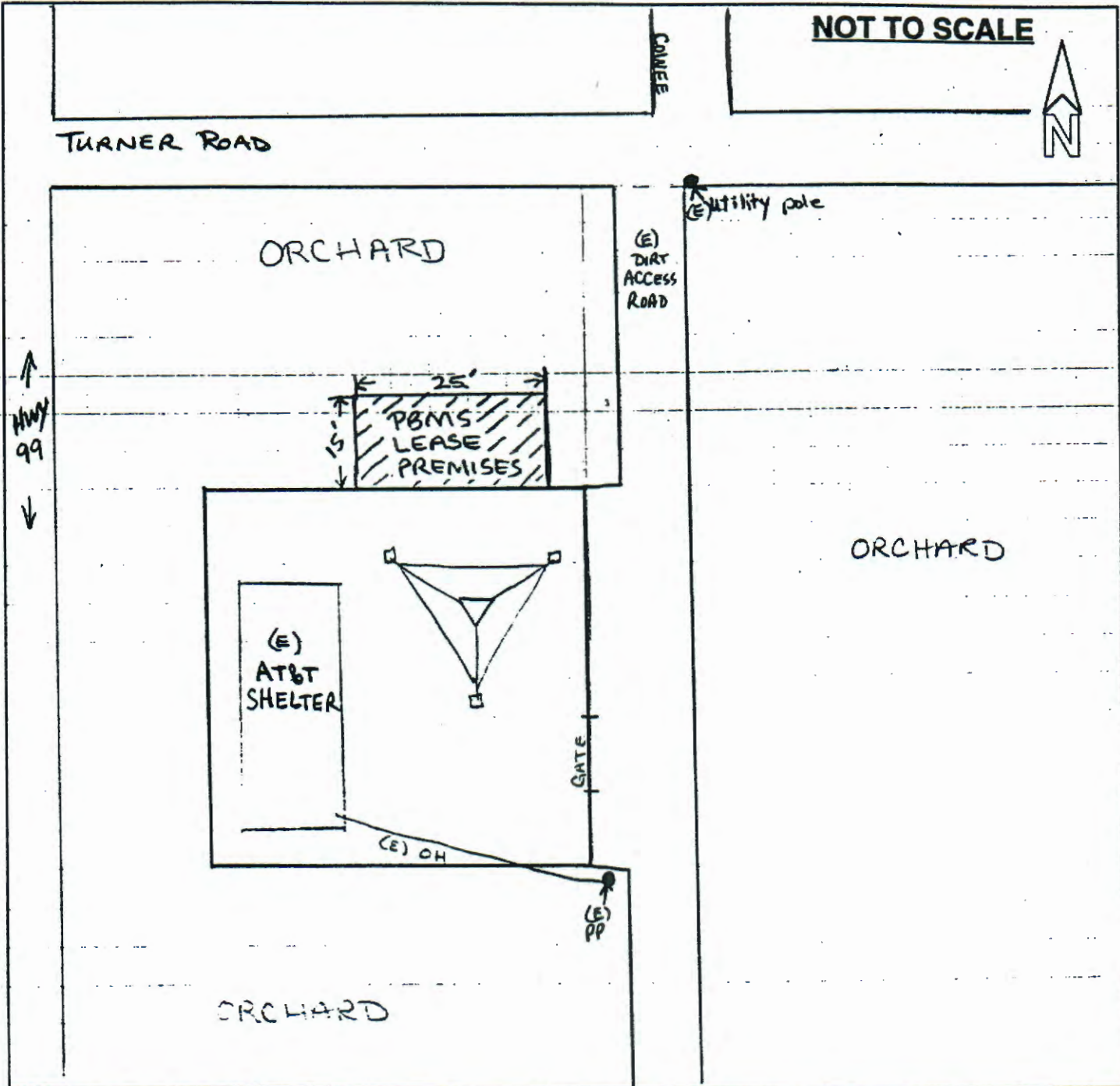


U.S.G.S. Gridley 7.5' Topographic Quad Map
 Butte County; Township 17 N, Range 3 E, unsectioned (Boga Grant) 1952'73 Edition

SITE # SA-530-01



SITE SKETCH

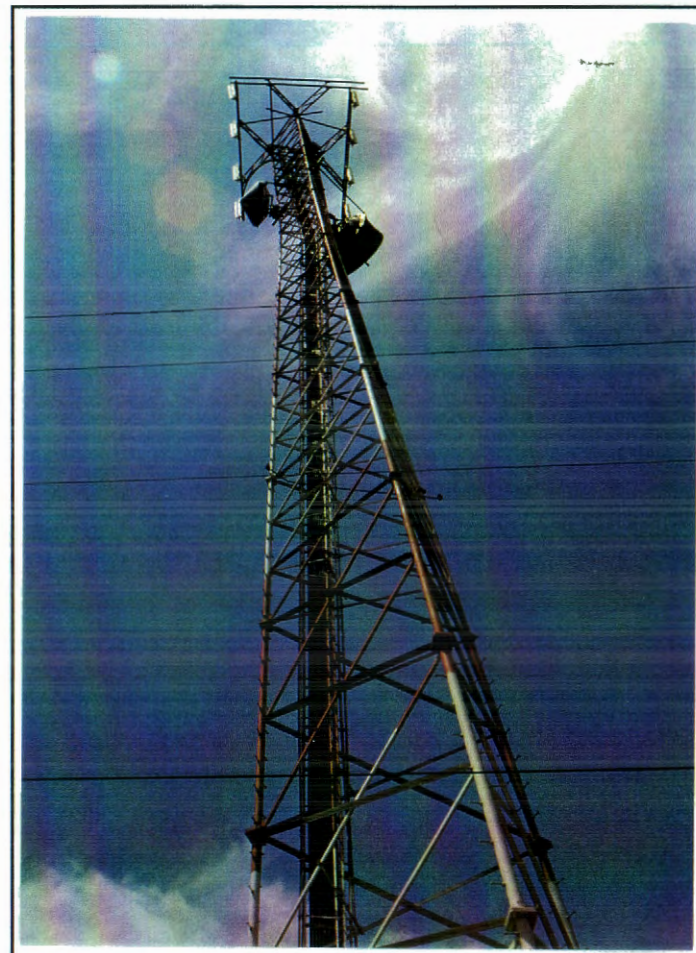


COMMENTS:

SITE NO:	DATE:
SA-530-C	3-13-98
SITE NAME:	
GRIDLEY	
ADDRESS:	
SA:	PM:
TOM SHULER	JILL MUNIZ



Tower at 400 Turner Road, Gridley (SA-530-01). View to north along dirt entry road.



Tower top, showing microwave and other sensors



Cabinet: view to west, orchard in background.



View to east from dirt road on east side of enclosure: orchards.



View to south: cabinet and enclosure, tower at right

SITE LOCATION AND DIRECTIONS

DATE: 2/23/98

SITE #: SA-530-01

SITE NAME: Hwy 99 & Gridley

SITE PHONE:

SITE ADDRESS: 400 Turner Road
Gridley, CA

SITE CONTACT: Jewell Cantrell
CONTACT PHONE #: (916)846-5576

COUNTY: Butte County

LANDLORD: Jewell Cantrell

VICINITY & SITE SPECIFIC MAP COMPLETED AND ATTACHED: ☐ Yes ☐ No KEYS: ☐ Yes ☐ No

ADVANCE NOTICE: none required

ENTRY CODE:

COMMENTS:

DIRECTIONS FROM SACRAMENTO PBMS PROJECT OFFICE:

Hwy 80 west to hwy 5 north, proceed to and exit onto Hwy 99 north at the fork just out of Sacto. proceed approximately 40 miles through Yuba City stay on Hwy 99 through Yuba City. Continue on through Live Oak. Just past Live Oak you cross the Butte County line. Approx. 3 miles past the county line you will see a red and white lattice tower on the right. Proceed to that tower by turning right onto Turner Road (there is a restaurant on the corner). Proceed approx. 1.5 mi. to Cowee Ave. and turn right to the tower.

APPROXIMATE TRAVEL TIME: 1 hours 20 Minutes

Antenna Struct: Collocation of Existing Tower

ROAD ACCESS: packed dirt

Following is a list of access points on this site with the applicable combo or key #:

Lock No	Key# / Combo	Location

CULTURAL RESOURCES UNLIMITED

Eleanor H. Derr
2614 Aramon Drive
Rancho Cordova, CA 95670
(916) 363-8774; FAX 363-5413
June 28, 1998

Ms. Marianne L. Russo
North Central Information Center
Department of Anthropology
California State University, Sacramento
6000 J Street
Sacramento, CA 95819

Dear Marianne:

I am hereby requesting a record search for the following project: PAC BELL MOBILE SERVICES:

Study Performed For: QUAD Consultants
One Sierragate Plaza, Suite 270 C
Roseville, CA 95678
Contact Person: Shelley Eisner
(916) 784-3038

SITE #SA-165-06 Dyke 8 (Folsom Pointe), Folsom, Sacramento County;
Folsom 7.5', T. 8 N, R. E, sectioned

SITE #SA-189.04 1020 29th Street, Sacramento, Sacramento County;
Sacramento East 7.5', T. 8 N, R. 5 E, Unsectioned

SITE #SA-190-01 8780 Jackson Road. Sacramento County;
Sacramento East 7.5', T. 8 N, R. 5 E, Section 13

SITE #SA-192-01 3936 Wayside Lane, Sacramento, Sacramento County;
Citrus Heights 7.5', T. 9 N, R. 6 E, Unsectioned

SITE #SA-195-02 7200 High Hill Road, Sloughhouse, Sacramento County;
Sloughhouse 7.5', T. 8 N, R. 7 E, Unsectioned

SITE #SA-197-01 Francisco and Green Valley Road vic. , El Dorado Hills North,
El Dorado County; Clarksville 7.5', T. 10 N, R. 8 E, Section 15

SITE #SA-184-03 Park Drive, Stanford Ranch; Lincoln vic., Placer County;
Roseville 7.5', T. 11 N, R. 6 E, Section 14

Xeroxs of the appropriate USGS map are enclosed X Sites are generally small (20' X 20'; 30'X30', etc.) sometimes located on roofs or existing water towers, etc. I will generally need data for only one-quarter mile radius.. Please call when you have a time slot available for me to come in on these.

Thanks!
Eleanor

Cultural Resources Survey Report for NRCS Project 13FY04-0008: Proposed Virginia
Dent Micro Irrigation Project located in Butte County, California

CHECK ONE

POSITIVE FINDINGS: ☐

NEGATIVE/ISOLATES FINDINGS: ☐

Field Office _____	Date _____
Contact Person _____	Phone/Fax _____
Program _____	Contract/Application# _____
County _____	7.5' USGS Quad _____
Township _____	Range _____
Section _____	¼ Section _____
Practices _____	APE _____
and 734 Fish and Wildlife Structures (Nesting Boxes)	

Step Two is required if ground survey is requested.

1. Ground Survey Report of positive or negative/isolates only findings. Give a description of ground survey.

2. Landowner knowledge of project area history or record search results.

3. Report of discussion with Tribal Representative:

4. Comments/Recommendations:

Name and Title:

