Initial Study/Mitigation Negative Declaration

Madera County Public Works Department
Maintenance District No. 1 Water Treatment Plant Upgrade Project

Prepared for:

Madera County Public Works Department

June 2019

Prepared by:

AECOM

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Prepared for:

Madera County Public Works Department
200 W. 4th Street
Madera, CA 93637

Contact:
Name Raymundo Gutierrez
Title Engineer II
559/675-7811

Prepared by:

AECOM
2020 L Street, Suite 400
Sacramento, CA 95811

Contact:
Richard Hunn
Project Manager
916/ 414-5800

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ACRONYMS AND OTHER ABBREVIATIONS

°F	degrees Fahrenheit
µg/L	micrograms per liter
AB	Assembly Bill
AC	adsorption clarifier
ADD	average daily demand
AQAP	air quality attainment plan
AQMP	air quality management plan
ARB	California Air Resources Board
B.P.	Before Present
BAU	business-as-usual
BMP	best management practice
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CAL FIRE	California Department of Forestry and Fire Protection
Caltrans	California Department of Transportation
CBC	California Building Standards Code
CCAA	California Clean Air Act
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
cfs	cubic feet per second
CGS	California Geological Survey
CH_4	methane
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalents
County	Madera County
CRPR	California Rare Plant Rank
CTS	California tiger salamander
CVP	Central Valley Project
CVRWQCB	Central Valley Regional Water Quality Control Board
CWA	Clean Water Act
CWS	California Waterworks Standards
CWSRF	Clean Water State Revolving Fund
dB	decibel(s)
dBA	A-weighted decibel(s)
DBP	disinfection byproduct
DDW	Division of Drinking Water
diesel PM	diesel particulate matter

DOC	California Department of Conservation
DTSC	California Department of Toxic Substances Control
EFH	Essential Fish Habitat
EIR	environmental impact report
ESA	environmentally sensitive area
FEMA	Federal Emergency Management Agency
FPPA	Farmland Protection and Policy Act
FTA	Federal Transit Administration
g	percentage of gravity
GHG	greenhouse gas
gpm	gallons per minute
GWP	global warming potential
HAA5	haloacetic acids
HS	high solids
IS	Initial Study
ITE	Institute of Transportation Engineers
L_{dn}	daily noise levels
L_{eq}	equivalent continuous sound level
LOS	level of service
MBTA	Migratory Bird Treaty Act
MCL	Maximum Contaminant Level
MCTC	Madera County Transportation Commission
MCV	Manual of California Vegetation
MD-1	Maintenance District No. 1
MDD	maximum day demand
MG	million gallons
MMADD	maximum month average day demand
MND	Mitigated Negative Declaration
MOA	Memorandum of Agreement
MSL	mean sea level
MT	metric ton(s)
$MTCO_2e$	metric tons of carbon dioxide-equivalent
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAHC	Native Heritage Commission
NEPCA	National Energy Conservation Policy Act
NHTSA	National Highway Traffic and Safety Administration
NMFS	National Marine Fisheries Service
NO_2	nitrogen dioxide
NOM	naturally occurring organic matter
NO_X	nitrogen oxide
NTU	nephelometric turbidity unit
O_3	ozone
PCE	passenger car equivalent

PG&E	Pacific Gas and Electric Company
PGA	peak ground acceleration
PM	particulate matter
PM_{10}	PM equal to or less than 10 micrometers in diameter
$PM_{2.5}$	PM equal to or less than 2.5 micrometers in diameter
PPV	peak particle velocity
PRC	Public Resources Code
ROG	reactive organic gases
RTP	Regional Transportation Plan
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SCS	Sustainable Communities Strategy
SDWA	Safe Drinking Water Act
SHPO	State Historic Preservation Officer
SIP	state implementation plan
SJVAB	San Joaquin Valley Air Basin
SJVAPCD	San Joaquin Valley Air Pollution Control District
SMAQMD	Sacramento Metropolitan Air Quality Management District
SO_2	sulfur dioxide
SR	State Route
SRA	State Recreation Area
SSA	sole source aquifer
SSJVIC	Southern San Joaquin Valley Information Center
SSURGO	Soil Survey Geographic Database
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC	toxic air contaminant
TCR	tribal cultural resource
tpd	tons per day
TTHM	trihalomethanes
USACE	U.S. Army Corps of Engineers
USC	U.S. Code
USDOT	U.S. Department of Transportation
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geologic Survey
VdB	vibration decibel(s)
VMT	vehicle miles traveled
WBWG	Western Bat Working Group
WPT	western pond turtle
WST	western spadefoot toad
WTP	Water Treatment Plant

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PUBLIC NOTICE

NOTICE OF AVAILABILITY AND INTENT TO ADOPT MITIGATED NEGATIVE DECLARATION

Released June 19, 2019

AGENCIES, ORGANIZATIONS AND INTERESTED PARTIES: Madera County (Madera County Maintenance District-1) requests your comments and concerns regarding the environmental issues associated with construction and operation of the proposed project.

PROJECT TITLE: Hidden Lake Estates Water Treatment Plant Upgrade Project

LEAD AGENCY: Madera County

PROJECT DESCRIPTION: Madera County proposes to update and improve the MD-1 WTP and drinking water system to meet applicable drinking water standards and address the Compliance Order for disinfection byproducts by adopting post-treatment chlorination. Improvements to the system would also increase the capacity of the WTP to meet peak demands, fire flows, and foreseeable future domestic water demand.

PROJECT LOCATION: The project site is located in the Central Valley region of California, in Madera County. The MD-1 WTP is located within the Hidden Lake Estates subdivision, an unincorporated community in Madera County. The MD-1 WTP is on the eastern side of Hidden Lake Boulevard, and the chlorine injection point is about 0.5 mile to the south, near Millerton Lake. The proposed WTP would be located opposite the existing WTP, on the western side of Hidden Lake Boulevard.

PROPOSED MITIGATED NEGATIVE DECLARATION: The Initial Study/Mitigated Negative Declaration (IS/MND) proposed for adoption for this project finds that the proposed project will not have a significant effect on the environment and that preparation of an environmental impact report is not required.

PUBLIC REVIEW PERIOD: The IS/MND is available for public review and comment pursuant to California Code of Regulations, Title 14, Section 15072. The comment period for the IS/MND begins on June 19, 2019, and ends on July 19, 2019. Comments should be submitted no later than July 19, 2019, at 5:00 p.m.

If you elect to comment, please send your comments to the following individual at the Lead Agency and provide your contact information:

Mr. Raymundo Gutierrez
Madera County Public Works Department
200 W. 4th Street
Madera, CA 93637
Main: (559) 675-7811
raymundo.gutierrez@madera-county.com

PUBLIC HEARING: Madera County will consider adoption of the Mitigated Negative Declaration at its regularly scheduled Development Review Committee meeting on Wednesday, July 24, 2019 at 9:00 a.m. or soon thereafter.

DOCUMENT AVAILABILITY: For additional information about this project or for copies of the IS/MND, contact Mr. Raymund Gutierrez. During the IS/MND public review period, copies of the IS/MND will be available for review at the Madera County Public Works Department on Monday through Friday during normal business hours (8:00 a.m. to 5:00 p.m.). The Madera County Public Works Department is located at 200 W. 4th Street, Madera, California 93637, and the phone number is 559-675-7811. The IS/MND is also available for review at the County Clerk's office, which is located at 200 W. 4th Street, Madera, California 93637.

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1 INTRODUCTION

1.1 BACKGROUND

The Madera County Public Works Department (Madera County) operates and maintains the Maintenance District No. 1 (MD-1) drinking water system for Hidden Lakes Estates, a rural housing development community. When the existing water treatment plant (WTP), as constructed, was unable to meet the regulatory requirements for disinfection, Madera County relocated the chlorine injection point to the raw water transmission pipeline near the Millerton Lake water intake. This modification provided adequate disinfectant contact with the water supply; however, it resulted in increased formation of disinfection byproducts (DBPs). In addition, other deficiencies of the WTP caused the County to establish a self-imposed service connection moratorium until those issues were resolved.

The existing MD-1 WTP is on the eastern side of Hidden Lake Boulevard, and the chlorine injection point is approximately 0.5 mile to the south, near the lake. The proposed WTP would be located opposite the existing WTP, on the western side of Hidden Lake Boulevard (see Figure 2-1).

1.2 PURPOSE OF THE INITIAL STUDY

This document is an Initial Study (IS), prepared in accordance with the California Environmental Quality Act (CEQA), Section 21000 et seq. of the Public Resources Code, and the CEQA Guidelines (Title 14, Section 15000 et seq. of the California Code of Regulations). The purpose of this IS is to: (1) determine whether project implementation would result in potentially significant or significant effects on the environment; and (2) incorporate environmental commitments into the project design and propose feasible mitigation measures, as necessary, to eliminate the project's potentially significant or significant project effects, or reduce them to a less-than-significant level. In addition to the topics specified in the CEQA Guidelines, additional discussion addressing applicable federal regulations are presented, corresponding with each topic area, thereby complying with the State Revolving Fund CEQA-Plus requirements.

An IS presents environmental analysis and substantial evidence in support of its conclusions regarding the significance of environmental impacts. Substantial evidence may include expert opinion based on facts, technical studies, or reasonable assumptions based on facts. An IS is neither intended nor required to include the level of detail provided in an environmental impact report (EIR).

CEQA requires that State and local government agencies consider the environmental consequences of projects that they propose to carry out or over which they have discretionary authority, before implementing or approving those projects. The public agency that has the principal responsibility for carrying out or approving a project is the lead agency for CEQA compliance (Section 15367 of the CEQA Guidelines). Madera County has principal responsibility for carrying out the proposed project, and is the CEQA lead agency for this IS.

Madera County has prepared this IS to evaluate the potential environmental effects of the proposed project and has incorporated mitigation measures to reduce or eliminate potentially significant, project-related impacts. Therefore, a Mitigated Negative Declaration (MND) has been prepared for this project.

1.3 CEQA-PLUS ASSESSMENT

Madera County is applying for financial assistance to implement the proposed WTP upgrades. The California State Water Resources Control Board (SWRCB), Division of Finance oversees the Clean Water State Revolving Fund (CWSRF). The CWSRF Program is a program partially funded by the U.S. Environmental Protection Agency (USEPA). The CWSRF Program provides low-interest financing and is administered by the Division of Finance under the SWRCB.