Signature _____ **Date** _____

Title: _____

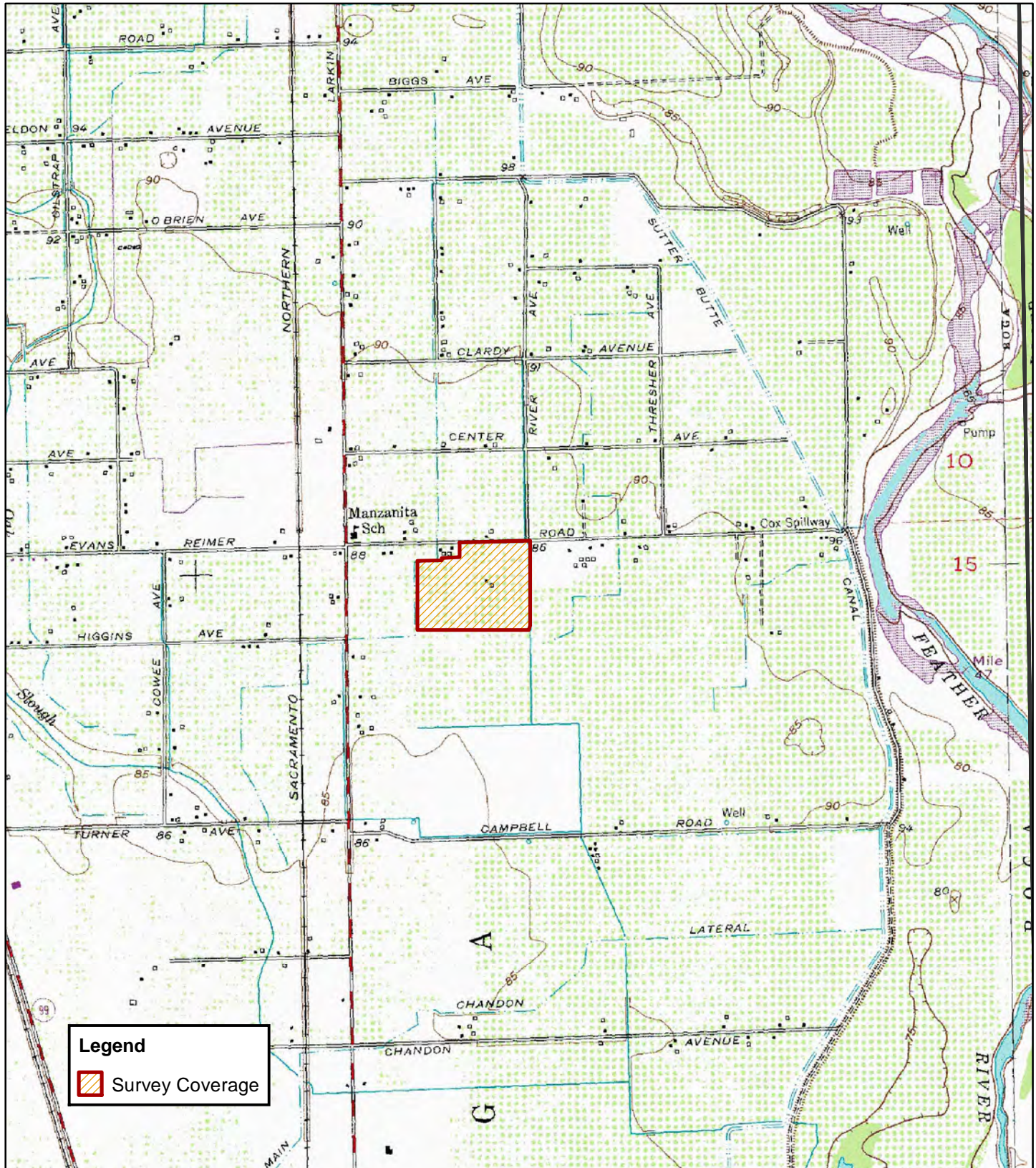
Approximate Acres: 45

Date: 5/14/2014

Boco Land Grant
USGS Gridley 7.5' Quad
Butte County, California

13FY04-0008 Survey Coverage

Robert McCann
USDA - NRCS
Oroville Field Office



2,000 0 2,000 4,000 6,000 8,000 Feet

1:24,000



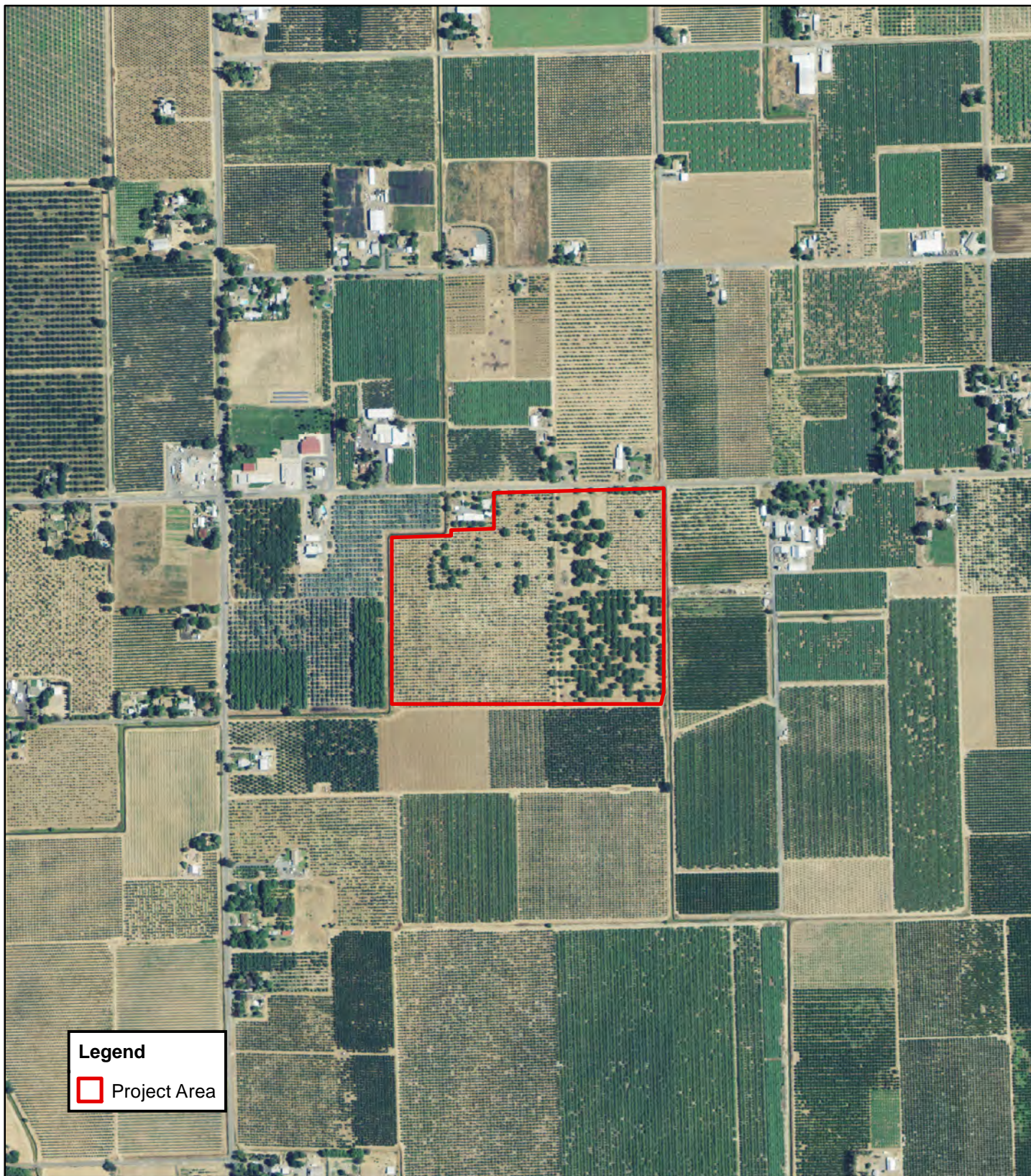
Approximate Acres: 45

Date:5/14/2014

13FY04-0008 Ortho Map

Boco Land Grant
USGS Gridley 7.5' Quad
Butte County, California

Robert McCann
USDA - NRCS
Oroville Field Office



Legend

 Project Area



1,000 0 1,000 2,000 3,000 Feet

1:10,000



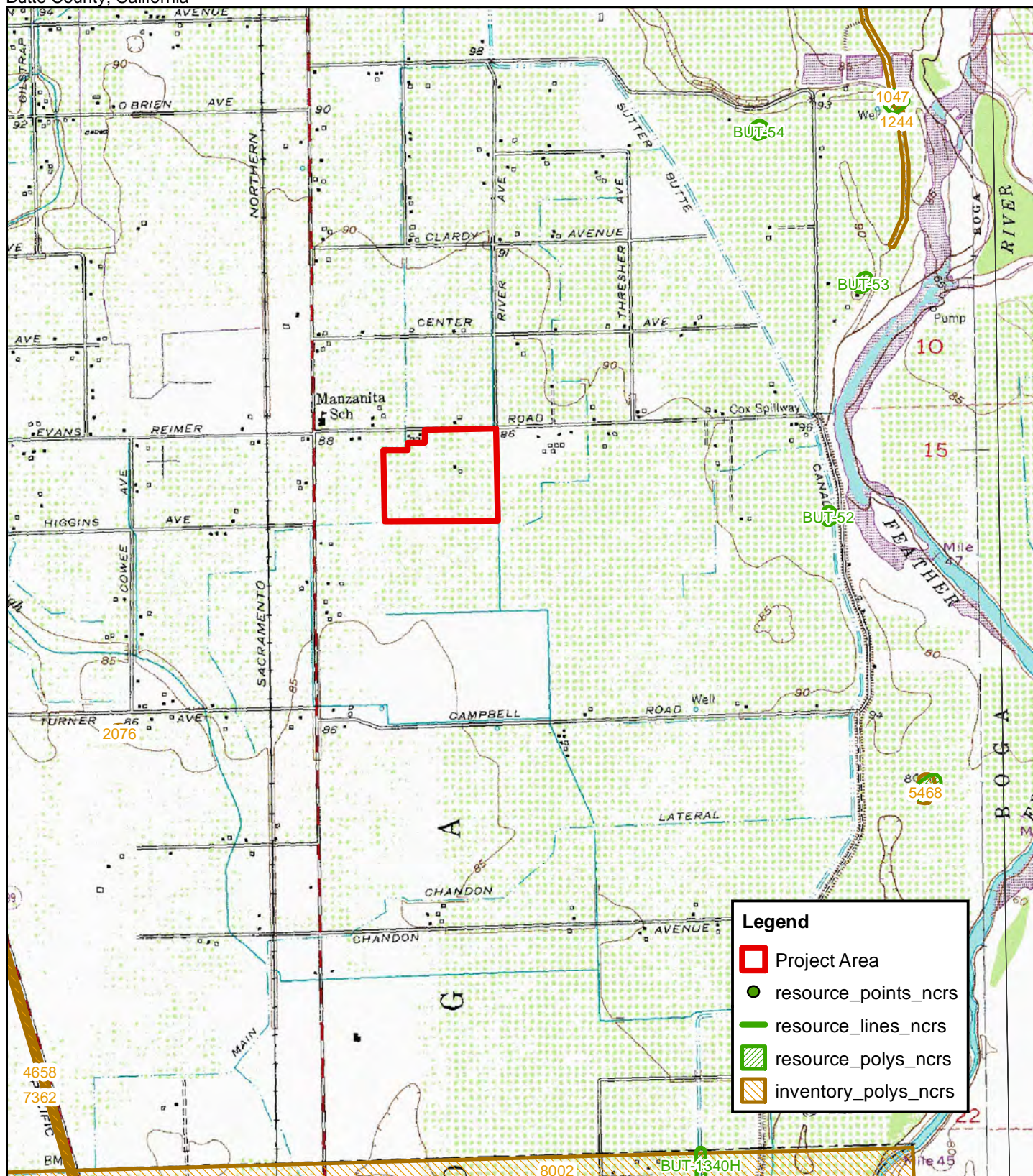
Approximate Acres: 45.7

13FY04-0008 Lit Review

Date:7/2/2013

Township 17N, Range3E,
Section 17 (projected) Boga Landgrant
USGS Gridley 7.5' Quad
Butte County, California

Robert McCann
USDA - NRCS
Oroville Field Office



2,000 0 2,000 4,000 6,000 8,000 Feet

1:24,000





View of the northern portion of the proposed project area facing east.



View of the central portion of the project area facing east.

RECEIVED

JUL 27 1976

DIVISION OF WATER QUALITY

E-78
BUT-TMP
-W4
1976

CULTURAL RESOURCE ASSESSMENT OF THE
PROPOSED CITY OF GRIDLEY WASTEWATER
TREATMENT SYSTEM EXPANSION PROJECT

1243

BUTTE Co.

By

Tony F. Weber

For

Ann S. Peak & Associates
Consulting Archeology
8832 Willowdale Way
Fair Oaks, California 95628 -
(916)967-3684

Raymond Vail and Associates
8830 Madison Avenue
Fair Oaks, California 95628

Ann S. Peak & Associates, Inc., Consulting Archeology, is pleased to enclose herewith the final report on the Cultural Resource Assessment of the City of Gridley Wastewater Treatment System Expansion Project.

It is believed that the report will be satisfactory in meeting local, state, and federal requirements having to do with identification and preservation of these nonrenewable environmental resources.

Tony F. Weber
Vice President

967-3684 (916) - 75628 - CALIFORNIA - 555 - 5555 - 5555

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Spanish	2
American	2
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FIELD ASSESSMENT	3
FIELD ASSESSMENT RESULTS	3
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GROWTH INDUCEMENT	5
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INTRODUCTION

The proposed project is the expansion or relocation of the existing treatment plants, with the expansion of existing interceptor and outfall lines and the possible installation of new lines.

Most of the project area lies along the roadside beds of existing county roads and across the Feather River.

CULTURAL HISTORY

Indian. Historically, this area was held by a group of the Penutian superstock, the Valley Maidu. This group included in its territory the drainages of the Yuba, Bear, and American rivers, along with the lower drainage of the Feather River. The northern boundary has not been clearly established, due to a language similarity of neighboring groups. The eastern boundary was the crest of the Sierra Nevada Mountains. Probably a few miles south of the confluence of the American River on the valley floor was their southern boundary. The western boundary was both banks of the Sacramento River upstream from the mouth of the Feather River southward to a few miles below the confluence of the American River.

The Valley Maidu settlement pattern was basically oriented to major river drainages, with ancillary villages located on tributary streams and sloughs. Major villages often supported a population exceeding 500 people.

The inhabitants had an intimate knowledge of the environs within their territory. Hunting, gathering, and fishing were the subsistence base of these people.

In 1833, the great epidemic swept through the Sacramento Valley. This epidemic has been attributed to malaria (Cook 1954:308). The epidemic is estimated to have killed

75 percent of the native population and to have left only a shadow of the original Maidu to face the intruding miners and settlers.

Spanish. Early contact with the Spanish was limited to the very southern edge of the Maidu boundaries and did little to disrupt their prehistoric ways (Wilson and Towne 1973:23). No record exists of early Spanish exploration or the missionization of neighboring tribes having affected the Maidu.

American. Hudson Bay and American trappers began establishing camps along the major river drainages by the late 1820's. Sutter had established his fort by 1839, with many of the remaining Maidu working for him and other settlers.

In 1852, George W. Gridley became engaged in the stock-raising business at the present site of the city named for him. By 1862 a post office had been established at the ranch headquarters. This was the beginning of the town. Later Gridley traded the town site with the California Oregon Railroad for ranch land west of town.

A widespread drought in 1877 brought a large increase in population to Butte County because of the better crop conditions.

By the 1900's, the introduction of irrigation caused further growth. The Butte County Canal, built in 1905, caused land values in the Gridley district to soar. Gridley, California, was incorporated as a city in 1905 and is an agricultural center today.

RESEARCH

Files and records of identified archeological sites were reviewed at the Cultural Resource Section, California Department of Parks and Recreation, and historical records were consulted at the History Preservation Section of that same agency.

A letter was requested from the California Department of Parks and Recreation concerning cultural resources (Appendix 1).

There were four recorded archeological sites near the potential areas of impact: CA-But-53, But-54, But-55, and But-56. However, But-56 has been noted as destroyed by historic activities and the other three sites are situated well out of the project impact zone.

FIELD ASSESSMENT

All alternative alignments, treatment plant alternatives, and existing plant sites (Map 1) were traversed on foot by an experienced archeologist. All ground surfaces were carefully examined for evidence of historic or prehistoric occupation/use. Where further definition was felt to be required, small trowel holes were dug to maximum depths of 25 centimeters (cm). No evidence was found of historic or prehistoric cultural remains.

FIELD ASSESSMENT RESULTS

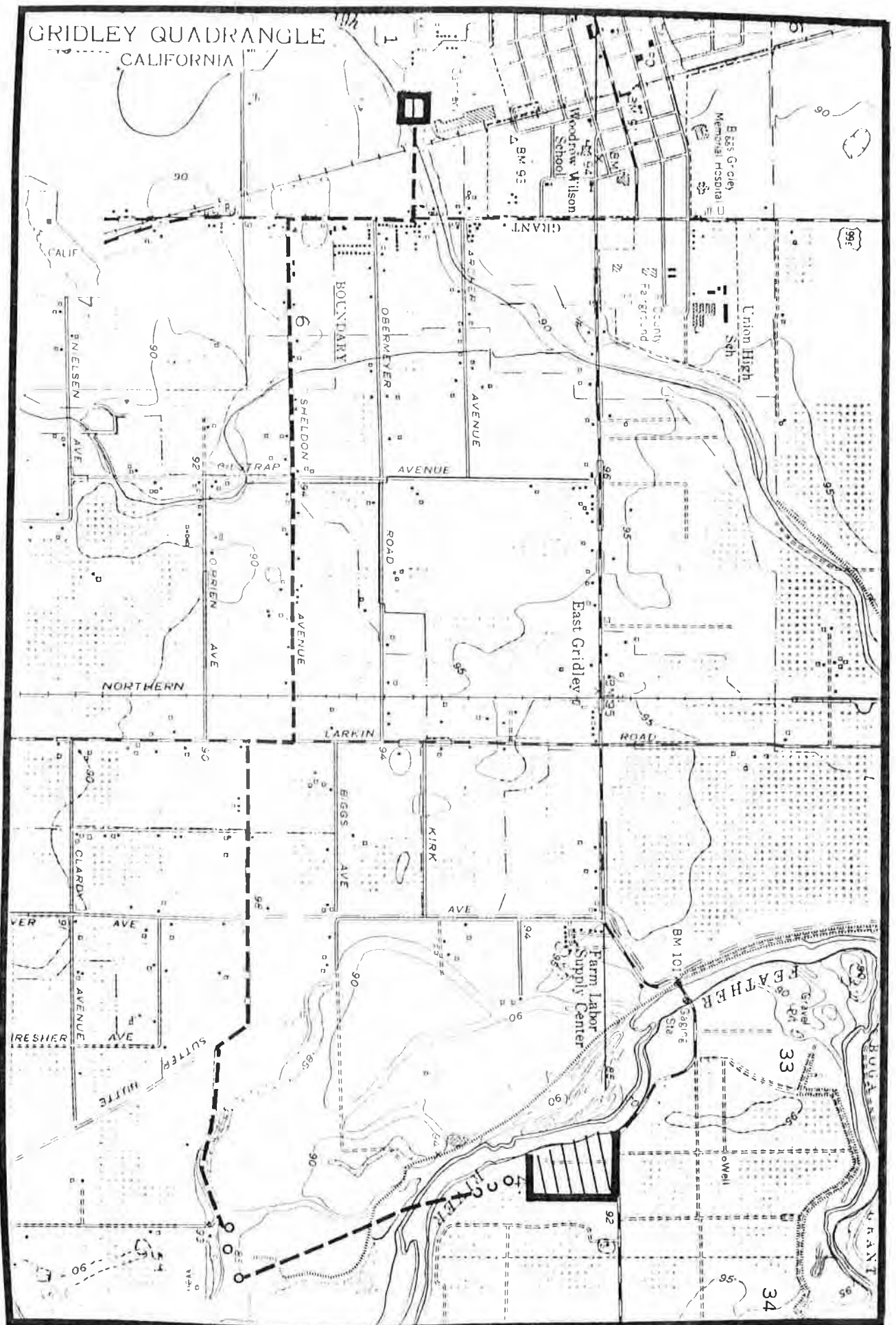
There was no surface evidence of prehistoric sites within the impact area of the alignments or proposed treatment plants.

CONCLUSIONS

The lack of sites in the area of alignment near the Feather River is probably due to the flood factor of the river and the availability of better sites above the flood plain.