In addition to meeting the requirements of CEQA, the applicant must conduct the necessary studies and analyses, and prepare documentation demonstrating that the proposed project is in compliance with the federal cross-cutting environmental authorities. As the USEPA-designated, "non-federal" State agency representative responsible for consultation with appropriate federal agencies, the SWRCB will review materials for compliance with relevant federal cross-cutting topics.

1.4 SUMMARY OF FINDINGS

Chapter 3 of this document presents the analysis and discussion of potential environmental impacts of the proposed project. The analysis has determined that the proposed project would result in no impacts related to:

- Agriculture and Forestry Resources
- Cultural Resources
- Land Use and Planning
- Mineral Resources
- Public Services
- Recreation
- Tribal Cultural Resources

Impacts of the proposed project would be less than significant for the following topics:

- Aesthetics
- Air Quality
- Energy
- Geology and Soils
- Greenhouse Gas Emissions
- Hydrology and Water Quality
- Population and Housing
- Utilities and Service Systems

The proposed project would result in less-than-significant impacts *with mitigation incorporated* for the following topics:

- Biological Resources
- Hazards and Hazardous Materials
- Noise
- Transportation/Traffic

1.5 LIST OF OTHER AGENCIES AND DISCRETIONARY ACTIONS THAT MAY USE THE INITIAL STUDY

Table 1-1 identifies other agencies that may use the findings of this IS to comply with the requirements of CEQA in issuing needed permits or approvals.

Table 1-1 Agencies and Discretionary Actions for CEQA Compliance

Agency	Discretionary Action
State Water Resources Control Board, Division of Financial Assistance	State Revolving Fund financing
State Water Resources Control Board	General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit)
State Water Resources Control Board, Division of Drinking Water	Domestic Water Supply Permit (California Health and Safety Code, Division 104, Part 12, Chapter 4 and the California Safe Drinking Water Act, Article 7, Section 116525)
State Historic Preservation Office	Cultural Resources Clearance
U.S. Fish and Wildlife Service	Endangered Species Act, Section 7 Compliance

1.6 DOCUMENT ORGANIZATION

This document is divided into the following sections:

Notice of Availability and Intent to Consider Adoption of a Proposed Mitigated Negative Declaration. The Notice of Availability and Intent to Consider Adoption of a Proposed MND provides notice to responsible and trustee agencies, interested parties, and organizations of the availability of this IS, as well as the Madera County Administrator Office's intent to consider adopting an MND for the proposed project.

Mitigated Negative Declaration. The MND summarizes the environmental conclusions and identifies mitigation measures that would be implemented in conjunction with the proposed project.

Chapter 1, "Introduction." This chapter briefly summarizes the proposed project and describes the purpose of the IS/MND, summarizes findings, and describes the organization of this document.

Chapter 2, "Project Description." This chapter describes the purpose of and need for the proposed project, general background, and project elements.

Chapter 3, "Environmental Checklist." This chapter presents an analysis of environmental issues identified in the CEQA environmental checklist and determines whether project implementation would result in a beneficial impact, no impact, a less-than-significant impact, a less-than-significant impact with mitigation incorporated, a potentially significant impact, or a significant impact on the environment in each issue area. If any impacts are determined to be potentially significant or significant, an EIR is required. For the proposed project, however, mitigation measures have been incorporated, as needed, to reduce all potentially significant or significant impacts to a less-than-significant level.

Chapter 4, "Alternatives Analysis." This chapter discusses alternatives to the proposed project, including a No Action Alternative.

Chapter 5, "References." This chapter lists the references cited in this document.

Chapter 6, "Initial Study Preparers." This chapter identifies the IS preparers.

2 PROJECT DESCRIPTION

2.1 PROJECT PURPOSE AND OBJECTIVES

The project purpose is to improve the reliability and quality of the Maintenance District No. 1 (MD-1) domestic water supply. Madera County (County) proposes to update and improve the MD-1 Water Treatment Plant (WTP) and drinking water system to meet applicable drinking water standards and address the Compliance Order for disinfection byproducts (DBPs) by adopting post-treatment chlorination (SWRCB 2018). Improvements to the system also would increase the capacity of the WTP to meet peak demands, fire flows, and foreseeable future domestic water demand.

2.2 PROJECT BACKGROUND

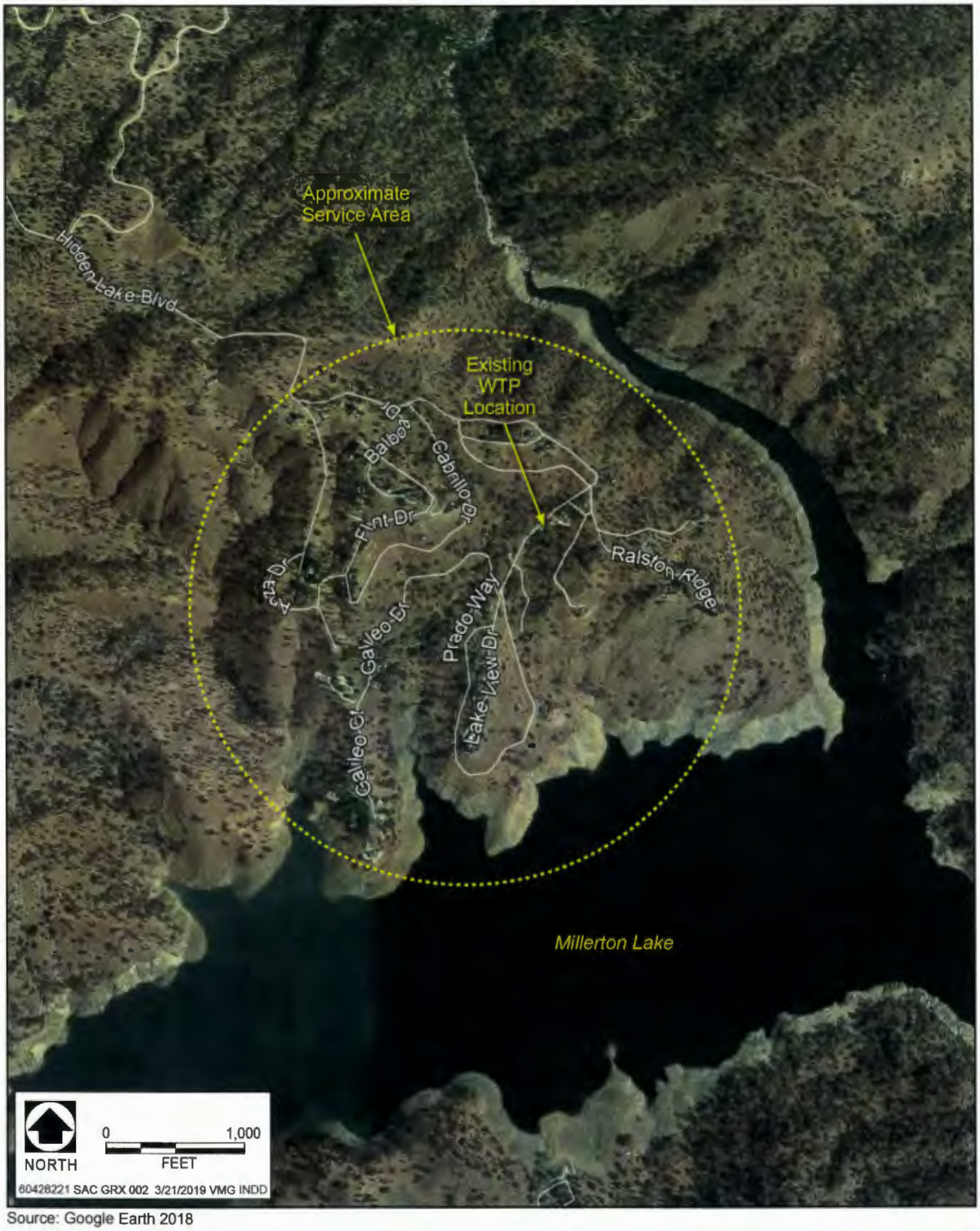
From the onset of operations in 1986, the existing WTP has been unable to meet the regulatory disinfection requirements. The County addressed this deficiency by relocating the chlorine injection point at the raw water transmission pipeline near Millerton Lake (Figures 2-1 and 2-2). This modification provided adequate contact time; however, because of high levels of naturally occurring organic matter (NOM), increased formation of DBPs occurs with the pre-treatment chlorination. The practice of pre-treatment chlorination in combination with the age of the distribution system has resulted in the water exceeding the Maximum Contaminant Levels (MCLs) established by the DBP rule for both total trihalomethanes (TTHMs) and haloacetic acids (HAA5) (SWRCB 2017). Because of these exceedances, the State Water Resources Control Board (SWRCB) Division of Drinking Water (DDW) issued a compliance order, directing the County to submit a corrective action plan identifying improvements to bring the WTP into compliance.

The County imposed a service connection moratorium on the MD-1 service area because of the above issue and multiple other deficiencies in the water treatment system, including the following:

- The available water source and storage capacity are not adequate to satisfy current peak demand, fire flow requirements, or additional residential development.
- The filtration plant is more than 30 years old and nearing the end of its useful life. Rust deterioration is visible on both the interior chambers and the exterior of the treatment plant, which is indicative of significant corrosion.
- During the winter and spring months with significant rainfall and higher raw water turbidities, the treatment plant meets the Long-Term 1 Enhanced Surface Water Treatment Rule maximum turbidity standard of 0.3 nephelometric turbidity unit (NTU) only marginally in at least 95 percent of filtered water measurements. Therefore, Hidden Lakes Estates water users are advised to boil water during periods of Millerton Lake high water turbidity.
- Backwash water currently is disposed using natural drainage. This disposal option may not meet current regulatory requirements of the Regional Water Quality Control Board (RWQCB) for land discharge and may face the tightened future standards of the U.S. Environmental Protection Agency (USEPA).

Source: Google Earth 2019

Figure 2-1 **Regional Location**

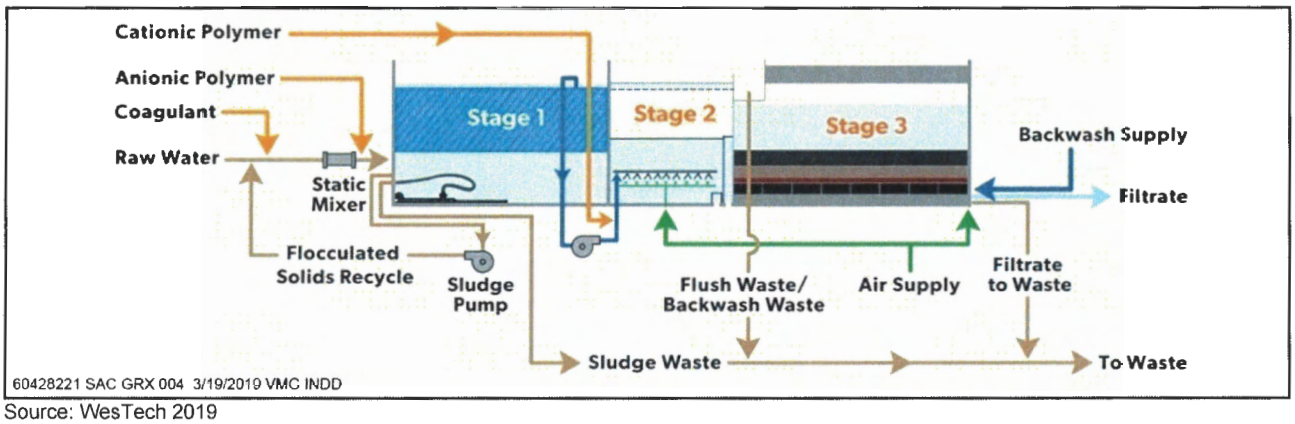


Source: Google Earth 2018

Figure 2-2 **MD-1 Service Area**

- Highly corrosive source water is continuing to cause deterioration of water mains, with no treatment currently practiced to reduce the corrosivity.
- The main water storage facility (the Upper Tank) is designed with a common inlet/outlet at an elevation where stored water can stagnate.

Since issuance of the order, Madera County has been studying various water supply and treatment alternatives to address the deficiencies and satisfy the compliance order for DBP. After substantial research of other systems suitable to treat surface water at MD-1, the Trident® HS (HS for "high solids") system, a package treatment plant manufactured by WesTech, was selected (Figure 2-3).



Source: WesTech 2019

Figure 2-3 **WesTech Trident® HS Packaged Water Treatment System**

2.3 WTP AND SERVICE AREA LOCATION

The MD-1 WTP is located within the Hidden Lake Estates subdivision, an unincorporated community in Madera County. The MD-1 WTP is the sole potable water supply for Hidden Lakes Estates. The WTP serves a population of about 162 residents, using 49 water connections. The MD-1 service area encompasses approximately 154 acres (SWRCB 2005). Water diverted by the County originates from Millerton Lake, in accordance with a contract between the County and the U.S. Bureau of Reclamation, which operates the Central Valley Project. The County operates the system under Domestic Water Supply Permit 03-11-15P-019, issued by the SWRCB on May 15, 2015 (SWRCB 2018).

The MD-1 WTP is on the eastern side of Hidden Lake Boulevard, and the chlorine injection point is about 0.5 mile to the south, near Millerton Lake. Figure 2-2 shows the location of the WTP within the Hidden Lake Estates service area.

2.4 FACILITIES TO BE INSTALLED AND DEMOLISHED

Because of the limited water demand in the MD-1 service area, a small package treatment plant would be most suitable to serve community needs while complying with applicable regulatory requirements. To accommodate the new WTP and leach field, a new location of sufficient size is required to enable construction and operation of the facility. Figure 2-4 shows the proposed location of the new WTP, the fire flow water storage tank, and the leach field.

Source: Google Earth 2019

Figure 2-4 **Proposed WTP Site Layout**

The Trident HS system (Figure 2-3) to be installed is specifically designed for high turbidity water supplies. It employs a three-stage filtration process, consisting of a tube settler, a coarse up-flow filter and finally a down-flow fine filter. In the new treatment process, raw water would be chemically conditioned inline through a static mixer, where a coagulant and polymer would be introduced. After being chemically conditioned, the water would be directed to the Trident HS package treatment system, with three stages of clarification and filtration followed by chlorine disinfection. The system also would incorporates solids recirculation from the first stage of clarification to the feed water, to promote more efficient chemical use and total organic carbon reduction.

The Trident HS is able to treat highly turbid water due to the inclusion of the tube settler clarifier with chemical pretreatment and solids recirculation as an additional first stage before the filtration process. The solids that settle to the bottom in the second stage are recycled into the raw water, to improve settling velocities. The recycle flowrate can be adjusted to help maintain consistent solids load to the clarifier, preventing system upsets. This system has been successful treating raw water turbidities in excess of 100 NTU and is capable of reliably treating the raw water quality expected at the MD-1 WTP. A key advantage of this system is that the settling pretreatment process is incorporated into a single piece of equipment, minimizing process integration issues.

The second stage occurs in a compartment that serves as an up-flow contact clarifier, sometimes referred to as an adsorption clarifier (AC). The third stage occurs in the down-flow filter compartment, which is a conventional, mixed media gravity filter. Both compartments are cleaned using both air and water; however, the AC is cleaned more frequently than the filter. Cleaning the clarifier does not disrupt filter production.

In addition to the WTP, the proposed site also would house a new 180,000-gallon water storage tank. This tank would enable smoother water distribution system operation and provide fire flows. A vital feature of the WTP is to provide full fire flow recovery within 5 days of depletion above maximum daily water demand.

A septic tank and leach field also would be installed, to dispose the treated wastewater stream. This waste stream would contain filter washwater, sludge resulting from flocculation and coagulation, mineral removal, and diatomaceous earth filtration. The treated waste stream would be discharged to the septic tank for decomposition of any organic materials, and then would be disposed in the subsurface leach field.

On operation of the new WTP, the existing WTP facilities and equipment would be retired and secured on site.

2.5 CURRENT AND PROPOSED WATER PRODUCTION AND CUSTOMERS SERVED

The MD-1 system produced 10.24 million gallons (MG) in 2017. The maximum month of water use in 2017 occurred in September, when 1.35 MG were produced, correlating to a maximum month average day demand (MMADD) of 31.2 gallons per minute (gpm). The highest demand month on record is August 2004, with a total production of 2.56 MG and an MMADD of 57 gpm.

The average daily demand (ADD) has ranged from approximately 17 to 36 gpm over the last 20 years. The water system demands have been determined in accordance with Title 22, Chapter 16, Section 64554 of the California Waterworks Standards (CWS), as shown in Table 2-1 (SWRCB 2017). The California Waterworks Standards require that the new WTP be sized with a capacity to accommodate the maximum day demand (MDD) (SWRCB 2019a). As shown in Table 2-1, the MDD is 97 gpm. The Drinking Water State Revolving Fund funding source

restricts eligibility for funding to accommodate an allowance of no more than 10 percent growth of the population served, with an additional allowance for fire flow (SWRCB 2019a).

Table 2-1 MD-1 Water System Demand

Demand Type	Demand (gpm)	Notes
Average Day Demand (ADD)	36	Based on the maximum month average day demand
Maximum Day Demand (MDD)	97	Based on a peaking factor of 1.7 relative to the MMADD
Peak Hour Demand (PHD)	165	Based on peaking factor of 1.7 applied to the MDD
Fire Flow (FF)	1,000	Fire flow requirement for a period of 2 hours (180,000 gallons of storage)
Fire Flow Recovery	25	Flow required to fill needed fire storage volume (180,000 gallons) over a period of 5 days following a fire

Notes:
gpm = gallons per minute; MMADD = maximum month average day demand
Source: SWRCB 2019a

Based on this growth allowance, a 10 percent growth over the current MDD, a capacity of 107 gpm is calculated. A WTP capacity of 132 gpm is calculated after the fire flow recovery demand of 25 gpm is included.

The smallest Trident HS unit available has a design flow rate of 350 gpm, which is more than twice the flowrate needed to supply the current MD-1 water demand. In response to this excess flowrate, the County proposes to use only one of the two existing Millerton Lake intake pumps to supply the MD-1 service area. The two pumps have a combined capacity of 320 gpm. With this restriction, the second intake pump would provide adequate backup to the first pump and would not be used routinely until future demand warrants increased water supply and future compliance with CEQA is completed. Using only one pump would enable the new WTP to operate at about 132 gpm and would satisfy the MDD and fire flow recovery requirements that are shown in Table 2-1.

2.6 WATER QUALITY OF TREATED SUPPLIES

The proposed MD-1 WTP is designed to provide a finished water quality to meet applicable water quality requirements. Most importantly, the proposed treated water quality would adhere to the MCLs for DBPs, to comply with the existing compliance order for control of DBPs. To meet these MCLs, the level of TTHMs must not exceed 80 micrograms per liter (µg/L), and the HAA5 must not exceed 60 µg/L (SWRCB 2017). Using the Trident HS system would enable the treated water supply to be less than or equal to 0.3 NTU in at least 95 percent of samples each month and not exceed 1 NTU at any time (Title 22 California Code of Regulations Section 64653), and would keep the facility in compliance with the maximum allowable turbidity limit.

2.7 CONSTRUCTION TECHNIQUES AND SCHEDULE

Construction of the new WTF would include grading currently unimproved property, constructing retaining walls and level equipment pads, transporting and installing equipment, and constructing process units. The construction would occur with periodic activity peaks, requiring brief periods of significant effort followed by longer periods of reduced activity.

Although a specific construction schedule has not been developed yet, for this analysis construction and installation of the new WTP and associated equipment has been assumed to be completed in a 3-month period. At

present, the work is expected to begin in summer 2021 and the new WTP is anticipated to be operational by fall 2021. The final construction schedule would be completed during engineering and contractor bidding. Typical construction activities for construction of the type of water treatment plant being proposed include the following:

- materials transport;
- site preparation (tree and brush grubbing and removal);
- earthwork (trenching, grading, excavation, backfill);
- asphalt transportation and installation for trench patching across paved road;
- concrete foundations preparation and placement (forming, rebar placement, and concrete delivery and placement);
- structural steel work (assembly and welding);
- electrical installation work;
- retaining wall construction;
- installation of mechanical equipment and piping, raw and finished water tanks, and a septic tank and leach field for backwash water disposal; and
- demolition of structures (Upper Tank, elements of the existing WTP).