MITIGATION

Although no sites were identified in the impact zone, historic activity may have buried some of them, leaving no surface evidence of the sites. Areas of sensitivity to be considered are along the road alignments which are following the banks of slough and tributaries of the Feather River. It



MAP 1

is recommended that construction be halted and a qualified archeological firm be consulted for advice should unusual amounts of shell, bone, stone, or artifacts be uncovered during construction activities.

GROWTH INDUCEMENT

Should the construction of the project induce further urban growth, additional cultural resource assessments should be required by jurisdictional agencies as each land parcel is considered for development.

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APPENDIX 1

Communication with California Department
of Parks and Recreation, History Preser-
vation Section

RAYMOND S. PEAK & ASSOCIATES
CONSULTING ARCHEOLOGY



January 22, 1976

Dr. Knox Mellin, Supervisor
History Preservation Section
Department of Parks and Recreation
P.O. Box 2290
Sacramento, California 95811

Dear Mr. Mellin:

As consultant to Raymond Vail and Associates, 8830 Madison Avenue, Fair Oaks, California 95628, I wish to request a letter from your office concerning cultural resources within the potential impact areas of the Gridley Wastewater Treatment System expansion. Location of the project is in Section 1, T17N, R2E; Sections 4 and 6, T17N, R3E; and portions of the Boga land grant in Butte County. A map delineating the alignments is enclosed for your information.

An archeological survey is planned during January, 1976, to field assess identified archeological sites within the impact zones. Four sites--Butte 52, 53, 54, and 55--are in nearby areas.

Sincerely,

Tony F. Weber
Consulting Archeologist

TW:CL
Encl., map

Archaeological Resources Directory

Primary Number	Trinomial	OTIS ID	Property Number	Name	Aliases and Alias Types	St Number	St Name	City	County	Zip	Vicinity	Other Geography	Evaluation Info	District Elements	Parent District	Assoc Resources	Parcel Num	MilePost	Ownership	Construction Year(s)	oCode	Date Modified	Export Date
		487591	90546	MANZANITA SCHOOL			LARKIN RD	GRIDLEY	BUTTE			EVANS- REIMERS R (Corridor)	7P, 06/07/1968, SPHI-BUT-003						D		o37122g3	4/5/2018	9/22/2022

CALIFORNIA INVENTORY OF HISTORIC RESOURCES

Amador County (Continued) DEPT OF PARKS + RECREATION 1976

DEFENDER. DEFENDER GRADE ROAD AREA, PIONEER. *THEME: ECONOMIC/INDUSTRIAL.*

DRYTOWN. HIGHWAY 49, *THEME: EXPLORATION/SETTLEMENT.*

DRYTOWN SCHOOLHOUSE. DRYTOWN. *THEME: SOCIAL/EDUCATION.*

FIDDLETOWN DISTRICT. NORTHWEST OF VOLCANO, FIDDLETOWN. *THEME: EXPLORATION/SETTLEMENT.*

FIRST AMATEUR ASTRONOMICAL OBSERVATORY OF RECORD IN CALIFORNIA (SITE). SNAKE RIDGE RD., 1.7 MILES N. OF VOLCANO, *THEME: SOCIAL/EDUCATION.*

FLOUR MILL BUILDING. IONE. *THEME: ECONOMIC/INDUSTRIAL.*

FLOUR MILL SITE. 1/2 MILE WEST OF PLYMOUTH, *THEME: ECONOMIC/INDUSTRIAL.*

FORT JOHN. N.E. VOLCANO, *THEME: SOCIAL/EDUCATION.*

***INDIAN GRINDING ROCK.** PINE GROVE. *THEME: ABORIGINAL.*

IRISHTOWN. 8 MILES NORTH OF JACKSON, *THEME: EXPLORATION/SETTLEMENT.*

JACKSON DISTRICT. BETWEEN SUTTER CREEK AND MOKELUMNE RIVER, JACKSON. *THEME: EXPLORATION/SETTLEMENT.*

JACKSON GATE. 1.3 MILES NORTHEAST OF JACKSON, *THEME: ECONOMIC/INDUSTRIAL.*

JACKSON'S PIONEER JEWISH SYNAGOGUE SITE. E. SIDE OF CHURCH ST., S. SIDE OF NORTH ST. ON JACKSON ELEMENTARY SCHOOL GROUNDS, JACKSON. *THEME: RELIGION.*

KENNEDY WHEELS. JACKSON GATE ROAD, JACKSON. *THEME: ECONOMIC/INDUSTRIAL.*

KIRKWOODS. 5.8 MILES EAST OF CARSON PASS HIGHWAY 88, *THEME: ECONOMIC/INDUSTRIAL.*

***KNIGHT'S FOUNDRY AND SHOPS.** 13 EUREKA STREET, SUTTER CREEK. *THEME: ECONOMIC/INDUSTRIAL.*

LANCHA PLANA. 6.8 MILES SOUTH OF BUENA VISTA, *THEME: EXPLORATION/SETTLEMENT.*

LIME KILN, J.H. BONHAM RANCH. 4 MILES EAST OF IONE, MT. ECHO DIST, *THEME: ECONOMIC/INDUSTRIAL.*

MAIDENS GRAVE. HIGHWAY 88, 45 MILES EAST OF JACKSON, *THEME: EXPLORATION/SETTLEMENT.*

MIDDLE BAR. 4 MILES SOUTH OF JACKSON, *THEME: EXPLORATION/SETTLEMENT.*

OLD EMIGRANT ROAD. HWY. 88, NEAR TRAGEDY SPRINGS, *THEME: EXPLORATION/SETTLEMENT.*

OLETA-OLD FIDDLETOWN. FIDDLETOWN. *THEME: EXPLORATION/SETTLEMENT.*

PINE GROVE DISTRICT. 8 MILES SOUTH OF SUTTER CREEK, PINE GROVE. *THEME: ECONOMIC/INDUSTRIAL.*

PIONEER HALL. MAIN ST., JACKSON. *THEME: SOCIAL/EDUCATION.*

PLYMOUTH DISTRICT. HWY. 49, NORTH OF DRYTOWN, PLYMOUTH. *THEME: EXPLORATION/SETTLEMENT.*

PLYMOUTH TRADING POST. PLYMOUTH. *THEME: ECONOMIC/INDUSTRIAL.*

PRESTON CASTLE. PRESTON SCHOOL OF INDUSTRY, IONE. *THEME: SOCIAL/EDUCATION.*

RAMMED EARTH ADOBE. FIDDLETOWN. *THEME: ECONOMIC/INDUSTRIAL.*

RANLETT COPPER MINE. 3 1/2 MILES EAST OF IONE ON HWY 104, *THEME: ECONOMIC/INDUSTRIAL.*

SHENANDOAH VALLEY SCHOOL. PLYMOUTH. *THEME: SOCIAL/EDUCATION.*

STEWART,(D.) CO. STORE. EAST MAIN STREET, IONE. *THEME: ECONOMIC/INDUSTRIAL.*

SUTTER CREEK. *THEME: EXPLORATION/SETTLEMENT.*

VOLCANO. *THEME: EXPLORATION/SETTLEMENT.*

BUTTE COUNTY - 31 SITES (ALSO 475 ARCHAEOLOGICAL SITES)**

***BIDWELL MANSION.** CHICO. *THEME: GOVERNMENT.*

BIDWELL'S BAR SITE. LAKE OROVILLE STATE RECREATION AREA, *THEME: GOVERNMENT.*

BLACK BART'S HIDEOUT. TABLE MOUNTAIN ON CHEROKEE ROAD, NORTH OF OROVILLE. *THEME: EXPLORATION/SETTLEMENT.*

BREWERY (RUINS). CHEROKEE. *THEME: ECONOMIC/INDUSTRIAL.*

CALIFORNIA OREGON RAILROAD DEPOT. 1916 WASHINGTON STREET, GRIDLEY MUNICIPAL PARK, GRIDLEY. *THEME: ECONOMIC/INDUSTRIAL.*

***CENTERVILLE SCHOOLHOUSE.** HUMBUGH ROAD 13 MILES N.E. OF CHICO, CENTERVILLE. *THEME: SOCIAL/EDUCATION.*

CHEROKEE DISTRICT. TEN MILES NORTH OF OROVILLE AND TWO MILES WEST OF THE FEATHER RIVER, *THEME: EXPLORATION/SETTLEMENT.*

CHICO FLOUR MILL SITE. 500 THE ESPLANADE, CHICO. *THEME: ECONOMIC/INDUSTRIAL.*

CHINESE CEMETERY. NEAR 1500 BRODERICK STREET, OROVILLE. *THEME: RELIGION.*

CHINESE TEMPLE. 1500 BRODERICK STREET, OROVILLE. *THEME: RELIGION.*

DOGTOWN NUGGET DISCOVERY SITE. SKYWAY NEAR MAGALIA CANYON VIEW SCHOOL, *THEME: ECONOMIC/INDUSTRIAL.*

FORBESTOWN. 20 MILES EAST OF OROVILLE, *THEME: EXPLORATION/SETTLEMENT.*

GARROTT'S SAWMILL SITE. SOUTH SIDE OF THE FEATHER RIVER, OROVILLE. *THEME: ECONOMIC/INDUSTRIAL.*

HONEY RUN COVERED BRIDGE. HUMBUGH ROAD AND HONEY RUN GRADE, 10 MILES EAST OF CHICO. *THEME: ECONOMIC/INDUSTRIAL.*

HOOVER OAK. BIDWELL PARK, CHICO. *THEME: SOCIAL/EDUCATION.*

***INSKIP HOTEL.** SKYWAY ROAD 21 MILES N.E. OF PARADISE, *THEME: ECONOMIC/INDUSTRIAL.*

ISHI - THE LAST YAHU INDIAN. QUINCY AVENUE AT OAK AVENUE, OROVILLE AREA. *THEME: ABORIGINAL.*

LONG'S BAR AND FERRY. TWO MILES ABOVE OROVILLE, *THEME: EXPLORATION/SETTLEMENT.*

LOTT MUSEUM-SANK PARK. 1067 MONTGOMERY, OROVILLE. *THEME: ARCHITECTURE.*

MANZANITA SCHOOL. LARKIN ROAD AND EVANS-REIMERS ROAD, 4 MILES EAST OF GRIDLEY. *THEME: SOCIAL/EDUCATION.*

MOTHER ORANGE TREE. IN STORAGE NEAR OROVILLE DAM, *THEME: ECONOMIC/INDUSTRIAL.*

Butte County (Continued)

*MUD CREEK CANYON. THEME: ABORIGINAL.

OLD SUSPENSION BRIDGE. LAKE OROVILLE STATE RECREATION AREA, THEME: ECONOMIC/INDUSTRIAL.

OREGON CITY. DIGGINS DRIVE BETWEEN OROVILLE AND CHEROKEE, THEME: EXPLORATION/SETTLEMENT.

PALERMO COLONY. 5 MILES SOUTH OF OROVILLE, PALERMO. THEME: EXPLORATION/SETTLEMENT.

PARADISE. ROUTE 191 AND SOUTHERN PACIFIC R.R. ROUTE, THEME: ECONOMIC/INDUSTRIAL.

*PATRICK RANCHERIA (4-BUT-1). THEME: ABORIGINAL.

*PATRICK, (WILLIAM G.) HOME. ROUTE 3 BOX 25, MIDWAY, CHICO. THEME: ARCHITECTURE.

*RANCHO CHICO AND BIDWELL ADOBE. BIDWELL MANSION STATE HISTORIC PARK, CHICO. THEME: EXPLORATION/SETTLEMENT.

*ST. JOHN'S EPISCOPAL CHURCH. N.W. CORNER 3RD AND SALEM STREETS, CHICO. THEME: RELIGION.

*STANSBURY HOUSE. 307 WEST 5TH STREET, CHICO. THEME: ARCHITECTURE.

CALAVERAS COUNTY - 56 SITES (ALSO 600 ARCHAEOLOGICAL SITES)**

ALTAVILLE. 1 MILE NORTH OF ANGELS CAMP, THEME: ECONOMIC/INDUSTRIAL.

ANGELS CAMP. THEME: EXPLORATION/SETTLEMENT.

ANGELS CAMP POST OFFICE AND SCHOOL. TOWER RANCH, ANGELS CAMP VICINITY. THEME: ARCHITECTURE.

*ANGELS HOTEL. MAIN ST., AT BIRDS WAY, ANGELS CAMP. THEME: ECONOMIC/INDUSTRIAL.

BROWNSVILLE SITE. 1 MILE EAST OF MURPHYS, THEME: EXPLORATION/SETTLEMENT.

*CALAVERAS COUNTY COURTHOUSE. MAIN ST., SAN ANDREAS. THEME: GOVERNMENT.

CALAVERAS COUNTY COURTHOUSE (LEGER HOTEL). MAIN STREET, MOKELUMNE HILL. THEME: GOVERNMENT.

CALAVERITAS TOWNSITE. CALAVERITAS. THEME: EXPLORATION/SETTLEMENT.

CAMANCHE. 8.6 MILES EAST OF CLEMENTS, THEME: EXPLORATION/SETTLEMENT.

CAMPO SECO. 3.3 MILES NORTH OF VALLEY SPRINGS, THEME: EXPLORATION/SETTLEMENT.

CARSON HILL. 3.7 MILES SOUTH OF ANGELS CAMP, THEME: EXPLORATION/SETTLEMENT.

CHILI GULCH. 2.1 MILES SOUTH OF MOKELUMNE HILL, THEME: ECONOMIC/INDUSTRIAL.

CONGREGATIONAL CHURCH. MOKELUMNE HILL. THEME: RELIGION.

COPPEROPOLIS. THEME: ECONOMIC/INDUSTRIAL.

DOUBLE SPRINGS. 3.7 MILES EAST OF VALLEY SPRINGS, THEME: GOVERNMENT.

DOUGLAS FLAT. 7.1 MILES N.E. OF ANGELS CAMP, THEME: EXPLORATION/SETTLEMENT.

*DOUGLAS FLAT SCHOOL. DOUGLAS FLAT. THEME: SOCIAL/EDUCATION.

EL DORADO. MOUNTAIN RANCH. THEME: EXPLORATION/SETTLEMENT.

FANDANGO, (JAMES ROMAGGE HOUSE). ALBANY FLATS, NEAR ANGELS CAMP. THEME: ARCHITECTURE.

FOURTH CROSSING. 5 MILES SOUTH OF SAN ANDREAS, THEME: EXPLORATION/SETTLEMENT.

GLENCOE (MOSQUITO GULCH). 9.9 MILES N.E. OF MOKELUMNE HILL, THEME: EXPLORATION/SETTLEMENT.

I.O.O.F. HALL, MOKELUMNE HILL. MOKELUMNE HILL. THEME: SOCIAL/EDUCATION.

JENNY LIND. 2.7 MILES OFF STATE HIGHWAY 8, THEME: EXPLORATION/SETTLEMENT.

JESUS MARIA. 4.9 MILES EAST OF MOKELUMNE HILL, THEME: EXPLORATION/SETTLEMENT.

MILTON. 15 MILES NORTHWEST OF COPPEROPOLIS, THEME: ECONOMIC/INDUSTRIAL.

MINE BUILDING. SALT SPRINGS VALLEY. THEME: ECONOMIC/INDUSTRIAL.

MOKELUMNE HILL. THEME: EXPLORATION/SETTLEMENT.

MURPHYS. THEME: EXPLORATION/SETTLEMENT.

*MURPHYS GRAMMER SCHOOL. JONES STREET, MURPHYS. THEME: SOCIAL/EDUCATION.

*MURPHYS HOTEL OR MITCHLER HOTEL. MAIN AND ALGIERS STREETS, MURPHYS. THEME: ECONOMIC/INDUSTRIAL.

NOCE, (JOHN) HOUSE. WHISKEY SLIDE, 6 MILES SOUTHEAST OF MOKELUMNE HILL, THEME: ARCHITECTURE.

O'BYRNE FERRY. STANISLAUS RIVER AT CALAVERAS-TUOLUMNE COUNTY LINE, THEME: EXPLORATION/SETTLEMENT.

PALOMA. BETWEEN MOKELUMNE HILL AND VALLEY SPRINGS, THEME: ECONOMIC/INDUSTRIAL.