To support these activities, the equipment expected to be used during construction would include: a backhoe with excavator attachment, a crane, two compactors, a water truck, two flat-bed delivery trucks, a concrete truck, compressors/jackhammers, and two electrical generators. Excavated material, other than organic material removed during clearing and grubbing, would remain on site and would be used for site-leveling backfill material. Truck trips would be necessary to deliver materials, equipment, and concrete to the site. During peak excavation and earthwork activities, the project could generate up to 15 round-trip truck trips per day.

Peak activities are expected to occur for less than 1 week at a time and no more than 3 weeks total during the construction period. Site preparation and grading would be completed in about 2 weeks; the concrete foundation would be placed in about 1 week; equipment installation would take about 2 weeks, and building construction would take about 4 weeks. Average daily truck trips would range from three to eight round trips per day during construction. Roadways that would be used by construction traffic would include Avenue 12, CA-145, Road 211, Hildreth Road, Road 216, and Hidden Lake Boulevard. The proposed truck haul route is shown in Figure 2-5.

The typical crew size for each construction phase would be five to eight people, plus inspectors. Work hours would be limited to daylight hours and normally would range from 7 a.m. to 7 p.m.

During operations, the new WTP would generate about three truck trips per week, or about 160 truck trips per year, for operator visits, chemical deliveries, and sludge removal. This number of truck trips would more than double the truck trips currently associated with WTP operator visits and process chemical deliveries.


MD-1
WTP
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Millerton
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4
MILES
60428221 SAC GRX 005 3/21/2019 VMG INDD

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3 ENVIRONMENTAL CHECKLIST

PROJECT INFORMATION		
1.	**Project Title:**	Hidden Lake Estates Water Treatment Plant Upgrade Project
2.	**Lead Agency Name and Address:**	Madera County Maintenance District -1
3.	**Contact Person and Phone Number:**	Raymundo Gutierrez 559/675-7811
4.	**Project Location:**	T10S R21E Section 23, MDMB
5.	**Project Sponsor's Name and Address:**	Madera County
6.	**General Plan Designation:**	Very Low Density Residential
7.	**Zoning:**	Rural Mountain Single Family

8. **Description of Project: (Describe the whole action involved, including but not limited to later phases of the project, and any secondary, support, or off-site features necessary for its implementation. Attach additional sheets if necessary.)**

Madera County proposes to update and improve the MD-1 WTP and drinking water system to meet applicable drinking water standards and address the Compliance Order for disinfection byproducts by adopting post-treatment chlorination. Improvements to the system would also increase the capacity of the WTP to meet peak demands, fire flows, and foreseeable future domestic water demand.

9. **Surrounding Land Uses and Setting:**
(Briefly describe the project's surroundings)

The project site is located in a rural area. There are approximately 208 lots with 46 existing homes receiving water. There are no housing units or residents located at the proposed project site.

10: Other public agencies whose approval is required:
(e.g., permits, financing approval, or participation agreement)

State Water Resources Control Board – Division of Financial Assistance	State Revolving Fund (SRF) financing
State Water Resources Control Board	General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit)
State Water Resources Control Board – Division of Drinking Water	Domestic Water Supply Permit (California Health and Safety Code, Division 104, Part 12, Chapter 4 (California Safe Drinking Water Act), Article 7, Section 116525)
State Historic Preservation Office (SHPO)	Cultural Resources Clearance
U.S. Fish and Wildlife Service	Endangered Species Act Section 7 Compliance

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

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

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

DETERMINATION (To be completed by the Lead Agency)

On the basis of this initial evaluation:

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

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

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

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

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

Signature	Date
Printed Name	Title
Agency	

EVALUATION OF ENVIRONMENTAL IMPACTS

1. A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

2. All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

3. Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

4. "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from "Earlier Analyses," as described in (5) below, may be cross-referenced).

5. Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:
   a) Earlier Analysis Used. Identify and state where they are available for review.
   b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
   c) Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

6. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

7. Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.

8. This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.

9. The explanation of each issue should identify:
   a) the significance criteria or threshold, if any, used to evaluate each question; and
   b) the mitigation measure identified, if any, to reduce the impact to less than significance.

3.1 AESTHETICS

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
I. Aesthetics. Except as provided in Public Resources Code Section 21099, would the project:				
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☒	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

3.1.1 ENVIRONMENTAL SETTING

The proposed project is located in Madera County on the north shore of Millerton Lake. Millerton Lake is owned and operated by the U.S. Bureau of Reclamation. Recreational facilities on the lake are operated by the State Parks and Recreation Department, and are open to the public, with boat launches and campground facilities. The landscape surrounding the lake is a scenic backdrop of rolling grassland hills, lake promontories dotted with oak woodlands, and steeper hillsides and ridges, with distant views of the Sierra Nevada foothills at higher elevations. The lake represents a scenic amenity when viewed from the hilltops, ridges and promontories in the area.

The Madera County General Plan (Madera County 1995) does not identify the proposed project area as a scenic vista, and the zoning code does not identify the area as being within a designated Scenic Overlay Zone. Furthermore, Madera County does not contain any officially designated State Scenic Highways, and the only officially designated eligible Scenic Highways in the county are segments of State Route (SR) 49 and SR-41, approximately 20 miles north of the proposed project site (Caltrans 2019).

The area is rural and lacks the lighting associated with more urban areas. The major source of nighttime lighting for the area comes from vehicles and residential building lights at the Hidden Lake Estates. No major sources of glare are in the area because the surrounding buildings, composed primarily of residential development at Hidden Lake Estates, are constructed of non-reflective materials.

3.1.2 DISCUSSION

a) Have a substantial adverse effect on a scenic vista?

The Madera County General Plan does not identify the proposed project area as a scenic vista, and the zoning code does not identify the area as being within a designated Scenic Overlay Zone. Thus, **no impact** would occur.

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

The proposed project is not located adjacent on or near an officially designated State Scenic Highway or eligible Scenic Highway, as designated by the California Department of Transportation's Scenic Highway Program. **No impact** would occur.

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

The proposed project would be located in a non-urbanized area. Impacts would be related to project construction vehicles on site, materials stored on site, and site preparation activities typically associated with residential development projects. These activities would be short term, only being conducted for site preparation and WTP construction. Operational impacts also would be minimal and similar to the current activities at the existing WTP. The impact would be **less than significant**. No mitigation is required.

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

Per Section 9.58.020 of the Madera County Code (Madera County 2019a), construction activities are to be limited to between 7 a.m. and 7:00 p.m. on Monday through Friday, and between 9 a.m. and 5 p.m. on Saturdays. Construction is not permitted on Sundays. Because project construction activities would occur only between 7 a.m. and 7 p.m., short-term light/glare impacts associated with project construction would be unlikely—light and glare would not occur early in the morning or late at night.

In addition, as detailed in Section 18.104.020 of the Madera County Code, "Approval of the uses listed as being allowed with a zoning permit in each zoning district shall be made by the zoning administrator and shall be based on consideration that the use will not violate the spirit or intent of this title; be contrary to the public health, safety or general welfare; be hazardous, harmful, noxious, offensive or a nuisance by reason of noise, dust, smoke, odor, glare or other similar factors; or for any other reason cause a substantial adverse effect upon the property values and general desirability of the neighborhood or of the county." Thus, compliance with the Madera County Code would reduce any effects of glare. The impact would be **less than significant**. No mitigation is required.

3.1.3 Federal Cross-Cutting Topic

Wild, Scenic, and Recreational Rivers Act

The National Wild and Scenic Rivers Act was established in 1968, to maintain the natural beauty, biology, and wildness of designated "wild," "scenic," or "recreational" rivers that may be threatened by construction of dams, diversions, and canals. The act seeks to preserve these designated rivers in their free-flowing condition, and to protect their immediate environments for the benefit and enjoyment of present and future generations. No "wild" or "scenic" rivers are within 25 miles of the proposed project site.

3.2 AGRICULTURE AND FORESTRY RESOURCES

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
II. Agriculture and Forestry Resources. In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997, as updated) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use or a Williamson Act contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

3.2.1 ENVIRONMENTAL SETTING

The proposed project would occur within the Hidden Lakes Estates community, located adjacent to and on the northern side of Millerton Lake. No active agricultural land uses are within or adjacent to the community. The

proposed project site and surrounding area are not zoned for agricultural uses (see Section 3.11, "Land Use and Planning," for further discussion).

The California Department of Conservation's (DOC) Important Farmland classifications—Prime Farmland, Farmland of Statewide Importance, Unique Farmland, and Farmland of Local Importance—recognize a land's suitability for agricultural production by considering the physical and chemical characteristics of the soil, such as soil temperature range, depth of the groundwater table, flooding potential, rock fragment content, and rooting depth. The classifications also consider location, growing season, and moisture available to sustain high-yield crops. Together, Important Farmland and Grazing Land are defined by the DOC as "Agricultural Land" (Sections 21060.1 and 21095 of the California Public Resources Code).

Appendix G of the CEQA Guidelines focuses analysis on conversion of agricultural land on Prime Farmland, Farmland of Statewide Importance, or Unique Farmland; therefore, any conversion of these lands would be considered a significant impact under CEQA. According to the Madera County Important Farmland map, published by the DOC's Division of Land Resource Protection (DOC 2016a), the proposed project site and adjacent lands are designated as "Other Land", which is defined as land not included in any other mapping category. "Other Land" consists of miscellaneous uses, such as low-density rural developments; brush, timber, wetland, and riparian areas not suitable for livestock grazing; confined livestock, poultry or aquaculture facilities; and water bodies smaller than forty acres (DOC 2016a). The DOC does not consider "Other Land" to be Important Farmland.

Under the California Land Conservation Act of 1965, also known as the Williamson Act, local governments can enter into contracts with private property owners to protect land (within agricultural preserves) for agricultural and open space purposes. Williamson Act contract lands generally are outside the City of Madera, in the northern, southern, and central parts of the county. No parcels within or adjacent to the proposed project site are under Williamson Act contracts (DOC 2016b).

3.2.2 Discussion

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?

As discussed previously, the proposed project site and surrounding areas are designated by the Madera County Important Farmland map as Other Land (DOC 2016a). Other Land is not considered Important Farmland under CEQA (Sections 21060.1 and 21095 of the Public Resources Code and Appendix G of the CEQA Guidelines). Therefore, the conversion of this land would not be considered a significant impact under the CEQA Guidelines. **No impact** would occur.

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

The proposed project site and surrounding area are not zoned for agricultural uses. No parcels within or adjacent to the site are under Williamson Act contracts (DOC 2016b). Therefore, the proposed project would not conflict with existing zoning for agricultural uses or a Williamson Act contract. **No impact** would occur.

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))?

The proposed project site is not zoned as forestland, timberland, or a Timberland Production Zone. Therefore, the proposed project would not conflict with existing zoning for, or cause rezoning of, forestry resources. **No impact** would occur.

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

The proposed project site does not contain 10 percent native tree cover that would be classified as forestland under Section 12220(g) of the Public Resources Code. Therefore, implementation of the proposed project would not result in conversion of forest land to non-forest use. **No impact** would occur.

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?

See responses to items a) and d) above. Because no agricultural land uses or forestland occur within or adjacent to the proposed project site, implementing the proposed project would not result in other changes in the physical environment that would cause the conversion of agricultural land, including Important Farmland, to nonagricultural uses or cause conversion of forestland to non-forest uses. **No impact** would occur.

3.2.3 Federal Cross-Cutting Topic

Farmland Protection Act

The Farmland Protection and Policy Act (FPPA) (7 U.S. Code 4201) was enacted in 1981, to minimize the loss of prime farmland and unique farmlands because of federal actions that converted these lands to nonagricultural uses. The act assures that federal programs are compatible with state and local governments, and private programs and policies to protect farmland.

As defined by the FPPA, prime farmland is farmland that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops, and also is available for these uses. A unique farmland is land other than prime farmland that is used for production of specific, high-value food and fiber crops; it has the special combination of soil quality, location, growing season, and moisture supply needed to economically produce sustained high quality or high yields of specific crops (USHRSA 2019).

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

The proposed project would be on land that is classified as "Other Lands," which consists of lands supporting miscellaneous uses, such as low-density rural developments; brush, timber, wetland, and riparian areas not suitable for livestock grazing; confined livestock, poultry or aquaculture facilities; and water bodies smaller than forty acres. Therefore, the proposed project would not conflict with the Farmland Protection and Policy Act or adversely affect prime or unique farmland.

3.3 AIR QUALITY

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
III. Air Quality				
Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied on to make the following determinations.				
Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	☐	☐	☒	☐
c) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐

3.3.1 ENVIRONMENTAL SETTING

The proposed project site is located in the San Joaquin Valley Air Basin (SJVAB). The SJVAB is subject to a combination of topographical and climatic factors that increase the potential for high levels of regional and local air pollutants. The SJVAB occupies the southern two-thirds of the Central Valley and includes Madera County. The SJVAB is mostly flat, is less than 1,000 feet in elevation, and is surrounded on three sides by the Sierra Nevada, Tehachapi, and Coast Range mountains. This bowl-shaped feature forms a natural barrier to the dispersion (spreading over an area) of air pollutants. Therefore, the SJVAB is highly susceptible to pollutant accumulation over time (SJVAPCD 2002).

The climate in the SJVAB is strongly influenced by the presence of mountain ranges. The mountains create a partial rain shadow over the valley and block the free circulation of air, trapping stable air in the valley for extended periods. The climate is semi-arid and is characterized by long, hot, dry summers and cool, wet, and foggy winters.

Various air pollutants may adversely affect human or animal health, reduce visibility, damage property, and reduce the productivity or vigor of crops and natural vegetation. Criteria air pollutants are defined as those pollutants for which the federal and state governments have established air quality standards for outdoor or ambient concentrations, to protect public health with a determined margin of safety. Criteria air pollutants have been identified by the U.S. Environmental Protection Agency (USEPA) and the California Air Resources Board (ARB) as being of concern, both on a nationwide and statewide level, and they include: ozone; carbon monoxide (CO); nitrogen dioxide (NO_2); sulfur dioxide (SO_2); lead; and particulate matter (PM). PM is subdivided into two

classes, based on particle size: PM equal to or less than 10 micrometers in diameter (PM_{10}) and PM equal to or less than 2.5 micrometers in diameter ($PM_{2.5}$). Ozone (O_3), course particulate matter (PM_{10}), and fine particulate matter ($PM_{2.5}$) generally are considered to be regional pollutants because they or their precursors affect air quality on a regional scale. Pollutants such as CO, NO_2, and SO_2 are considered to be local pollutants because they tend to accumulate in the air locally. PM also is considered to be a local pollutant.

In addition to criteria air pollutants, USEPA and ARB regulate toxic air contaminants (TACs), also known as hazardous air pollutants. A TAC is defined as an air pollutant that may cause or contribute to an increase in mortality or in serious illness, or that may pose a hazard to human health.

Federal, State, and local plans, policies, laws, and regulations provide a framework for addressing aspects of air quality that would be affected by the proposed project. Health-based air quality standards have been established for the criteria air pollutants by USEPA at the national level and by ARB at the State level; these are referred as the National Ambient Air Quality Standards (NAAQS) and the California Ambient Air Quality Standards (CAAQS), respectively. The federal Clean Air Act (CAA) Amendments of 1990 and the California Clean Air Act (CCAA) of 1988 mandate preparation of clean air plans that provide an overview of air quality and sources of air pollution, and identify pollution-control measures needed to meet federal and State air quality standards. Under the federal CAA, Madera County has been designated to be in nonattainment for O_3 and $PM_{2.5}$. Under the CCAA, the County is designated to be in nonattainment for particulate matter ($PM_{2.5}$ and PM_{10}) and O_3.

USEPA requires each state with regions that have not attained the NAAQS to prepare a state implementation plan (SIP), detailing how each local area will meet these standards. ARB is the lead agency for developing California's SIP and oversees the activities of local air quality management agencies. Emission reduction programs and measures are described in air quality attainment plans (AQAPs) or air quality management plans (AQMPs) that the air districts submit to ARB for review and approval. ARB incorporates the AQAPs and AQMPs from local air districts into the SIP for USEPA approval.

- The San Joaquin Valley Air Pollution Control District (SJVAPCD) is the agency primarily responsible for ensuring that NAAQS and CAAQS are not exceeded in the SJVAB, and that air quality conditions are maintained. SJVAPCD responsibilities include preparing plans for the attainment of ambient air quality standards, adopting and enforcing air pollution rules, issuing permits for and inspecting stationary air pollution sources, responding to citizen complaints, monitoring ambient air quality and meteorological conditions, and implementing State and federal programs and regulations. The SJVAPCD also has adopted various rules and regulations for the control of stationary and area sources of emissions.

- The proposed project site is within the boundaries of the Madera County General Plan (Madera County 1995). Thus, development and operation of the proposed project would be subject to the applicable goals and policies contained therein. However, no goals or policies pertaining to air quality have been identified in the General Plan as applicable to the construction or operation of the proposed project.

3.3.2 Discussion

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

Construction-Related Impact

Project consistency is based on whether the proposed project would conflict with or obstruct implementation of the air quality plan and/or applicable portions of the SIP, which would lead to increases in the frequency or severity of existing air quality violations. The region's AQAP was developed pursuant to the CCAA requirements and identifies feasible emissions control measures to provide expeditious progress in attaining the ozone standard. Assumptions about land use development that are used in the AQAP are taken from local and regional planning documents, including general plan land use designations and zoning.

Consistency with the AQAP is determined by analyzing a project with the assumptions in the AQAP. The proposed project would involve the use of off-road equipment, haul trucks, and worker commute trips. The proposed project would not substantially increase mobile-source emissions that previously were included in the AQAP. Therefore, the emissions associated with implementation of the project have been accounted in the emissions modeling for the current AQAP and will be accounted in future AQAPs. Accordingly, implementation of the proposed project would not exceed the assumptions used to develop the current plan and would not obstruct or conflict with the AQAP.

As discussed in the emissions analysis, the proposed project would not exceed the recommended thresholds of significance for emissions of ozone precursors (reactive organic gases [ROG] and nitrogen oxide [NO_X]). Because the proposed project would not result in a substantial increase in ROG and NO_X emissions, the project would not conflict with or obstruct implementation of the AQAP and SIP. This construction-related impact would be **less than significant**.

Operation-Related Impact

Operation of the new WTP would not require or result in additional activities for operations and maintenance beyond existing conditions. Therefore, **no impact** would occur.

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?

The cumulative analysis focuses on whether a specific project would result in a cumulatively considerable increase in emissions. By its very nature, air pollution generally is a cumulative impact. The cumulative setting for air quality for the proposed project would include Madera County and the SJVAB. The nonattainment status of regional pollutants is a result of past and present development within the SJVAB, and this regional impact is cumulative rather than being attributable to any single source. The region is classified as being in nonattainment for federal ozone and $PM_{2.5}$ standards, and nonattainment for State ozone, PM_{10}, and $PM_{2.5}$ standards (ARB 2018).

The SJVAPCD's approach to assessing cumulative impacts is based, in part, on the projected increases in emissions attributable to the proposed project, as well as the project's consistency with the SJVAPCD AQAP. In other words, the SJVAPCD considers the impact of a project to be less than cumulatively considerable if it does

not exceed the significance thresholds used to assess project-level conditions and does not conflict with the SJVAPCD AQAP.

Construction-Related Impact

As discussed previously, the proposed project would generate construction-related emissions of criteria air pollutants, but at levels that would not exceed SJVAPCD thresholds. SJVAPCD's thresholds of significance are relevant to whether a project's individual emissions would result in a cumulatively considerable incremental contribution to the existing air quality conditions. These thresholds are designed to identify projects that would result in substantial levels of air pollution on a project-level that would impede and obstruct the region in attaining and maintaining the applicable CAAQS and NAAQS.

Table 3.3-1 shows the estimated emissions associated with construction of the proposed project. Because the emission estimates shown in Table 3.3-1 would not exceed any of the SJVAPCD's project-level significance thresholds for air quality, the proposed project would not impede or obstruct attainment and maintenance of the ambient air quality standards.

The proposed project would not exceed the SJVAPCD significance criteria, would comply with the existing AQAP, would include applicable emission reduction measures, and would comply with all applicable air district rules and regulations. Therefore, the proposed project's construction emissions would not be considered a cumulatively considerable contribution to regional air quality. Therefore, the impact would be **less than significant**.

Operation-Related Impact

The proposed project would not require a change to the existing land use designation. Operation of the new WTP would not require or result in additional activities for operations and maintenance beyond existing conditions. As discussed in response to Item c), none of the components of the proposed project would include the provision of new permanent stationary or mobile sources of emissions over existing conditions. Therefore, by its nature, the project would not generate quantifiable criteria air pollutant emissions from long-term operations over existing conditions. Thus, the proposed project construction would have a less than a considerable contribution to cumulative impacts on air quality. The impact would be **less than significant**. No mitigation is required.

c) Expose sensitive receptors to substantial pollutant concentrations?