PEDROLI RANCH HOUSE. SALT SPRINGS VALLEY, FELIX. THEME: ARCHITECTURE.

PIONEER CEMETERY. 1.8 MILES WEST OF SAN ANDREAS, THEME: RELIGION.

PRINCE-GARIBARDI BUILDING. ALTAVILLE. THEME: ECONOMIC/INDUSTRIAL.

RAGGIO ADOBE. 8 MILES EAST OF SAN ANDREAS, ELDORADOTOWN. THEME: ECONOMIC/INDUSTRIAL.

RAILROAD FLAT. THEME: EXPLORATION/SETTLEMENT.

RED BRICK GRAMMER SCHOOL. DIVISION OF FORESTRY STATION, ALTAVILLE. THEME: SOCIAL/EDUCATION.

REDDICK, (JOHN) HOUSE. SAN ANDREAS VICINITY. THEME: SOCIAL/EDUCATION.

ROARING CAMP. MELONES VICINITY. THEME: EXPLORATION/SETTLEMENT.

ROBINSON'S FERRY. 7.5 MILES SOUTH OF ANGELS CAMP, THEME: ECONOMIC/INDUSTRIAL.

RODESINO ADOBE. ELDORADOTOWN. THEME: EXPLORATION/SETTLEMENT.

SAN ANDREAS. THEME: EXPLORATION/SETTLEMENT.

STATE OF CALIFORNIA—RESOURCES AGENCY
DEPARTMENT OF PARKS AND RECREATION
POINT OF HISTORICAL INTEREST

DO NOT WRITE IN THIS BLOCK
Reg. No. But-003
Date 6-7-68
By [Signature]

County <u>Butte</u>	Name <u>Manzanita School</u>
---------------------	------------------------------

Location about 4 miles east of Gridley, California on the Larkin Road & Evans - Reiners Road

Historical Significance:

Manzanita School District was founded in 1868 - A one room school building with one teacher, later they built another class room and hired another teacher and remained the same until 1915. At that date a 4 class room school building was built and after a few years four more teachers were necessary. In 1957 a modern building was erected with three class rooms and another teacher was added to the staff. In 1964 another addition was built and the 1915 building was razed. The Manzanita School has always been in the same location since 1868 in fact the bell from the original building is now enclosed in a shrine on the front of the new structure. They now have 9 teachers and recently won over unification. They will celebrate their Centennial on October 5th & 6th 1968 and several of their stalwart alumni members desire to erect a suitable "marker" on the site of this 100 year old institution of learning.

THIS POINT OF HISTORICAL INTEREST IS NOT A STATE REGISTERED HISTORICAL LANDMARK.

RECOMMENDED: <u>[Signature]</u> Signature—Chairman, County Board of Supervisors	APPROVED: <u>[Signature]</u> Signature—Chairman, Historical Landmarks Advisory Committee
Date <u>5-12-68</u>	Date <u>6/2/68</u>



January 26, 2024

Butte County Historical Society
P.O. Box 2154
Chico, CA 95927
Sent via email: buttehistory@sbcglobal.net

**RE: *Cultural Resources Identification Effort for the Manzanita School Well Replacement Project,
Butte County, California***

Dear Butte County Historical Society:

ECORP Consulting, Inc. has been retained to assist in the planning of the development on the project indicated above. The proposed project consists of approximately 8.4 acres located at the northeastern corner of East Evans Reimer Road and Larkin Road, in an unsectioned portion of Township 17N, Range 3E; (Mount Diablo Base and Meridian) as depicted on the enclosed map. As part of the identification effort, we are seeking information from all parties that may have knowledge of or concerns with historic properties or cultural resources in the area of potential effect.

Included are maps showing the project area outlined. We would appreciate input on this undertaking from the historical society with concerns about possible cultural properties or potential impacts within or adjacent to the area of potential effect. If you have any questions, please contact me at (916) 782-9100 or abord@ecorpconsulting.com.

Thank you in advance for your assistance in our cultural resource management study.

Sincerely,

Arik J. K. Bord, MA, RPA
Staff Archaeologist

Attachment(s)
Project Location and Vicinity Map

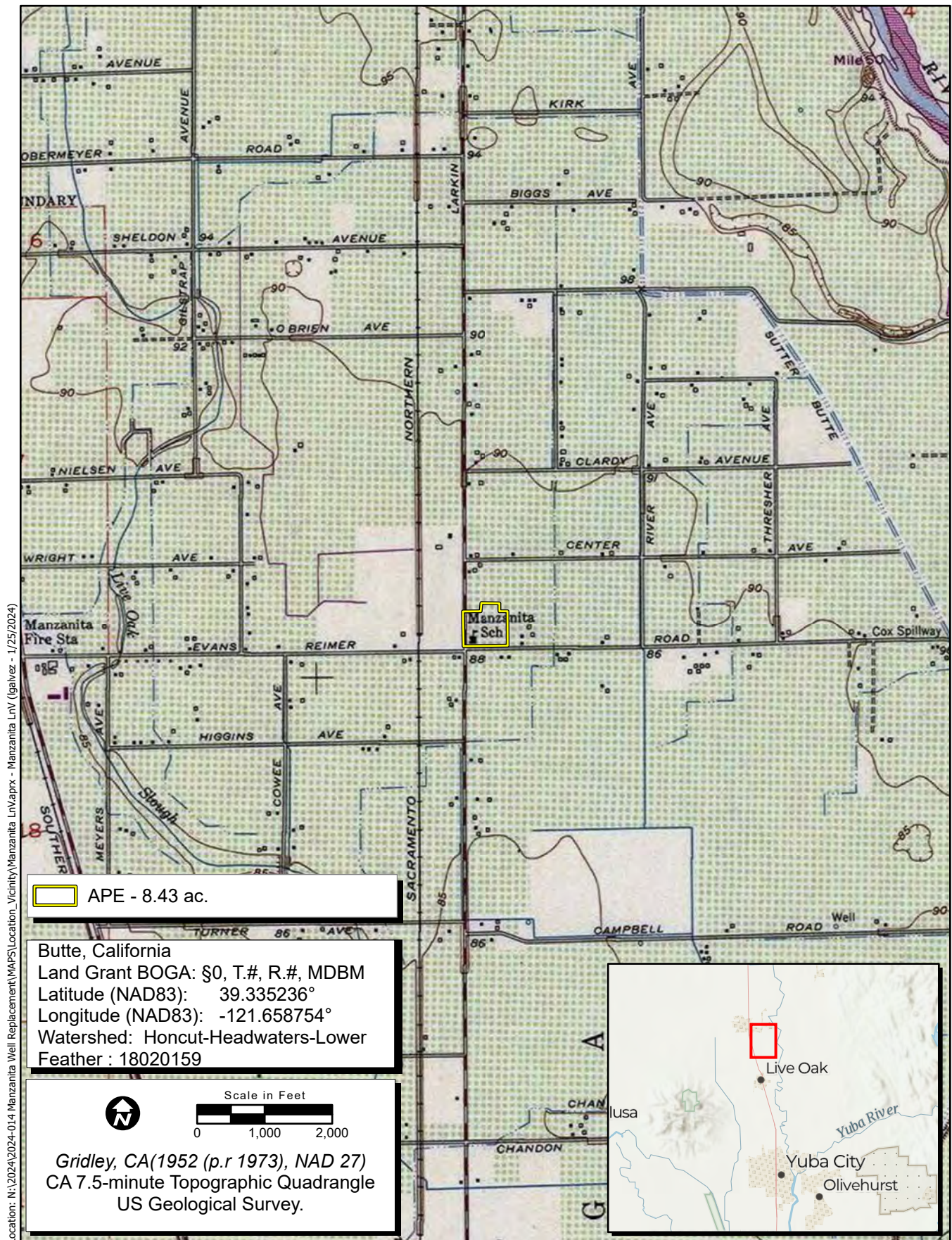


Figure 1. Project Location and Vicinity

APPENDIX B

Sacred Lands File Coordination

Sacred Lands File & Native American Contacts List Request

NATIVE AMERICAN HERITAGE COMMISSION

1550 Harbor Blvd
West Sacramento, CA 95691
(916) 373-3710
(916) 373-5471 – Fax
nahc@nahc.ca.gov

1/26/24

Information Below is Required for a Sacred Lands File Search

Project: Manzanita School Well Replacement Project (2024-014)

County: Butte

USGS Quadrangle: Gridley 1953 (p.r. 1973)

Township: 17N **Range:** 3E **Section(s):** unsectioned

Company/Firm/Agency: ECORP Consulting, Inc.

Contact Person: Arik J. K. Bord

Street Address: 2525 Warren Drive

City: Rocklin **Zip:** 95677

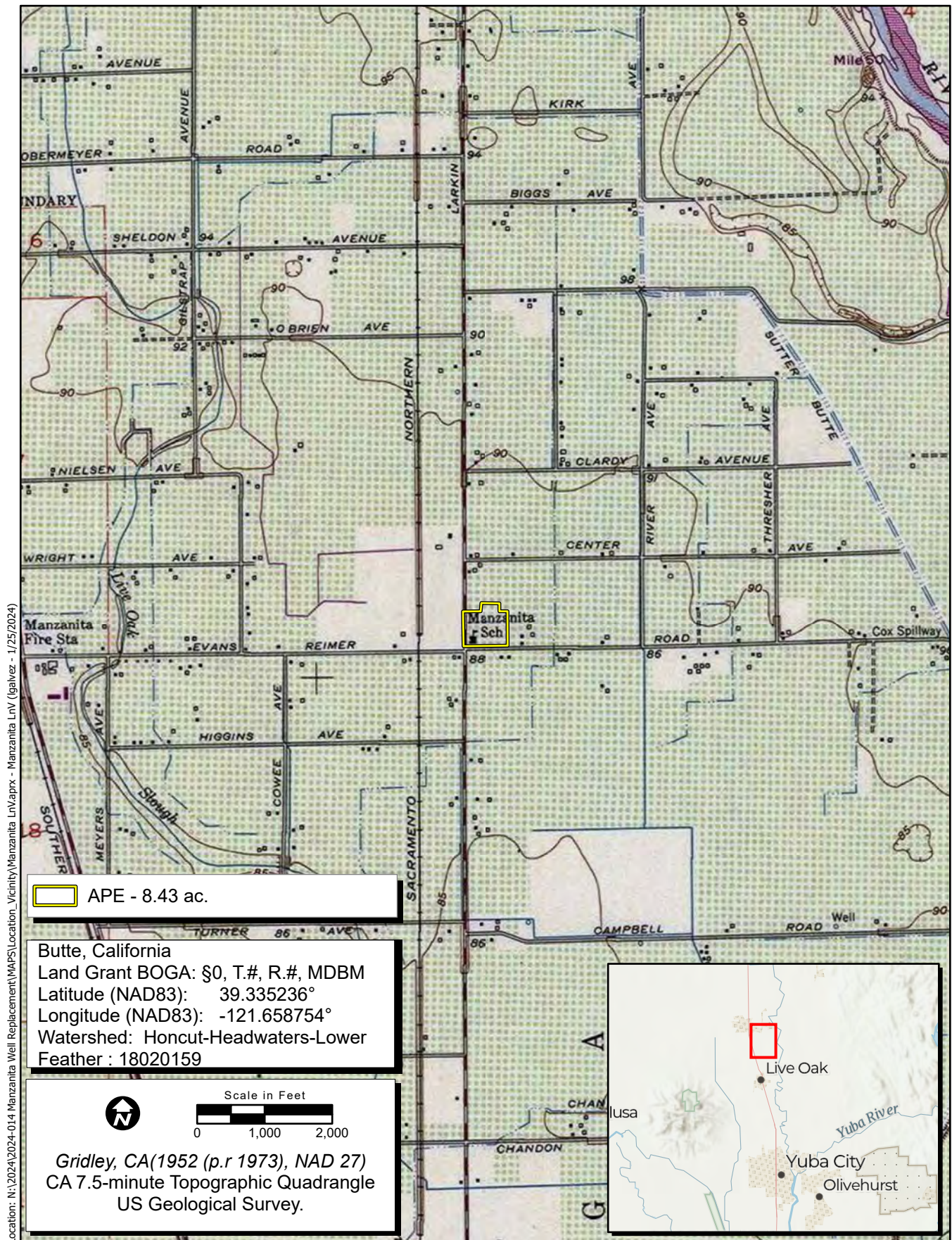
Phone: (916) 782-9100

Fax: (916) 782-9134

Email: abord@ecorpconsulting.com

Project Description:

See attached letter and map.



Map Date: 1/25/2024
 Sources: ESRI, USGS

Figure 1. Project Location and Vicinity



NATIVE AMERICAN HERITAGE COMMISSION

February 6, 2024

Arik Bord
ECORP Consulting, Inc.

Via Email to: abord@ecorpconsulting.com

Re: Manzanita School Well Replacement Project (2024-014), Butte County

Dear Mr. Bord:

A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information you have submitted for the above referenced project. The results were negative. However, the absence of specific site information in the SLF does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Attached is a list of Native American tribes who may also have knowledge of cultural resources in the project area. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated; if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call or email to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from tribes, please notify me. With your assistance, we can assure that our lists contain current information.

If you have any questions or need additional information, please contact me at my email address: Cameron.vela@nahc.ca.gov.

Sincerely,

Cameron Vela

Cameron Vela
Cultural Resources Analyst

Attachment

CHAIRPERSON
Reginald Pagaling
Chumash

VICE-CHAIRPERSON
Buffy McQuillen
Yokayo Pomo, Yuki,
Nomlaki

SECRETARY
Sara Dutschke
Miwok

PARLIAMENTARIAN
Wayne Nelson
Luiseño

COMMISSIONER
Isaac Bojorquez
Ohlone-Costanoan

COMMISSIONER
Stanley Rodriguez
Kumeyaay

COMMISSIONER
Laurena Bolden
Serrano

COMMISSIONER
Reid Milanovich
Cahuilla

COMMISSIONER
Vacant

EXECUTIVE SECRETARY
Raymond C.
Hitchcock
Miwok, Nisenan

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov
NAHC.ca.gov

Native American Heritage Commission
Native American Contact List
Butte County
2/6/2024

County	Tribe Name	Fed (F) Non-Fed (N)	Contact Person	Contact Address	Phone #	Fax #	Email Address	Cultural Affiliation	Counties	Last Updated
Butte	KonKow Valley Band of Maidu	N	Jessica Lopez, Chairperson	2136 Myers Street Oroville, CA, 95966	(530) 777-8094		jessica@konkowmaidu.org	KonKow Maidu	Butte	
	KonKow Valley Band of Maidu	N	Matthew Williford, Vice Chair	2136 Myers Street Oroville, CA, 95966	(530) 712-9021			KonKow Maidu	Butte	7/8/2022
	Mooretown Rancheria of Maidu Indians	F	Guy Taylor,	#1 Alverda Drive Oroville, CA, 95966	(530) 533-3625			KonKow Maidu	Butte, Glenn, Lassen, Plumas, Shasta, Sierra, Sutter, Tehama, Yuba	1/15/2019
	Mooretown Rancheria of Maidu Indians	F	Benjamin Clark, Chairperson	#1 Alverda Drive Oroville, CA, 95966	(530) 533-3625	(530) 533-3680	frontdesk@mooretown.org	KonKow Maidu	Butte, Glenn, Lassen, Plumas, Shasta, Sierra, Sutter, Tehama, Yuba	
	Nevada City Rancheria Nisenan Tribe	N	Saxon Thomas, Tribal Council Member	P.O. Box 2226 Nevada City, CA, 95959	(530) 570-0846		shelly@nevadacityrancheria.org	Nisenan	Butte, Nevada, Placer, Sierra, Sutter, Yuba	3/9/2022
	Nevada City Rancheria Nisenan Tribe	N	Shelly Covert, Tribal Secretary	P.O. Box 2226 Nevada City, CA, 95959	(530) 570-0846		shelly@nevadacityrancheria.org	Nisenan	Butte, Nevada, Placer, Sierra, Sutter, Yuba	3/9/2022
	Nevada City Rancheria Nisenan Tribe	N	Richard Johnson, Chairman	P.O. Box 2624 Nevada City, CA, 95959	(530) 570-0846		shelly@nevadacityrancheria.org	Nisenan	Butte, Nevada, Placer, Sierra, Sutter, Yuba	2/15/2022
	Tsi Akim Maidu	N	Grayson Coney, Cultural Director	P.O. Box 510 Browns Valley, CA, 95918	(530) 383-7234		tsi-akim-maidu@att.net	Maidu	Butte, El Dorado, Lassen, Nevada, Placer, Plumas, Sacramento, Sierra, Yuba	

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed Manzanita School Well Replacement Project (2024-014), Butte County.