Some members of the population—children, older adults, and persons with pre-existing respiratory or cardiovascular illness—are especially sensitive to air pollutant emissions. Such people are given additional consideration when the impacts of projects on air quality are evaluated. Therefore, at-risk land uses sensitive to poor air quality would include residences, schools, daycare centers, playgrounds, medical facilities, and nursing homes. Recreational land uses, such as parks, also are considered moderately sensitive to air pollution. The land uses surrounding the proposed project area include residential uses. Single-family residences are adjacent to and at varying distances from the proposed project area. These are considered to be the closest sensitive receptors that would be affected by the proposed project.

Construction-Related Impact

Construction emissions are described as "short term" or temporary; however, they have the potential to represent a significant impact with respect to air quality. Construction of the proposed project temporarily would generate ROG, CO, NO_X, PM_{10}, and $PM_{2.5}$ emissions. During construction, criteria air pollutants and precursors would be temporarily and intermittently emitted by a variety of sources, including: off-road equipment, on-road haul trucks, worker vehicles, and soil disturbance.

As shown in Table 3.3-1, average daily construction emissions for the proposed project are estimated to be less than 1 pound of ROG, approximately 4 pounds of NO_X, 4 pounds of CO, less than 1 pound of SO_2, less than 1 pound of PM_{10} and $PM_{2.5}$. Additional emission modeling assumptions and details are provided in Appendix A.

Table 3.3-1 Average Daily Construction Emissions

Construction Phase	Average Daily Emissions (pounds per day)					
	ROG	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Average daily emissions	0.4	4.1	3.7	0.007	0.3	0.2
San Joaquin Valley Air Pollution Control District Impact Threshold	55	55	550	150	82	82
Exceedance of Threshold?	No	No	No	No	No	No

Notes: AAQS = ambient air quality standards; CO = carbon monoxide; NA = not applicable; NO_X = oxides of nitrogen; SO_2 = sulfur dioxide; PM_{10} = particulate matter equal to or less than 10 micrometers in diameter; $PM_{2.5}$ = particulate matter equal to or less than 2.5 micrometers in diameter; ROG = reactive organic gases.

Source: Modeled by AECOM in 2019

As shown in Table 3.3-1, construction-related emissions would not exceed the thresholds of significance and would not violate any air quality standard or contribute substantially to an existing or projected air quality violation. Therefore, the impact would be **less than significant**.

Diesel Particulate Matter

The greatest potential for TAC emissions would be related to emissions of diesel particulate matter (diesel PM) during the operation of heavy-duty construction equipment. Health effects from carcinogenic TACs usually are described in terms of individual cancer risk, which is based on a 70-year lifetime exposure to TACs.

Construction of the proposed project would last approximately 9 months. Heavy-duty construction equipment would operate at different locations in the proposed project area, and at varying distances from different sensitive receptors surrounding the proposed project area. Therefore, individual receptors are not anticipated to be exposed to TAC emissions for the entire construction period. Construction emissions would occur intermittently throughout the day, as construction equipment is required, rather than as a constant plume of emissions, emanating from the site.

Because heavy-duty construction equipment would operate only intermittently during that time frame, the proposed project would not result in long-term (i.e., a 70-year lifetime exposure period) emissions of TACs in the immediate vicinity of sensitive receptors. All construction emissions would cease after completion of construction. Thus, because the duration of potentially harmful construction activities near a sensitive receptor

would be approximately 1 year, the exposure would be approximately 2 percent of the total exposure period required for typical health risk calculations (i.e., 70 years). Therefore, the proposed project would not expose sensitive receptors to substantial concentrations of diesel PM.

Naturally Occurring Asbestos

During construction of the proposed project, site preparation, grading, and excavation activities would disturb soil and generate dust. As discussed previously, the proposed project is not located in areas designated as "likely to contain asbestos." Thus, the proposed project would not expose nearby receptors to substantial asbestos concentrations. Based on the location of the proposed project, the distance of the project area to sensitive receptors, and the project's compliance with applicable SJVAPCD requirements, the project would not expose nearby receptors to substantial pollutant concentrations. The impact would be **less than significant**. No mitigation is required.

Operation-Related Impact

Operations and maintenance of the new WTP would not require new or result in additional activities beyond existing conditions. Therefore, **no impact** would occur.

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

Construction-Related Impact

The occurrence and severity of odor impacts depend on numerous factors: the nature, frequency, and intensity of the source; wind speed and direction; and the presence of sensitive receptors. Although offensive odors rarely cause physical harm, they still can be very unpleasant and can generate citizen complaints to local governments and regulatory agencies.

Diesel exhaust from construction equipment may emit odors during proposed project construction. However, because of the temporary nature of these emissions and the highly diffusive properties of diesel exhaust, nearby receptors would not be likely to be adversely affected by project-related diesel exhaust odors. Odors from these sources would be localized and generally confined to the immediate area surrounding the proposed project site, and the odors would be typical of most construction sites and temporary. Thus, the proposed project would not create objectionable odors, affecting a substantial number of people. The impact would be **less than significant**. No mitigation is required.

Operation-Related Impact

Operations and maintenance of the new WTP would not require new or result in additional activities beyond existing conditions. Therefore, **no impact** would occur.

3.3.3 Federal Cross-Cutting Topic

Clean Air Act

Under the federal CAA, federal actions conducted in air basins that are not in attainment with the federal ozone standard (such as the SJVAB) must demonstrate conformity with the SIP. Conformity to a SIP is defined in the

federal CAA as meaning conformity to a SIP's purpose of eliminating or reducing the severity and number of violations of the national standards and achieving an expeditious attainment of such standards. The SJVAPCD has published Regulation IX, Rule 9110 (referred as the General Conformity Rule) that indicates how most federal agencies can make such a determination (SJVAPCD 1994).[1]

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

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

The SJVAPCD does not require a detailed quantification of construction emissions unless the project's indirect source emissions are expected to increase pollutant emissions of ROG or NO_X in excess of 10 tons per year (SJVAPCD 1994). Because proposed project construction would not exceed this threshold, the proposed project would comply with the conformity criteria.

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

3.4 BIOLOGICAL RESOURCES

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
IV. Biological Resources. Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or the U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Game or the U.S. Fish and Wildlife Service?	☐	☐	☐	☒
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?	☐	☐	☐	☒
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☒	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

3.3.4 ENVIRONMENTAL SETTING

BIOLOGICAL STUDY AREA

The proposed project site and adjacent lands were surveyed by biologists as part of this evaluation. Surrounding land use consists of rural residential properties and open space and recreational uses at Millerton Lake SRA to the south. The elevations of the proposed project site range from approximately 820 to 850 feet above mean sea level.

VEGETATION COMMUNITIES AND HABITATS

The proposed project site lies within the low-elevational range of the Sierra Nevada foothills ecoregion. Habitats in this region vary from foothill oak savanna and chaparral to mixed coniferous forest and riparian canyons at

mid-elevations, to alpine and wet meadow at the highest elevations. On the eastern slopes of the Sierra Nevada, the landscape is drier and is characterized by juniper woodlands, sagebrush, and desert scrub.

The proposed project site is located on a flat, disturbed, nonnative annual grassland, within a hilly landscape of oak and pine woodland intermixed with chaparral and other grassland openings. The woodland vegetation community in the proposed project area most closely resembles the foothill pine (*Pinus sabiniana*) woodland alliance, according to the Manual of California Vegetation (MCV) (Sawyer et al. 2009), and is dominated by foothill pine with interior live oak (*Quercus wislizeni* ssp. *wislizeni*) and deciduous oak tree species (*Q douglasii* and/or *Q. lobata*). The patches of shrub community are best described as buck brush (*Ceanothus cuneatus*) chaparral alliance (Sawyer et al. 2009). Other shrubs and vines, observed in the proposed project area and associated with these communities, include native deerweed (*Acmispon glaber*), silver bush lupine (*Lupinus albifrons* var. *albifrons*) and sierra man-root (*Marah horrida*).

Nonnative annual grasses on the proposed project site include wild oats (*Avena fatua*) and ripgut brome (*Bromus diandrus*). The survey was conducted too early in the year to determine which grass species may be dominant; therefore, this community ultimately could be classified as any one of the several nonnative, grass-dominated, herbaceous semi-natural alliances described in the MCV (Sawyer et al. 2009). Other grasses that were observed included rattail sixweeks grass (*Festuca myuros*) and perennial rye (*Festuca perennis*). Native forbs included common fiddleneck (*Amsinckia menziesii*), miner's lettuce (*Claytonia perfoliata* var. *perfoliata*), foothill snowdrops (*Plagiobothrys nothofulvus*), blue dicks (*Dichelostemma capitatum* ssp. *capitatum*), sky lupine (*Lupinus nanus*), miniature lupine (*L. bicolor*), fringe pod (*Thysanocarpus curvipes*), and red maids (*Calandrinia menziesii*). Nonnative forbs included (*Erodium brachycarpum*), smooth cat's ear (*Hypochaeris glabra*), wood sorrel (*Oxalis* sp.), and common chickweed (*Stellaria media*).

The value of a site to wildlife is influenced by a combination of the physical and biological features of the immediate environment. Species diversity is a function of abiotic and biotic conditions, and may be affected greatly by human use of the land. The wildlife habitat quality of an area, therefore, ultimately is determined by the type, size, and diversity of vegetation communities present and their degree of disturbance. For example, as a plant community is degraded by the loss of understory diversity, creation of openings, or reduction in area, generally a loss of structural diversity occurs. Degradation of the structural diversity of a community typically diminishes wildlife habitat quality and usually results in a reduced ability to support a variety of wildlife species.

Wildlife habitats typically are distinguished by vegetation type, with varying combinations of plant species providing different resources for consumption. Grassland habitats, both native and non-native, attract reptiles and amphibians, such as alligator lizard (*Gerrhonotus* spp.), western fence lizard, and Pacific slender salamander (*Batrachoseps attenuatus*), which feed on invertebrates found within and beneath fallen logs in the vegetation community. This habitat also attracts seed-eating and insect-eating species of birds and mammals. California quail (*Callipepla californica*), mourning dove, and western meadowlarks are a few granivores that nest and forage in grasslands. Insectivores, such as the western scrub-jay (*Aphelocoma californica*), barn swallow (*Hirundo rustica*), and northern mockingbird (*Mimus polyglottos*), use the habitat for foraging only. Grasslands are important foraging grounds for insectivorous bats, such as myotis (*Myotis* spp.) and pallid bats (*Antrozous pallidus*).