Record: PROJ-2024-000551
Report Type: List of Tribes
Counties: Butte
NAHC Group: All

Native American Contacts Log
Manzanita School Well Replacement Project
(ECORP Project No. 2024-014)

Name	Affiliation per NAHC	Phone	Contact Date	Contact Type	Contact from	Response
Native American Heritage Commission (NAHC)			2/6/2024	Letter (email)	Arik J. K. Bord, RPA (ECORP)	Cameron Vela, Cultural Resources Analyst with the NAHC responded on January 4, 2024 that the SLF search returned a negative result. The NAHC included a list of Native American contacts for possible information.
Jessica Lopez, Chairperson	KonKow Valley Band of Maidu	(530) 777-8094	2/15/2024	Letter (mail)	Arik J. K. Bord, RPA (ECORP)	A letter was sent via certified mail on February 15, 2024. A certified mail receipt received on 2/20/2024.
			2/29/2024	Follow Up Email	Erica Ramirez-Schroeder (ECORP)	On 2/29/2024, a follow up email on the tribal notification letter for the Project was sent to Chairperson Lopez. ECORP has not received a response as of the date of preparation for the Manzanita School Well Replacement cultural resources inventory report.
Matthew Williford, Vice Chair	KonKow Valley Band of Maidu	(530) 712-9021	2/15/2024	Letter (mail)	Arik J. K. Bord, RPA (ECORP)	A letter was sent via certified mail on February 15, 2024. ECORP did not receive a certified email receipt from Mr. Williford as of the date of preparation for the Manzanita School Well Replacement cultural resources inventory report.
			2/29/2024	Follow Up Phone Call	Erica Ramirez-Schroeder (ECORP)	On 2/29/2024, Erica Ramirez-Schroeder called Mr. Williford to follow up on the tribal notification letter sent, and the phone number was unavailable.
Guy Taylor	Mooretown Rancheria of Maidu Indians	(530) 533-3625	2/15/2024	Letter (mail)	Arik J. K. Bord, RPA (ECORP)	A letter was sent via certified mail on February 15, 2024. A certified mail receipt received on 2/20/2024.
			2/29/2024	Follow Up Email	Erica Ramirez-Schroeder (ECORP)	On 2/29/2024, a follow up email on the tribal notification letter for the Project was sent to Mr. Taylor. ECORP has not received a response as of the date of preparation for the Manzanita School Well Replacement cultural resources inventory report.
Benjamin Clark, Chairperson	Mooretown Rancheria of Maidu Indians	(530) 533-3625	2/15/2024	Letter (mail)	Arik J. K. Bord, RPA (ECORP)	A letter was sent via certified mail on February 15, 2024. A certified mail receipt received on 2/20/2024.
			2/29/2024	Phone Call	Erica Ramirez-Schroeder (ECORP)	On 2/29/2024, a follow up email on the tribal notification letter for the Project was sent to Chairperson Clark. ECORP has not received a response as of the date of preparation of Manzanita School Well Replacement cultural resources inventory report.
Saxon Thomas, Tribal Council Member	Nevada City Rancheria Nisenan Tribe	(530) 570-0846	2/15/2024	Letter (mail)	Arik J. K. Bord, RPA (ECORP)	A letter was sent via certified mail on February 15, 2024. A certified mail receipt received on 2/21/2024.
			2/29/2024	Phone Call	Erica Ramirez-Schroeder (ECORP)	On 2/29/2024, a follow up email on the tribal notification letter for the Project was sent to Mr. Thomas. ECORP has not received a response as of the date of preparation for the Manzanita School Well Replacement cultural resources inventory report.
Shelly Covert, Tribal Secretary	Nevada City Rancheria Nisenan Tribe	(530) 570-0846	2/15/2024	Letter (mail)	Arik J. K. Bord, RPA (ECORP)	A letter was sent via certified mail on February 15, 2024. A certified mail receipt received on 2/21/2024.
			2/29/2024	Follow Up Email	Erica Ramirez-Schroeder (ECORP)	On 2/29/2024, a follow up email on the tribal notification letter for the Project was sent to Ms. Covert. ECORP has not received a response as of the date of preparation for the Manzanita School Well Replacement cultural resources inventory report.
Richard Johnson, Chairman	Nevada City Rancheria Nisenan Tribe	(530) 570-0846	2/15/2024	Letter (mail)	Arik J. K. Bord, RPA (ECORP)	A letter was sent via certified mail on February 15, 2024. A certified mail receipt received on 2/21/2024.
			2/29/2024	Follow up Email	Erica Ramirez-Schroeder (ECORP)	On 2/29/2024, a follow up email on the tribal notification letter for the Project was sent to Chairperson Johnson. ECORP has not received a response as of the date of preparation for the Manzanita School Well Replacement cultural resources inventory report.
Grayson Coney, Cultural Director	Tsi Akim Maidu	(530) 383-7234	NA	N/A	Arik J. K. Bord, RPA (ECORP)	Letters to Mr. Coney have been "Returned to Sender" from the post office since 2020, and Mr. Coney has expressed in phone conversation that he is longer responding to letters. Based on this information, we did not send a letter to Mr. Coney.
			NA	N/A		

CERTIFIED MAIL – RETURN RECEIPT REQUESTED

February 27, 2024

Honorable Jessica Lopez, Chairperson
KonKow Valley Band of Maidu
2136 Myers Street
Oroville, CA, 95966
jessica@konkowmaidu.org

Subject: Notification of the Manzanita School Well Replacement Project, Butte County, California, and Identification of Cultural Sites in Project Footprint.

Dear Chairperson Jessica Lopez:

The Manzanita Elementary School District is proposing to dismantle the existing well and install a new well and generator at a different location. Installation of the new well includes the associated plumbing and electrical piping to tie the new well and generator into the existing systems. Due to contamination, the current well is not used for potable water sources and is used only for irrigation purposes.

The Applicant's current water supply does not meet Safe Drinking Water standards and is proposing the Manzanita School Well Replacement Project (Project). The Project is located at the Manzanita Elementary School Campus on the corner of East Evans Reimer Road and Larkin Road southeast of the City of Gridley in unincorporated Butte County, California. The area of potential effects (APE) is within the 1952 (photorevised 1973) Gridley, California 7.5' United States Geographical Survey (USGS) topographic quadrangle within an unsectioned portion, of Township 17 North, Range 3 East, Mount Diablo Base and Meridian (Figure 1).

The project would include drilling a new 500-foot-deep well and the construction of a new generator and pump facilities at the new well location within the Area of Potential Effects (APE). The existing well would be capped, and the existing generator and pumping station would be dismantled. Finally, electrical and plumbing lines would be installed to connect the new well with the existing systems.

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If you have questions, need additional information, or wish to comment, please contact me at the address provided below, or call me at (916)-782-9100 or email at abord@ecorpconsulting.com.

Sincerely,

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Arik J. K. Bord, RPA, M.A.,
Staff Archaeologist

Enclosed: Figure 1

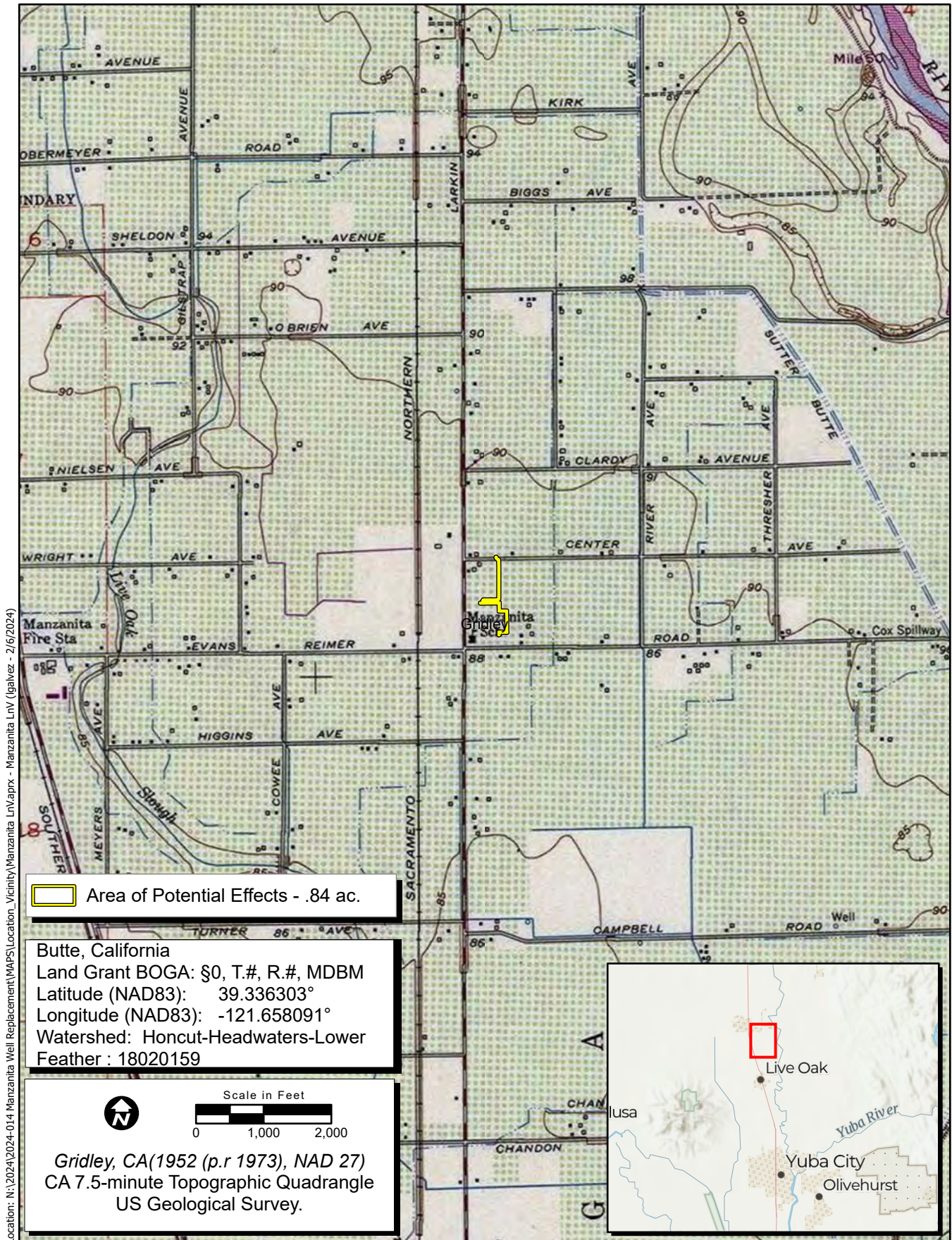


Figure 1. Project Location and Vicinity

CERTIFIED MAIL – RETURN RECEIPT REQUESTED

February 27, 2024

Honorable Matthew Williford, Vice Chair
KonKow Valley Band of Maidu
2136 Myers Street
Oroville, CA, 95966

Subject: Notification of the Manzanita School Well Replacement Project, Butte County, California, and
Identification of Cultural Sites in Project Footprint.

Dear Vice Chair Matthew Williford:

The Manzanita Elementary School District is proposing to dismantle the existing well and install a new well and generator at a different location. Installation of the new well includes the associated plumbing and electrical piping to tie the new well and generator into the existing systems. Due to contamination, the current well is not used for potable water sources and is used only for irrigation purposes.

The Applicant's current water supply does not meet Safe Drinking Water standards and is proposing the Manzanita School Well Replacement Project (Project). The Project is located at the Manzanita Elementary School Campus on the corner of East Evans Reimer Road and Larkin Road southeast of the City of Gridley in unincorporated Butte County, California. The area of potential effects (APE) is within the 1952 (photorevised 1973) Gridley, California 7.5' United States Geographical Survey (USGS) topographic quadrangle within an unsectioned portion, of Township 17 North, Range 3 East, Mount Diablo Base and Meridian (Figure 1).

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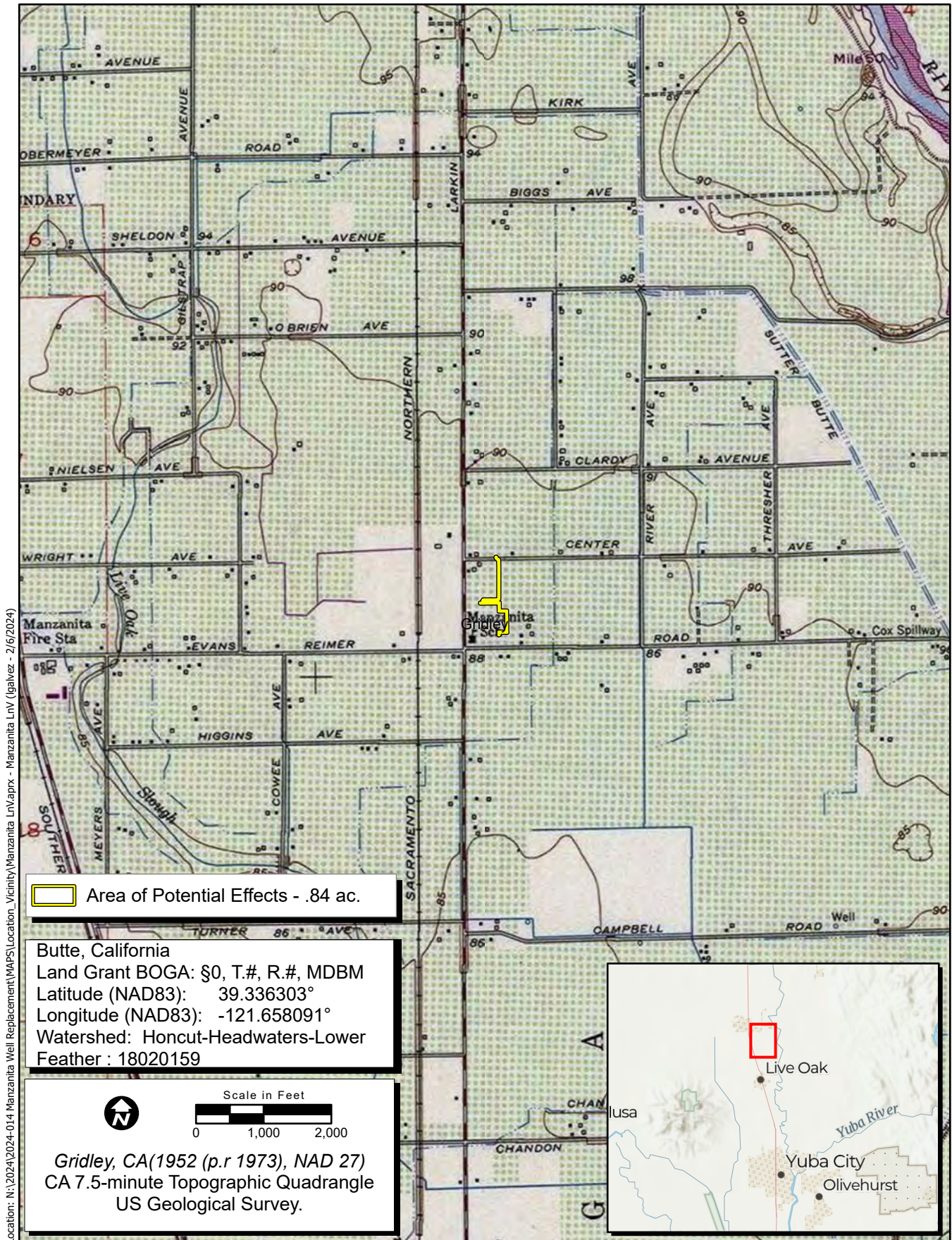


Figure 1. Project Location and Vicinity

CERTIFIED MAIL – RETURN RECEIPT REQUESTED

February 27, 2024

Honorable Guy Taylor
Mooretown Rancheria of Maidu Indians
#1 Alverda Drive
Oroville, CA, 95966

Subject: Notification of the Manzanita School Well Replacement Project, Butte County, California, and
Identification of Cultural Sites in Project Footprint.