A large number of other mammal species, such as the California vole (*Microtus californicus*), deer mouse (*Peromyscus maniculatus*), Botta's pocket gopher (*Thomomys bottae*), Beechey (=California) ground squirrel (*Spermophilus beecheyi*), coyote (*Canis latrans*), red fox, striped skunk (*Mephitis mephitis*), and black-tailed hare

(*Lepus californicus*), also forage and nest or den within grasslands. Small rodents attract raptors (i.e., birds of prey), such as owls, which hunt at night, as well as day-hunting raptors, such as the red-tailed hawk and red-shouldered hawk, among others. Burrowing owls nest in grassland habitats that are characterized by short vegetation and ground squirrel activity. Some amphibian species that breed in adjacent irrigation canals also aestivate (or spend the summer) in small mammal burrows within portions of these habitats. Black-tailed deer (*Odocoileus hemionus californicus*) also can use grasslands for browsing and resting. Although the surrounding landscape predominantly is undisturbed open space, the proposed project site is small and appears to have been disced or lightly graded in the recent past. Because it is disturbed, its value to wildlife has been diminished and it is unlikely to support much diversity of wildlife species.

Sensitive Biological Resources

Sensitive biological resources include those species, natural communities, and habitats that receive special protection through the federal Endangered Species Act, California Endangered Species Act (CESA), Clean Water Act (CWA), California Fish and Game Code, Porter-Cologne Act, or local plans, policies, and regulations; or that are otherwise considered sensitive by federal, State, or local resource conservation agencies. No wetlands and/or waters of the U.S. or State are on the proposed project site, or any special-status natural communities or habitats.

No critical habitat is found on the proposed project site; the nearest critical habitat is approximately 2.5 miles to the east and 4 miles to the northeast for the vernal pool tadpole shrimp (*Lepidurus packardi*), and 4 miles to the south and east for both vernal pool fairy shrimp (*Branchinecta lynchi*) and California tiger salamander (*Ambystoma californiense*).

Sensitive biological resources evaluated as part of this analysis are special-status plant and wildlife species. These resources are discussed next.

Special-Status Species and Critical Habitat

Field reconnaissance, database searches, and a background literature review were conducted to characterize biological resources present or with the potential to occur in the proposed project site. A site reconnaissance and survey and protocol-level botanical survey was conducted on March 15, 2019. No protocol-level wildlife surveys have been conducted within the site to date. To support the site survey, records searches of the following databases were performed to identify special-status species known to occur or with the potential to occur in the proposed project site and vicinity, and any wetlands or waters:

- California Natural Diversity Database (CNDDB) nine-quadrangle (quad) search in the U.S. Geologic Survey (USGS) Millerton Lake West quad, where the proposed project site is located, and the adjacent eight quads (CNDDB 2019);
- California Native Plant Society (CNPS) Rare Plant Inventory standard nine-quad search in the USGS Millerton Lake West quad (CNPS 2019);
- U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation database, identifying federally regulated sensitive resources with the potential to occur in the proposed project site (USFWS 2019a);

- USFWS online Critical Habitat Mapper (USFWS 2019b);
- NRCS soil survey data, in the Soil Survey Geographic Database (SSURGO) (NRCS 2018);
- USFWS National Wetland Inventory Wetlands Mapper (USFWS 2019c);
- Records for 2019 from eBird, an online citizen-based bird observation network (Sullivan et al. 2009); and
- Western Bat Working Group (WBWG) bat data.

SPECIAL-STATUS SPECIES

Special-status species include plants and wildlife in the following categories:

- species listed by the State or federal government as endangered, threatened, or rare;
- candidates for State or federal listing as endangered or threatened;
- taxa (i.e., taxonomic categories or groups) that meet the criteria for listing, even if not currently included on any list, as described in Section 15380 of the California Code of Regulations (CCR), the State CEQA Guidelines;
- wildlife designated by CDFW as fully protected and/or species of special concern;
- birds protected under the Migratory Bird Treaty Act (MBTA);
- bats designated by the WBWG as high (red) or medium (yellow) priority; and
- plants ranked by CDFW to be rare, threatened, or endangered in California.

CDFW's California Rare Plant Rank (CRPR) system includes six rarity and endangerment ranks for categorizing plant species of concern, which are summarized as follows:

- CRPR 1A – plants presumed to be extinct in California
- CRPR 1B – plants that are rare, threatened, or endangered in California and elsewhere
- CRPR 2A – plants presumed to be extinct in California, but more common elsewhere
- CRPR 2B – plants that are rare, threatened, or endangered in California, but more common elsewhere
- CRPR 3 – plants about which more information is needed (a review list)
- CRPR 4 – plants of limited distribution (a watch list)

All plants with a CRPR are considered to be "special plants" by CDFW. The term "special plants" is a broad term used by CDFW to refer to all of the plant taxa inventoried in CDFW's CNDDB, regardless of their legal or protection status. Plants ranked as CRPR 1A, 1B, 2A, and 2B may qualify as endangered, rare, or threatened species within the definition of the CEQA Guidelines, Section 15380. CDFW recommends that CRPR 1 and 2 species be addressed within the context of CEQA analyses and documentation. In general, CRPR 3 and 4 species do not meet the definition of endangered, rare, or threatened, pursuant to the CEQA Guidelines; however, these

species may be evaluated by the lead agency on a case-by-case basis, to determine significance criteria under CEQA.

The term "California species of special concern" is applied by CDFW to wildlife not listed under the federal Endangered Species Act or CESA, but that nonetheless are declining at a rate that could result in listing, or that historically occurred in low numbers, or have limited ranges, and known threats to their persistence currently exist. "Fully protected" was the first state classification used to identify and protect wildlife species that are rare or facing possible extinction. Most of these species subsequently were listed as threatened or endangered under one or both of the acts. The remaining fully protected species that are not listed officially under one of the acts still are legally protected under California Fish and Game Code, and qualify as endangered, rare, or threatened species within the definition of State CEQA Guidelines, Section 15380.

The database searches that are identified above resulted in 21 special-status plant species being evaluated for their potential to occur in the proposed project site or vicinity. Table 3.4-1 summarizes the regulatory status, habitat, and bloom period for the two species with potential to occur at the project site.

Table 3.4-1 Special-Status Plant Species Known or with the Potential for Occurrence on the Project Site

Species	Regulatory Status[a]		Blooming Period	Habitat/Elevation Range	Potential for Occurrence
	Federal	State			
Brassy bryum *Bryum chryseum*	-	4.3	N/A	Chaparral (openings), Cismontane woodland, valley and foothill grassland/160–1,970 feet	Moderate. Suitable habitat is present in the proposed project site. Nearest known herbarium collection site is 2.24 miles east-northeast.
Hoover's calycadenia *Calycadenia hooveri*	-	1B.3	July–September	Cismontane woodland, valley and foothill grassland; rocky/210 to 985 feet	Low. The proposed project site is at high end of known elevation range and one occurrence in the nine-quad rant area is 8.6 miles to the southwest.

Notes:

[a] California Rare Plant Rank (CRPR) categories:

1B = plant species considered rare or endangered in California and elsewhere (protected under CEQA, but not legally protected under the federal Endangered Species Act or California Endangered Species Act)

.3 = not very threatened in California (less than 20 percent of occurrences threatened/low degree and immediacy of threat or no current threats known)

Sources: CDFW 2019; CNPS 2019; Baldwin et al. 2012; AECOM 2019

The database searches for special-status wildlife resulted in 27 special-status wildlife species being evaluated for their potential to occur in the proposed project site or vicinity. Table 3.4-2 summarizes the regulatory status, habitat, and bloom period for the two species with the potential to occur in the proposed project site. Of the 27, seven special-status wildlife species are known or have the potential to occur in the proposed project area (Table 3.4-2).

The remaining special-status wildlife species either are unlikely to occur or have no potential to occur because of a lack of suitable habitat on site or the site is outside the known range of the species.

Table 3.4-2 Special-Status Animal Species Known or with Potential for Occurrence on the Project Site

Species	Regulatory Status[a]		Habitat	Potential for Occurrence
	Federal	State		
Amphibians and Reptiles				
California tiger salamander *Ambystoma californiense*	T	T	Small ponds, lakes, or vernal pools in grasslands and oak woodlands for larvae; rodent burrows, rock crevices, or fallen logs for cover for adults and for summer dormancy.	High. No suitable aquatic habitat is present throughout the proposed project site (site). However; suitable upland habitat is found throughout the site and this species has been recorded within one mile to the northwest at a higher elevation. The species is known to travel up to 1 mile to find suitable breeding habitat. The potential exists for the species to be living in ground squirrel or mole burrows near or on the site.
Western pond turtle *Emys marmorata*	_	SSC	Forages in ponds, marshes, slow-moving streams, sloughs, and irrigation/drainage ditches; nests in nearby uplands with low, sparse vegetation.	Low. No suitable perennial aquatic habitat is present in the site. Suitable aquatic habitat is present adjacent to the site, to the south and east. Pond turtles potentially could move through the site during wet periods, to disperse between aquatic sites and nest in annual grassland habitats. This species has been documented less than half a mile from the site in the San Joaquin River, which flows into Millerton Lake.
Western spadefoot toad *Spea hammondii*	-	SSC	Occurs primarily in grassland habitats but can be found in valley-foothill hardwood woodlands. Vernal pools are essential for breeding and egg-laying.	Low. Suitable grasslands were observed at the site, and this species has been documented 5 miles southwest of site; no vernal pools were observed at the site.
Birds				
Golden eagle *Aquila chrysaetos* (nesting)	_	FP	Prefers open terrain for hunting, such as grasslands, meadows, deserts, savannas, and early successional stages of forest and shrub habitats. Nests in rugged, open habitats with canyons and escarpments, typically on cliffs and rock outcroppings; however, it also will nest in large trees within open areas, including oaks, sycamores, redwoods, pines, and eucalyptus, overlooking open hunting habitat.	Moderate. No suitable nesting habitat on site. Suitable nesting or foraging habitat is present adjacent to the site and this species has been documented in March 2019 less than 2 miles from the site (eBird 2019).
Swainson's hawk *Buteo swainsoni* (nesting)	_	T	Forages in grasslands and agricultural lands; nests in riparian and isolated trees.	Low. No suitable nesting habitat on site. Suitable nesting habitat is found adjacent to the site. Foraging habitat is within 5 miles of the site. It has been observed within 2 miles of the site in April–May (eBird 2019).
Prairie falcon *Falco mexicanus*	-	WL	Inhabits dry, open terrain, either level or hilly. Breeding sites located on cliffs. Forages far afield, even to marshlands and ocean shores.	Low. No potential habitat is found in the site; however, potential habitat is present surrounding the site. The species was recorded in 2016 near the site (eBird 2019).