Dear Guy Taylor:

The Manzanita Elementary School District is proposing to dismantle the existing well and install a new well and generator at a different location. Installation of the new well includes the associated plumbing and electrical piping to tie the new well and generator into the existing systems. Due to contamination, the current well is not used for potable water sources and is used only for irrigation purposes.

The Applicant's current water supply does not meet Safe Drinking Water standards and is proposing the Manzanita School Well Replacement Project (Project). The Project is located at the Manzanita Elementary School Campus on the corner of East Evans Reimer Road and Larkin Road southeast of the City of Gridley in unincorporated Butte County, California. The area of potential effects (APE) is within the 1952 (photorevised 1973) Gridley, California 7.5' United States Geographical Survey (USGS) topographic quadrangle within an unsectioned portion, of Township 17 North, Range 3 East, Mount Diablo Base and Meridian (Figure 1).

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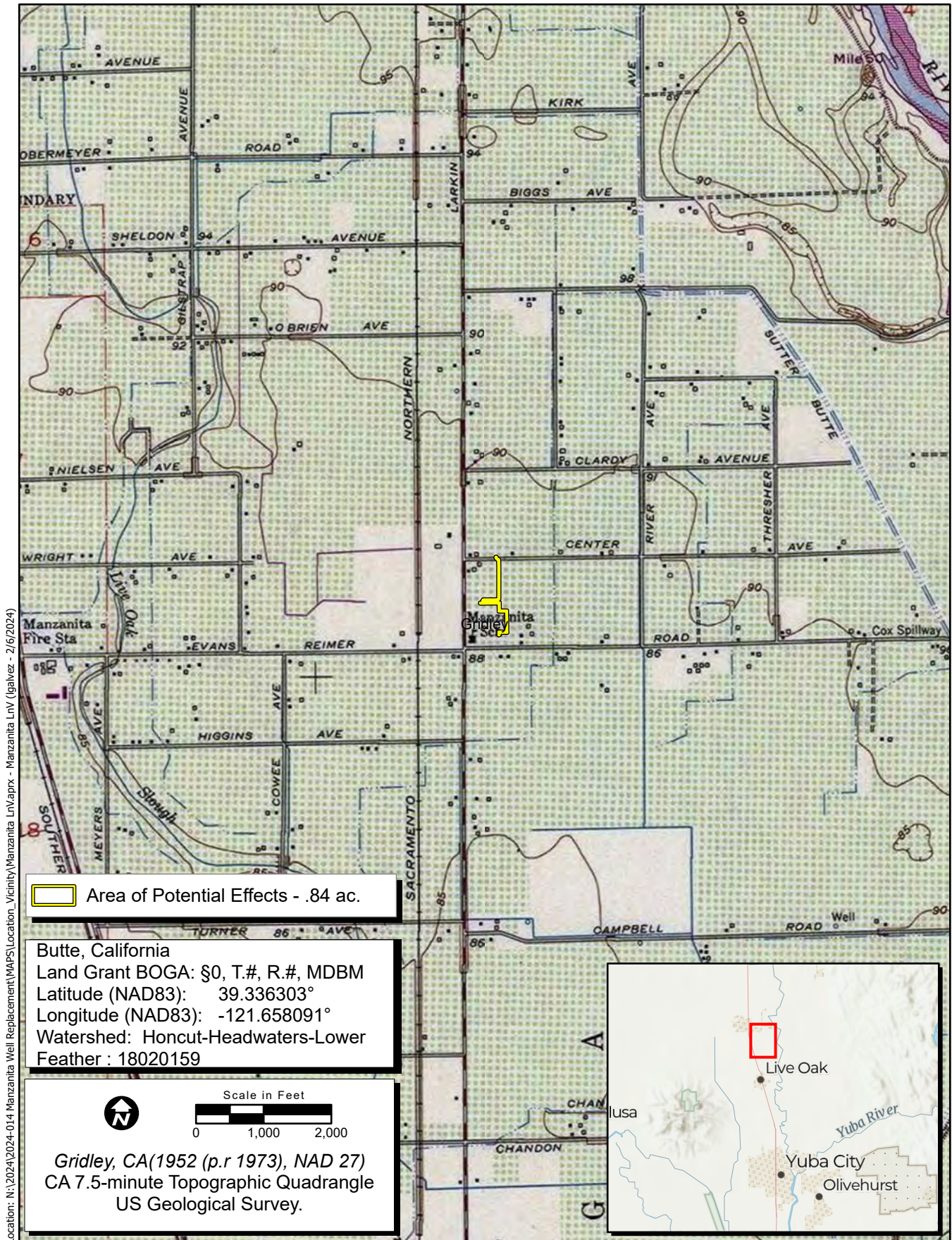


Figure 1. Project Location and Vicinity

CERTIFIED MAIL – RETURN RECEIPT REQUESTED

February 27, 2024

Honorable Benjamin Clark, Chairperson
Mooretown Rancheria of Maidu Indians
#1 Alverda Drive
Oroville, CA, 95966
frontdesk@mooretown.org

Subject: Notification of the Manzanita School Well Replacement Project, Butte County, California, and
Identification of Cultural Sites in Project Footprint.

Dear Chairperson Benjamin Clark:

The Manzanita Elementary School District is proposing to dismantle the existing well and install a new well and generator at a different location. Installation of the new well includes the associated plumbing and electrical piping to tie the new well and generator into the existing systems. Due to contamination, the current well is not used for potable water sources and is used only for irrigation purposes.

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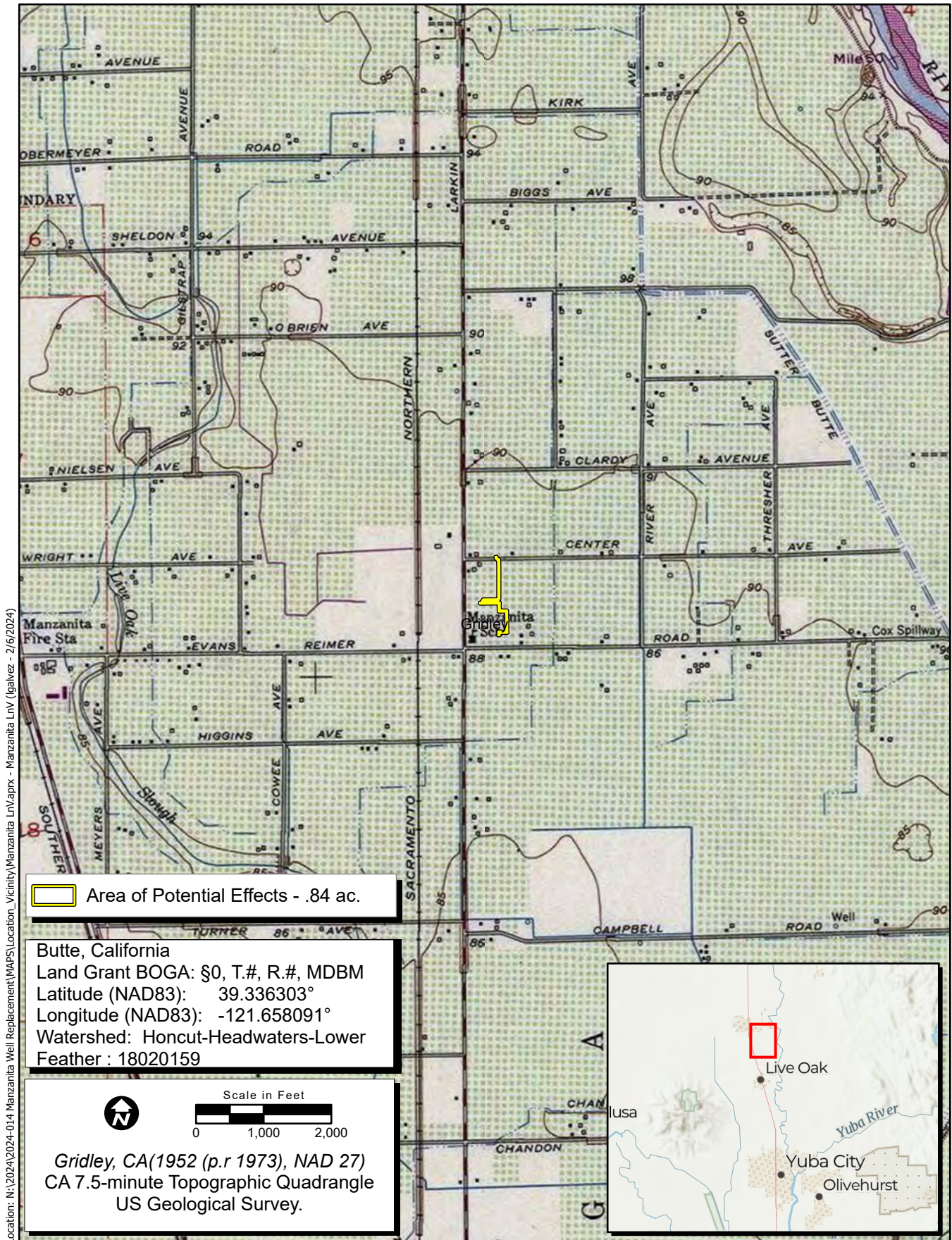


Figure 1. Project Location and Vicinity

CERTIFIED MAIL – RETURN RECEIPT REQUESTED

February 27, 2024

Honorable Saxon Thomas, Tribal Council Member
Nevada City Rancheria Nisenan Tribe
P.O. Box 2226
Nevada City, CA, 95959
shelly@nevadacityrancheria.org

Subject: Notification of the Manzanita School Well Replacement Project, Butte County, California, and
Identification of Cultural Sites in Project Footprint.

Dear Tribal Council Member Saxon Thomas:

The Manzanita Elementary School District is proposing to dismantle the existing well and install a new well and generator at a different location. Installation of the new well includes the associated plumbing and electrical piping to tie the new well and generator into the existing systems. Due to contamination, the current well is not used for potable water sources and is used only for irrigation purposes.

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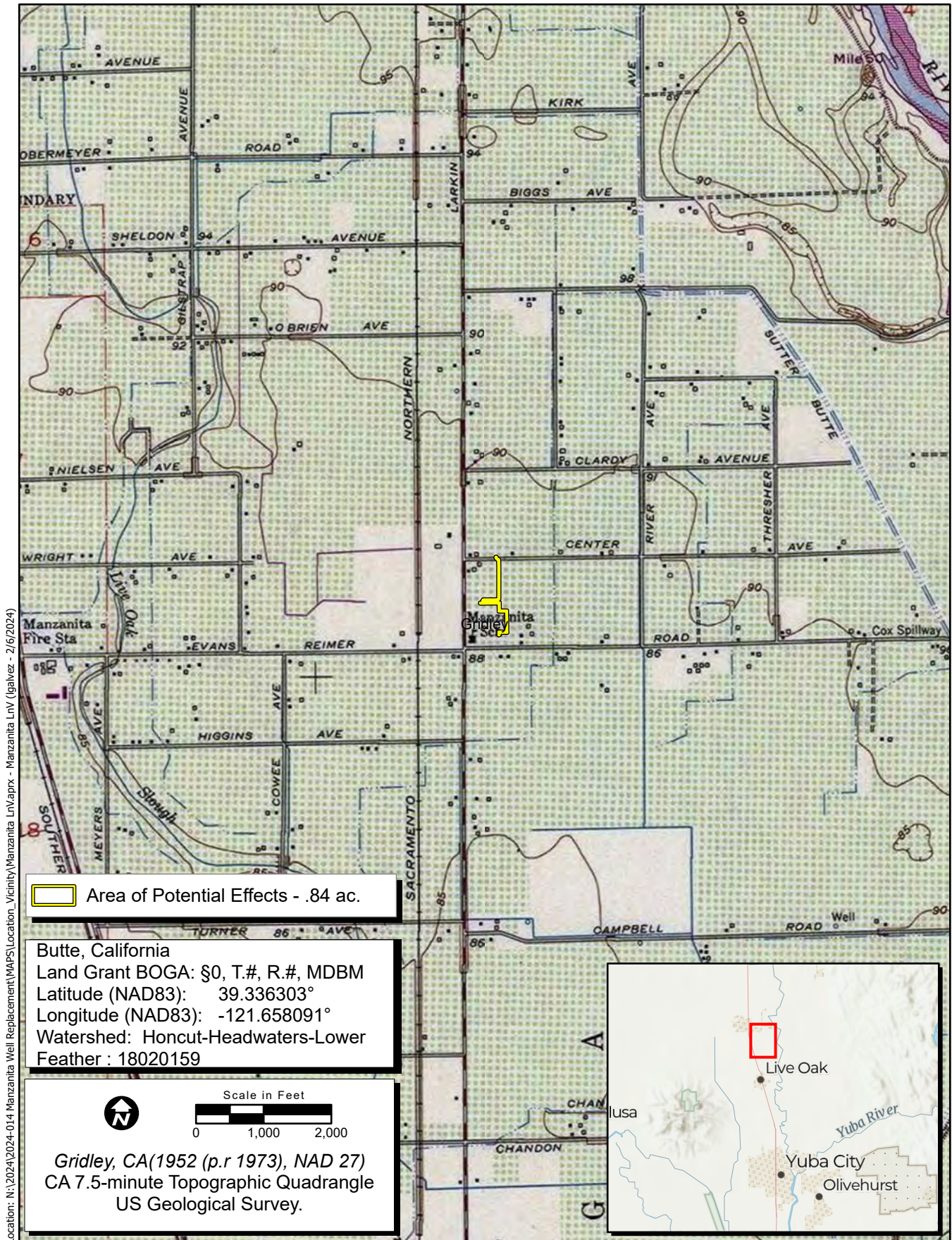


Figure 1. Project Location and Vicinity

CERTIFIED MAIL – RETURN RECEIPT REQUESTED

February 27, 2024

Honorable Shelly Covert, Tribal Secretary
Nevada City Rancheria Nisenan Tribe
P.O. Box 2226
Nevada City, CA, 95959
shelly@nevadacityrancheria.org

Subject: Notification of the Manzanita School Well Replacement Project, Butte County, California, and
Identification of Cultural Sites in Project Footprint.

Dear Tribal Secretary Shelly Covert:

The Manzanita Elementary School District is proposing to dismantle the existing well and install a new well and generator at a different location. Installation of the new well includes the associated plumbing and electrical piping to tie the new well and generator into the existing systems. Due to contamination, the current well is not used for potable water sources and is used only for irrigation purposes.

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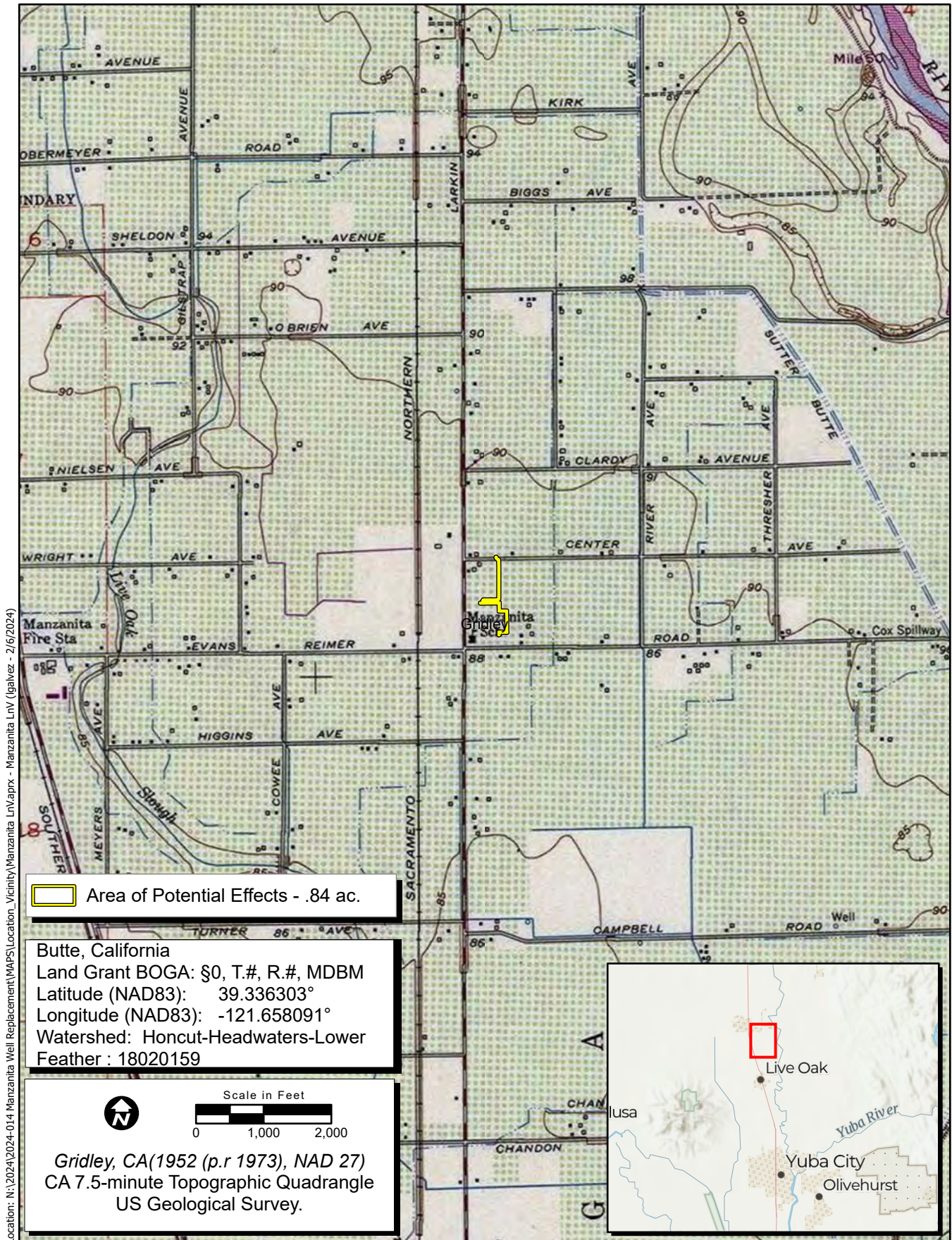
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Arik J. K. Bord, RPA, M.A.,
Staff Archaeologist

Enclosed: Figure 1



Map Date: 2/6/2024
 Sources: ESRI, USGS

CERTIFIED MAIL – RETURN RECEIPT REQUESTED

February 27, 2024

Honorable Richard Johnson, Chairman
Nevada City Rancheria Nisenan Tribe
P.O. Box 2624
Nevada City, CA, 95959
shelly@nevadacityrancheria.org

Subject: Notification of the Manzanita School Well Replacement Project, Butte County, California, and
Identification of Cultural Sites in Project Footprint.

Dear Chairman Richard Johnson:

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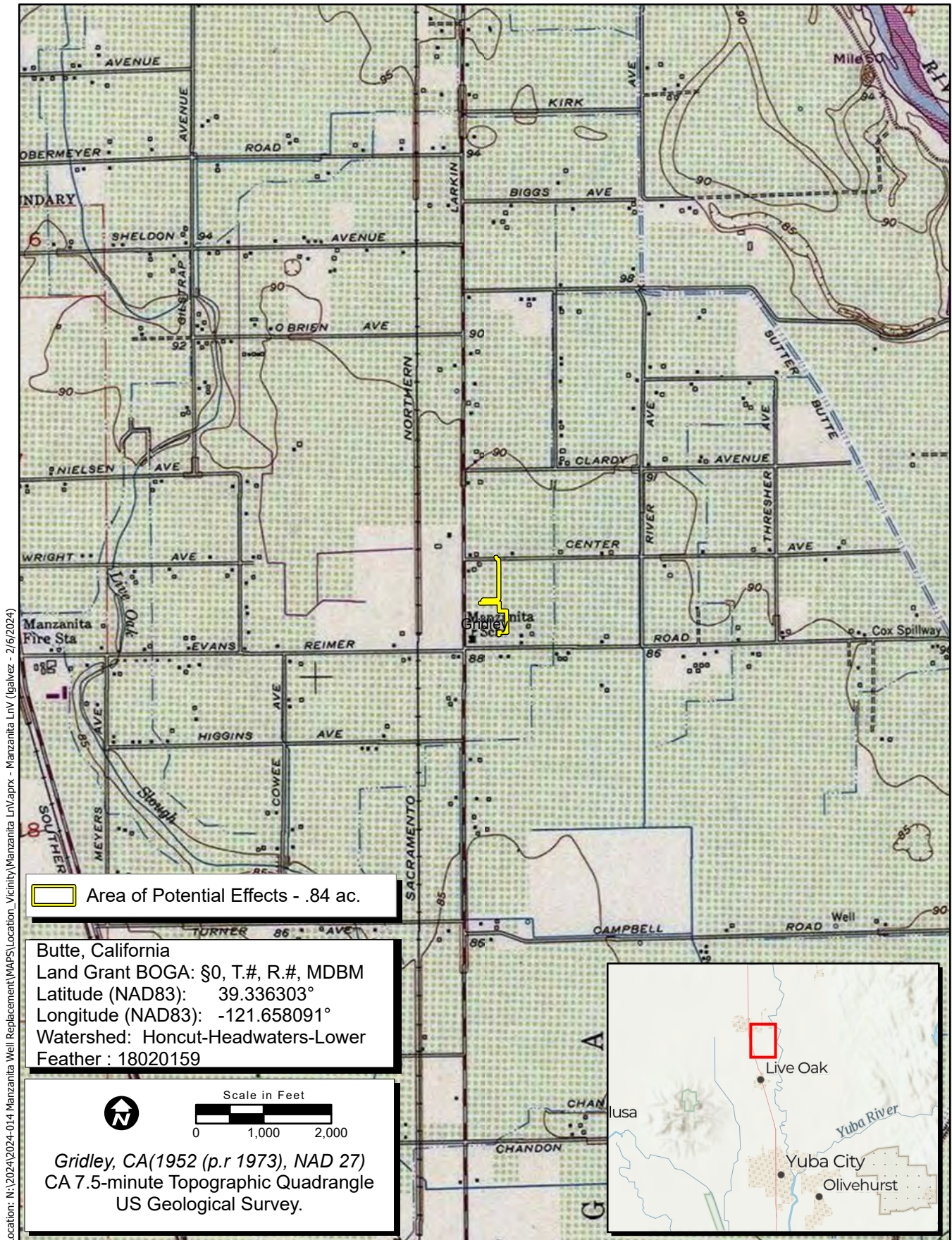


Figure 1. Project Location and Vicinity

SENDER: COMPLETE THIS SECTION		COMPLETE THIS SECTION ON DELIVERY	
<p>■ Complete items 1, 2, and 3.</p> <p>■ Print your name and address on the reverse so that we can return the card to you.</p> <p>■ Attach this card to the back of the mailpiece, or on the front if space permits.</p>		<p>A. Signature X <i>[Signature]</i> <input checked="" type="checkbox"/> Agent <input type="checkbox"/> Addressee</p>	
<p>1. Article Addressed to: Honorable Saxon Thomas, Tribal Council Member Nevada City Rancheria Nisenan Tribe P.O. Box 2226 Nevada City, CA, 95959</p>		<p>B. Received by (Printed Name) <i>Ember Amador</i></p> <p>C. Date of Delivery <i>2/21/24</i></p>	
<p>2. Article Number (Transfer from service label) 7021 1970 0000 5766 1802</p>		<p>D. Is delivery address different from item 1? <input type="checkbox"/> Yes If YES, enter delivery address below: <input type="checkbox"/> No</p>	
<p>3. Service Type <input type="checkbox"/> Adult Signature <input type="checkbox"/> Adult Signature Restricted Delivery <input checked="" type="checkbox"/> Certified Mail® <input type="checkbox"/> Certified Mail Restricted Delivery <input type="checkbox"/> Collect on Delivery <input type="checkbox"/> Collect on Delivery Restricted Delivery <input type="checkbox"/> Insured Mail (over \$500) <input type="checkbox"/> Mail Restricted Delivery (over \$500) </p>		<p> <input type="checkbox"/> Priority Mail Express® <input type="checkbox"/> Registered Mail™ <input type="checkbox"/> Registered Mail Restricted Delivery <input type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> Signature Confirmation™ <input type="checkbox"/> Signature Confirmation Restricted Delivery </p>	
<p>PS Form 3811, July 2015 PSN 7530-02-000-9053 Domestic Return Receipt</p>			

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<p>1. Article Addressed to: Honorable Richard Jones Nevada City Rancheria Nisenan Tribe P.O. Box 2624 Nevada City, CA, 95959</p>		<p>B. Received by (Printed Name) <i>Ember Amador</i></p> <p>C. Date of Delivery <i>2/21/24</i></p>	
<p>2. Article Number (Transfer from service label) 7021 1970 0000 5766 1826</p>		<p>D. Is delivery address different from item 1? <input type="checkbox"/> Yes If YES, enter delivery address below: <input type="checkbox"/> No</p>	
<p>3. Service Type <input type="checkbox"/> Adult Signature <input type="checkbox"/> Adult Signature Restricted Delivery <input checked="" type="checkbox"/> Certified Mail® <input type="checkbox"/> Certified Mail Restricted Delivery <input type="checkbox"/> Collect on Delivery <input type="checkbox"/> Collect on Delivery Restricted Delivery <input type="checkbox"/> Insured Mail (over \$500) </p>		<p> <input type="checkbox"/> Priority Mail Express® <input type="checkbox"/> Registered Mail™ <input type="checkbox"/> Registered Mail Restricted Delivery <input type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> Signature Confirmation™ <input type="checkbox"/> Signature Confirmation Restricted Delivery </p>	
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<p>Honorable Guy Taylor Mooretown Rancheria of Maidu Indians #1 Alverda Drive Oroville, CA, 95966</p>		<p>B. Received by (Printed Name) <i>Ben Chapman</i></p> <p>C. Date of Delivery <i>2/20/24</i></p>	
<p>2. Article Number (Transfer from service label) 7021 1970 0000 5766 1789</p>		<p>D. Is delivery address different from item 1? <input type="checkbox"/> Yes If YES, enter delivery address below: <input type="checkbox"/> No</p>	
<p>3. Service Type <input type="checkbox"/> Adult Signature <input type="checkbox"/> Adult Signature Restricted Delivery <input checked="" type="checkbox"/> Certified Mail® <input type="checkbox"/> Certified Mail Restricted Delivery <input type="checkbox"/> Collect on Delivery <input type="checkbox"/> Collect on Delivery Restricted Delivery <input type="checkbox"/> Insured Mail (over \$500) <input type="checkbox"/> Mail Restricted Delivery (over \$500) </p>		<p> <input type="checkbox"/> Priority Mail Express® <input type="checkbox"/> Registered Mail™ <input type="checkbox"/> Registered Mail Restricted Delivery <input type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> Signature Confirmation™ <input type="checkbox"/> Signature Confirmation Restricted Delivery </p>	
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<p>2. Article Number (Transfer from service label) 7021 1970 0000 5766 1819</p>		<p>D. Is delivery address different from item 1? <input type="checkbox"/> Yes If YES, enter delivery address below: <input type="checkbox"/> No</p>	
<p>3. Service Type <input type="checkbox"/> Adult Signature <input type="checkbox"/> Adult Signature Restricted Delivery <input checked="" type="checkbox"/> Certified Mail® <input type="checkbox"/> Certified Mail Restricted Delivery <input type="checkbox"/> Collect on Delivery <input type="checkbox"/> Collect on Delivery Restricted Delivery <input type="checkbox"/> Insured Mail (over \$500) </p>		<p> <input type="checkbox"/> Priority Mail Express® <input type="checkbox"/> Registered Mail™ <input type="checkbox"/> Registered Mail Restricted Delivery <input type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> Signature Confirmation™ <input type="checkbox"/> Signature Confirmation Restricted Delivery </p>	
<p>PS Form 3811, July 2015 PSN 7530-02-000-9053 Domestic Return Receipt</p>			

SENDER: COMPLETE THIS SECTION		COMPLETE THIS SECTION ON DELIVERY	
<p>■ Complete items 1, 2, and 3.</p> <p>■ Print your name and address on the reverse so that we can return the card to you.</p> <p>■ Attach this card to the back of the mailpiece, or on the front if space permits.</p>		<p>A. Signature X <i>[Signature]</i> <input type="checkbox"/> Agent <input type="checkbox"/> Addressee</p>	
<p>Honorable Jessica Lopez, Chairperson KonKow Valley Band of Maidu 2136 Myers Street Oroville, CA, 95966</p>		<p>B. Received by (Printed Name) <i>Ben Chapman</i></p> <p>C. Date of Delivery <i>2/20/24</i></p>	
<p>2. Article Number (Transfer from service label) 7021 1970 0000 5766 1789</p>		<p>D. Is delivery address different from item 1? <input type="checkbox"/> Yes If YES, enter delivery address below: <input type="checkbox"/> No</p>	
<p>3. Service Type <input type="checkbox"/> Adult Signature <input type="checkbox"/> Adult Signature Restricted Delivery <input checked="" type="checkbox"/> Certified Mail® <input type="checkbox"/> Certified Mail Restricted Delivery <input type="checkbox"/> Collect on Delivery <input type="checkbox"/> Collect on Delivery Restricted Delivery <input type="checkbox"/> Insured Mail (over \$500) <input type="checkbox"/> Mail Restricted Delivery (over \$500) </p>		<p> <input type="checkbox"/> Priority Mail Express® <input type="checkbox"/> Registered Mail™ <input type="checkbox"/> Registered Mail Restricted Delivery <input type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> Signature Confirmation™ <input type="checkbox"/> Signature Confirmation Restricted Delivery </p>	
<p>PS Form 3811, July 2015 PSN 7530-02-000-9053 Domestic Return Receipt</p>			

SENDER: COMPLETE THIS SECTION		COMPLETE THIS SECTION ON DELIVERY	
<p>■ Complete items 1, 2, and 3.</p> <p>■ Print your name and address on the reverse so that we can return the card to you.</p> <p>■ Attach this card to the back of the mailpiece, or on the front if space permits.</p>		<p>A. Signature X <i>[Signature]</i> <input type="checkbox"/> Agent <input type="checkbox"/> Addressee</p>	
<p>Honorable Benjamin Clark, Chairperson Mooretown Rancheria of Maidu Indians #1 Alverda Drive Oroville, CA, 95966</p>		<p>B. Received by (Printed Name) <i>Ben Chapman</i></p> <p>C. Date of Delivery <i>2/20/24</i></p>	
<p>2. Article Number (Transfer from service label) 7021 1970 0000 5766 1789</p>		<p>D. Is delivery address different from item 1? <input type="checkbox"/> Yes If YES, enter delivery address below: <input type="checkbox"/> No</p>	
<p>3. Service Type <input type="checkbox"/> Adult Signature <input type="checkbox"/> Adult Signature Restricted Delivery <input checked="" type="checkbox"/> Certified Mail® <input type="checkbox"/> Certified Mail Restricted Delivery <input type="checkbox"/> Collect on Delivery <input type="checkbox"/> Collect on Delivery Restricted Delivery <input type="checkbox"/> Insured Mail (over \$500) </p>		<p> <input type="checkbox"/> Priority Mail Express® <input type="checkbox"/> Registered Mail™ <input type="checkbox"/> Registered Mail Restricted Delivery <input type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> Signature Confirmation™ <input type="checkbox"/> Signature Confirmation Restricted Delivery </p>	
<p>PS Form 3811, July 2015 PSN 7530-02-000-9053 Domestic Return Receipt</p>			

USPS TRACKING#
SACRAMENTO CA 957
21 FEB 2024 PM 4 L
9590 9402 4929 9063 0675 19
First-Class Mail
Postage & Fees Paid
USPS
Permit No. G-10
United States
Postal Service
• Sender: Please print your name, address, and ZIP+4® in this box*
ECORP Consulting, Inc.
2525 WARREN DRIVE
ROCKLIN, CALIFORNIA 95677
RECEIVED
FEB 23 2024
Arik
ECORP Consulting, Inc.
7-2014-014/004/4.03

USPS TRACKING#
SACRAMENTO CA 957
20 FEB 2024 PM 7 L
9590 9402 4929 9063 0675 40
First-Class Mail
Postage & Fees Paid
USPS
Permit No. G-10
United States
Postal Service
• Sender: Please print your name, address, and ZIP+4® in this box*
ECORP Consulting, Inc.
2525 WARREN DRIVE
ROCKLIN, CALIFORNIA 95677
RECEIVED
FEB 22 2024
Arik
ECORP Consulting, Inc.
2014-014/004/4.03

USPS TRACKING#
SACRAMENTO CA 957
20 FEB 2024 PM 6 L
9590 9402 4929 9063 0675 26
First-Class Mail
Postage & Fees Paid
USPS
Permit No. G-10
United States
Postal Service
• Sender: Please print your name, address, and ZIP+4® in this box*
ECORP Consulting, Inc.
2525 WARREN DRIVE
ROCKLIN, CALIFORNIA 95677
RECEIVED
FEB 22 2024
Arik
ECORP Consulting, Inc.

USPS TRACKING#
SACRAMENTO CA 957
21 FEB 2024 PM 3 L
9590 9402 4929 9063 0675 64
First-Class Mail
Postage & Fees Paid
USPS
Permit No. G-10
United States
Postal Service
• Sender: Please print your name, address, and ZIP+4® in this box*
ECORP Consulting, Inc.
2525 WARREN DRIVE
ROCKLIN, CALIFORNIA 95677
RECEIVED
FEB 23 2024
Arik
ECORP Consulting, Inc.
2014-014/004/4.03

USPS TRACKING#
SACRAMENTO CA 957
21 FEB 2024 PM 3 L
9590 9402 4929 9063 0677 55
First-Class Mail
Postage & Fees Paid
USPS
Permit No. G-10
United States
Postal Service
• Sender: Please print your name, address, and ZIP+4® in this box*
ECORP Consulting, Inc.
2525 WARREN DRIVE
ROCKLIN, CALIFORNIA 95677
Arik
2014-014/004/4.03

USPS TRACKING#
SACRAMENTO CA 957
20 FEB 2024 PM 6 L
9590 9402 4929 9063 0675 57
First-Class Mail
Postage & Fees Paid
USPS
Permit No. G-10
United States
Postal Service
• Sender: Please print your name, address, and ZIP+4® in this box*
ECORP Consulting, Inc.
2525 WARREN DRIVE
ROCKLIN, CALIFORNIA 95677
RECEIVED
FEB 22 2024
Arik
ECORP Consulting, Inc.

From: [Erica Ramirez](#)
To: receptionist@mooretown.org
Cc: [Arik Bord](#); [Christa Westphal](#)
Subject: Tribal Notification Letter for Manzanita School Well Replacement Project
Date: Thursday, February 29, 2024 3:27:00 PM
Attachments: [image001.gif](#)
[Benjamin Clark-Mooretown Rancheria.pdf](#)

Dear Chairperson Clark,

We are doing follow up on a letter mailed to you on February 27, 2024. The letter is attached for your reference. This letter is a request for information regarding the Manzanita School Well Replacement Project. The Project is located at the Manzanita Elementary School Campus on the corner of East Evans Reimer Road and Larkin Road southeast of the City of Gridley in unincorporated Butte County, California. This letter is **not** a request for government-to-government consultation.

If you would like to provide comment or have any questions, please reply all to this email or call at 916-782-9100.

Best,

Erica J. Ramirez-Schroeder (She/Her)

Associate Archaeologist



Federal Small Business

California Small Business for Public Works (SB-PW)

Rocklin Headquarters Office

2525 Warren Drive, Rocklin, California 95677

Ph: 916.782.9100

From: [Erica Ramirez](#)
To: shelly@nevadacityrancheria.org
Cc: [Arik Bord](#); [Christa Westphal](#)
Subject: Tribal Notification Letter for Manzanita School Well Replacement Project
Date: Thursday, February 29, 2024 3:33:00 PM
Attachments: [Richard Johnson-Nevada City Rancheria.pdf](#)
[image001.gif](#)

Dear Chairperson Johnson,

We are doing follow up on a letter mailed to you on February 27, 2024. The letter is attached for your reference. This letter is a request for information regarding the Manzanita School Well Replacement Project. The Project is located at the Manzanita Elementary School Campus on the corner of East Evans Reimer Road and Larkin Road southeast of the City of Gridley in unincorporated Butte County, California. This letter is **not** a request for government-to-government consultation.

If you would like to provide comment or have any questions, please reply all to this email or call at 916-782-9100.

Best,

Erica J. Ramirez-Schroeder (She/Her)

Associate Archaeologist



Federal Small Business

California Small Business for Public Works (SB-PW)

Rocklin Headquarters Office

2525 Warren Drive, Rocklin, California 95677

Ph: 916.782.9100

From: [Erica Ramirez](#)
To: jessica@konkowmaidu.org
Cc: [Arik Bord](#); [Christa Westphal](#)
Subject: Tribal Notification Letter for Manzanita School Well Replacement Project
Date: Thursday, February 29, 2024 3:25:00 PM
Attachments: [image001.gif](#)
[Jessica Lopez-KonKow Valley Band of Maidu.pdf](#)

Dear Chairperson Lopez,

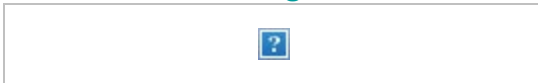
We are doing follow up on a letter mailed to you on February 27, 2024. The letter is attached for your reference. This letter is a request for information regarding the Manzanita School Well Replacement Project. The Project is located at the Manzanita Elementary School Campus on the corner of East Evans Reimer Road and Larkin Road southeast of the City of Gridley in unincorporated Butte County, California. This letter is **not** a request for government-to-government consultation.

If you would like to provide comment or have any questions, please reply all to this email or call at 916-782-9100.

Best,

Erica J. Ramirez-Schroeder (She/Her)

Associate Archaeologist



Federal Small Business

California Small Business for Public Works (SB-PW)

Rocklin Headquarters Office

2525 Warren Drive, Rocklin, California 95677

Ph: 916.782.9100

From: [Erica Ramirez](#)
To: receptionist@mooretown.org
Cc: [Arik Bord](#); [Christa Westphal](#)
Subject: Tribal Notification Letter for Manzanita School Well Replacement Project
Date: Thursday, February 29, 2024 3:29:00 PM
Attachments: [Guy Taylor-Mooretown Rancheria.pdf](#)
[image001.gif](#)

Dear Mr. Taylor,

We are doing follow up on a letter mailed to you on February 27, 2024. The letter is attached for your reference. This letter is a request for information regarding the Manzanita School Well Replacement Project. The Project is located at the Manzanita Elementary School Campus on the corner of East Evans Reimer Road and Larkin Road southeast of the City of Gridley in unincorporated Butte County, California. This letter is **not** a request for government-to-government consultation.

If you would like to provide comment or have any questions, please reply all to this email or call at 916-782-9100.

Best,

Erica J. Ramirez-Schroeder (She/Her)

Associate Archaeologist



Federal Small Business

California Small Business for Public Works (SB-PW)

Rocklin Headquarters Office

2525 Warren Drive, Rocklin, California 95677

Ph: 916.782.9100

From: [Erica Ramirez](#)
To: shelly@nevadacityrancheria.org
Cc: [Arik Bord](#); [Christa Westphal](#)
Subject: Tribal Notification Letter for Manzanita School Well Replacement Project
Date: Thursday, February 29, 2024 3:32:00 PM
Attachments: [Saxon Thomas-Nevada City Rancheria.pdf](#)
[image001.gif](#)

Dear Mr. Thomas,

We are doing follow up on a letter mailed to you on February 27, 2024. The letter is attached for your reference. This letter is a request for information regarding the Manzanita School Well Replacement Project. The Project is located at the Manzanita Elementary School Campus on the corner of East Evans Reimer Road and Larkin Road southeast of the City of Gridley in unincorporated Butte County, California. This letter is **not** a request for government-to-government consultation.

If you would like to provide comment or have any questions, please reply all to this email or call at 916-782-9100.

Best,

Erica J. Ramirez-Schroeder (She/Her)

Associate Archaeologist



Federal Small Business

California Small Business for Public Works (SB-PW)

Rocklin Headquarters Office

2525 Warren Drive, Rocklin, California 95677

Ph: 916.782.9100

From: [Erica Ramirez](#)
To: shelly@nevadacityrancheria.org
Cc: [Arik Bord](#); [Christa Westphal](#)
Subject: Tribal Notification Letter for Manzanita School Well Replacement Project
Date: Thursday, February 29, 2024 3:32:00 PM
Attachments: [Shelly Covert-Nevada City Rancheria.pdf](#)
[image001.gif](#)

Dear Ms. Covert,

We are doing follow up on a letter mailed to you on February 27, 2024. The letter is attached for your reference. This letter is a request for information regarding the Manzanita School Well Replacement Project. The Project is located at the Manzanita Elementary School Campus on the corner of East Evans Reimer Road and Larkin Road southeast of the City of Gridley in unincorporated Butte County, California. This letter is **not** a request for government-to-government consultation.

If you would like to provide comment or have any questions, please reply all to this email or call at 916-782-9100.

Best,

Erica J. Ramirez-Schroeder (She/Her)

Associate Archaeologist



Federal Small Business

California Small Business for Public Works (SB-PW)

Rocklin Headquarters Office

2525 Warren Drive, Rocklin, California 95677

Ph: 916.782.9100

APPENDIX C

APE Photographs

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PHOTOGRAPH RECORD

Primary #
HRI#
Trinomial

Page 1 of 2

Resource/Project Name: **Manzanita Well 2024-014** Year 2024

Camera: Samsung S21 FE 5G

Lens Size: 35mm

Film Type and Speed: Digital

Negatives Kept at: ECORP Consulting, Inc.

Mo.	Day	Time	Subject/Description	View Toward	Accession #
2	14	1202	School Building from 1958 Aerial Photograph	N	20240214_120229
2	14	1203	School Building from 1958 Aerial Photograph	NE	20240214_120307
2	14	1205	School Building from 1958 Aerial Photograph	NW	20240214_120508
2	14	1205	School Building from 1958 Aerial Photograph	W	20240214_120524
2	14	1205	School Building from 1958 Aerial Photograph	SW	20240214_120541
2	14	1206	School Building from 1958 Aerial Photograph	S	20240214_120613
2	14	1206	School Building from 1958 Aerial Photograph	SE	20240214_120659
2	14	1207	School Building from 1958 Aerial Photograph	E	20240214_120716
2	14	1208	Overview Manzanita School Grounds	NW	20240214_120832
2	14	1208	Overview Manzanita School Grounds	N	20240214_120834
2	14	1208	Overview Manzanita School Grounds	NE	20240214_120838
2	14	1209	School Building from 1969 Aerial Photograph	SE	20240214_120937
2	14	1210	School Building from 1969 Aerial Photograph	S	20240214_121044
2	14	1211	School Building from 1969 Aerial Photograph	SW	20240214_121110
2	14	1212	School Building from 1969 Aerial Photograph	W	20240214_121201
2	14	1212	School Building from 1969 Aerial Photograph	NW	20240214_121237
2	14	1213	School Building from 1969 Aerial Photograph	N	20240214_121302
2	14	1213	School Building from 1969 Aerial Photograph	NE	20240214_121331
2	14	1215	School Building from 1969 Aerial Photograph	E	20240214_121534
2	14	1216	Overview Manzanita School Grounds	W	20240214_121600
2	14	1216	Overview Manzanita School Grounds	NW	20240214_121618
2	14	1216	Overview Manzanita School Grounds	N	20240214_121625
2	14	1218	Overview Manzanita School Grounds	W	20240214_121800
2	14	1219	Overview Southern End of APE	SE	20240214_121906
2	14	1223	Overview APE	E	20240214_122355
2	14	1224	Overview APE	N	20240214_122404
2	14	1225	Overview Manzanita School Grounds	SW	20240214_122527
2	14	1225	Overview Manzanita School Grounds	S	20240214_122532

PHOTOGRAPH RECORD

Page 2 of 2

Resource/Project Name: Manzanita Well 2024-014 Year 2024

Camera: Samsung S21 FE 5G

Lens Size: 35mm

Film Type and Speed: Digital

Negatives Kept at: ECORP Consulting, Inc.

Mo.	Day	Time	Subject/Description	View Toward	Accession #
2	14	1225	Overview Manzanita School Grounds	SE	20240214_122535
2	14	1228	Overview Manzanita School Grounds	N	20240214_122817
2	14	1229	Overview Bench at Front of School	SW	20240214_122922
2	14	1229	Overview Bench at Front of School	NW	20240214_122931
2	14	1232	Overview East Evans Reimer Road	E	20240214_123227
2	14	1232	Overview Larkin Road	N	20240214_123255
2	14	1232	Overview Larkin Road	S	20240214_123257
2	14	1234	Overview Intersection of East Evans Reimer Road and Larkin Road	NE	20240214_123427
2	14	1239	Overview APE North of Solar Panels	E	20240214_123912
2	14	1242	Overview Push Pile North of Solar Panels	S	20240214_124259
2	14	1243	Overview Push Pile North of Solar Panels	N	20240214_124325
2	14	1245	Detail Push Pile North of Solar Panels	Plan	20240214_124514
2	14	1245	Detail Push Pile North of Solar Panels	Plan	20240214_124521
2	14	1245	Detail Push Pile North of Solar Panels	Plan	20240214_124533
2	14	1250	Overview APE	S	20240214_125018
2	14	1251	Overview Center Avenue	E	20240214_125133
2	14	1251	Overview Center Avenue	W	20240214_125138
2	14	1252	Overview Center Avenue within APE	SE	20240214_125258
2	14	1304	Overview Maintenance Shed at Southern End of APE	N	20240214_130400
2	14	1304	Overview Maintenance Shed at Southern End of APE	NW	20240214_130421



20240214_124259.jpg



20240214_124325.jpg



20240214_124514.jpg



20240214_124521.jpg



20240214_124533.jpg



20240214_125018.jpg



20240214_125133.jpg



20240214_125138.jpg



20240214_125258.jpg



20240214_130400.jpg



20240214_130421.jpg



20240214_120229.jpg



20240214_120307.jpg



20240214_120508.jpg



20240214_120524.jpg



20240214_120541.jpg



20240214_120613.jpg



20240214_120659.jpg



20240214_120716.jpg



20240214_120832.jpg



20240214_120834.jpg



20240214_120838.jpg



20240214_120937.jpg



20240214_121044.jpg



20240214_121110.jpg



20240214_121201.jpg



20240214_121237.jpg



20240214_121302.jpg



20240214_121331.jpg



20240214_121534.jpg



20240214_121600.jpg



20240214_121618.jpg



20240214_121625.jpg



20240214_121800.jpg



20240214_121906.jpg



20240214_122355.jpg



20240214_122404.jpg



20240214_122527.jpg



20240214_122532.jpg



20240214_122535.jpg



20240214_122817.jpg



20240214_122922.jpg



20240214_122931.jpg



20240214_123227.jpg



20240214_123255.jpg



20240214_123257.jpg



20240214_123427.jpg



20240214_123912.jpg

























Confidential Cultural Resource Site Locations and Site Records

**Confidential records are excluded pursuant to the Public
Records Act. Cal. Code Regs. § 15120 (d); and
Pub. Res. Code, §§ 5097.9, 5097.993**