Table 3.4-2 Special-Status Animal Species Known or with Potential for Occurrence on the Project Site

Species	Regulatory Status[a]		Habitat	Potential for Occurrence
	Federal	State		
Bald eagle *Haliaeetus leucocephalus* (nesting and wintering)	D	E, FP	In western North America, nests and roosts in coniferous forests within 1 mile of a lake, reservoir, river, or the ocean.	Low. Known to occur near the proposed project area and suitable conifers are adjacent to the site for an eagle to nest. This species is known to occur from October until April near the proposed project vicinity, but no known nests are in the area.

Notes:
CNDDB = California Natural Diversity Database
a. Legal Status Definitions

Federal:	State:
T Threatened (legally protected)	E Endangered (legally protected)
D Delisted	T Threatened (legally protected)
	FP Fully protected (legally protected)
	SSC Species of special concern (no formal protection other than CEQA consideration)
	WL Watch List

Sources: CDFW 2019; USFWS 2019; eBird 2019

3.3.5 Discussion

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or the U.S. Fish and Wildlife Service?

The proposed project construction would result in temporary and permanent impacts on habitat. Temporary impacts related to construction would be related to vegetation removal and grading. Permanent habitat loss would occur only in the areas occupied by the new WTP. Existing vegetation would remain in all areas not occupied by permanent facilities or infrastructure. The following construction activities could cause direct and indirect impacts on sensitive biological resources present in the project site:

- vegetation removal and grading;
- trenching, excavation, backfill, and construction of retaining walls;
- siltation from the construction site into adjacent areas; and
- potential runoff of diesel fuel, gasoline, oil, or other toxic materials used for project equipment, into adjacent drainages and habitat for special-status species.

Special-Status Plants

Four special-status plants had some potential for occurrence on the site, but the March 2019 survey covered the bloom period for two of the species and neither were detected on the site. Brassy bryum (*Bryum chryseum*) is a moss and is CRPR 4.3. As a CRPR 4 species it does not meet the definition of endangered, rare, or threatened, pursuant to the State CEQA Guidelines and therefore does not require further analysis, though these species may

be evaluated by the lead agency on a case-by-case basis. Mosses were observered on the project site, but none were collected or reviewed under a microscope, which is required for proper identification. Brassy bryum has the potential to be present on the project site.

Hoover's calycadenia (*Calycadenia hooveri*), CRPR 1B.3, is an annual herb in the sunflower famile (Asteraceae). It's bloom period is July to September and it's habitat is rocky, exposed places in grassland or woodland between 210 and 985 feet above mean sea level. If present on the site, vegetation removal and grading could destroy the seed bank and disturb or kill individuals on site. The impact would be **potentially significant**.

Mitigation Measure 3.4-1a: Avoid and Minimize Impacts on Special-Status plants

Prior to vegetation removal or ground-disturbing activities, a focused survey shall be conducted to determine if Hoover's calycadenia occurs within the project footprint. The survey shall be conducted in accordance with CDFW (2009) Protocols for Surveying and Evaluating Impacts to Special-Status Native Plant Populations and Natural Communities. The survey shall be scheduled to coincide with the known blooming period (July to September for Hoover's calycadenia) and/or during periods of physiological development that are necessary to identify the plant species of concern. If no special-status plant species are found, the Project will not have any impacts to the species and no additional mitigation measures are necessary.

If special-status species are located in the BSA but outside the project footprint, the plants shall be avoided by installing protective fencing and warning construction personnel of their presence.

If special-status plants are found on-site and cannot be avoided, the City shall consult with the CDFW to determine appropriate mitigation and conservation measures.

Implementation of Mitigation Measure 3.4-1a will reduce potential impacts on Hoover's calycadenia. The impact would be **less than significant with mitigation incorporated**.

Reptiles and Amphibians

AECOM biologists conducted a visual habitat assessment for amphibians and reptiles at the proposed project site on March 15, 2019. No aquatic features, such as ponds or vernal pools that could provide potentially suitable breeding habitat for California tiger salamander (CTS) or western spadefoot toad (WST), were identified during the habitat assessment, and no other aquatic features, such as slow-moving streams or irrigation/drainage ditches that would provide suitable habitat for western pond turtle (WPT), were identified. The central portion of the site is disturbed ground; however, small mammal burrows are present on the edges of the site and potentially could provide upland refugia to CTS.

A pond is approximately 1 mile northwest of the proposed project site, and the CNDDB database includes documented CTS occurrences at the location. Two more documented CTS breeding ponds are located approximately 1.5 miles from the site. In addition, several seasonal wetlands have been documented to occur in the foothills of Millerton Lake, which are suitable for breeding CTS. Any suitable breeding habitat for CTS in the proposed project vicinity also could provide suitable breeding habitat for WST. However, multiple barriers to movement including roads and developed habitat, are between the project site and the nearest suitable breeding habitat, making the terrain inhospitable to dispersing amphibians.

The closest documented WST breeding site is 5 miles southwest of the proposed project site. Although the full extent of the species' home range is unknown, individuals typically remain close to their breeding ponds, in the range of approximately 0.25 mile (CDFW 2000; USFWS 2005). Because of the extensive hilly terrain and developed habitat, the lack of documented co-occurrences at known CTS breeding sites and distance to the nearest known WST breeding site, and disturbance at the site, WST are not likely to be found on site.

CTS are known to range up to 1.24 miles from suitable breeding habitat. Although the terrain coupled with the prior disturbance at the proposed project site make it unlikely, CTS possibly could use refugia on the site. Furthermore, the nearest WPT occurrence is documented less than half a mile from the proposed project site, in the San Joaquin River, which flows into Millerton Lake. Suitable aquatic habitat for WPT is present adjacent south and east of the site. WPT potentially could move through the site during wet periods or overnight, to disperse between aquatic sites and nest within annual grassland habitats.

Construction activities would be limited to the proposed project site, which is adjacent to ephemeral drainages in the surrounding hillside draws. Although it would be unlikely for CTS to be aestivating on site or for a wandering CTS or WPT individual to occur on site during construction, this possibly could occur. An dormant CTS individual or wandering CTS individual or WPT could be killed or injured by construction activities. In addition, a wandering individual could be trapped in steep-walled holes or trenches or open ended pipes, or could become entangled in erosion control material. The impact would be **potentially significant**.

Mitigation Measure 3.4-1b: Avoid and Minimize Impacts on California Tiger Salamander and Western Pond Turtle

A qualified biologist will survey the project site and map burrows suitable as refugia for CTS within 30 days before the start of construction. A 35-foot buffer from all burrows will be established as an environmentally sensitive area (ESA). No construction activity or parking of equipment will be allowed within the designated ESA.

A qualified CTS biologist (defined as an individual with 3 years of experience conducting surveys for CTS and its habitat) will be present on site to conduct monitoring during project construction activities that will disturb surface soils.

Project-related vehicle traffic will be restricted to established roads. To the extent possible, Madera County will confine all project-related parking, storage areas, laydown sites, equipment storage, and any other surface-disturbing activities to previously disturbed areas.

All steep walled holes or trenches that are 1 foot deep or greater will have at least one escape ramp constructed of earthen fill or wooden planks, will be completely covered before sunset of each workday using boards or metal plates that are placed flush to the ground, and will be inspected before the start of daily construction activities.

To prevent inadvertent entrapment of CTS or WPT during project construction, all construction pipes, culverts, conduits, and other similar structures stored on site overnight will be capped before storage or will be inspected before the structure is buried. Plastic mono-filament netting will not be used for sediment control because it can pose an entrapment hazard to CTS and other wildlife.

Implementation of Mitigation Measure 3.4-1a combined with measures to minimize impacts on drainages will reduce potential impacts on CTS and WPT. The impact would be **less than significant with mitigation incorporated.**

Raptors and Migratory Birds

Golden Eagle

No eagles were observed in or around the proposed project site during the March 15, 2009 survey. Suitable habitat in the form of large conifers and live oaks (*Quercus spp.*) surround the site and would have the potential for golden eagles to nest in them. Millerton Lake is 0.45 mile east and 0.37 mile south of the site, and it also provides suitable foraging habitat for the species. The species has been documented by local citizens in the area, using eBird as recent as March 2019 (eBird 2019). Local nest locations are surpressed by CDFW in the CNDDB database, to protect the species; therefore, nests locations were not included in the anaylsis.

Swainson's Hawk

No hawks were observed in or around the proposed project site during the March 15, 2009 survey, and no hawk nests are present in the project site. During this survey, one raven nest was approximately 600 feet north of the site. Large coniferous trees and oaks surround the site and may provide suitable nesting habitat for the species. Most CNDDB occurences of Swainson's hawk were documented west of the site, near agricultural fields, which suggests that Swainson's hawks may be using Millerton Lake as foraging habitat.

Other Raptors and Migratory Birds

Several raptors species may forage and nest within various communities in the proposed project area. Potential nesting trees for raptors surround the proposed project site. Special-status migratory birds forage and nest in various artificial and natural biological communities, such as the foothill pine woodland, buck brush chaparral, and annual grassland habitats in and surrounding the site.

Disruption or destruction of migratory bird nests is a violation of the Migratory Bird Treaty Act. Disruption or destruction of active raptor nests is a violation of Section 3503.5 of the California Fish and Game Code. The impact would be **potentially significant**.

Mitigation Measure 3.4-1c: Conduct Pre-Construction Surveys for Raptors and Migratory Birds

General Measure: Removal of trees and vegetation will be avoided to the greatest extent feasible. If possible, trees and vegetation will be removed outside the nesting season, October 1 through December 30.

Golden Eagle: If construction occurs between December 30 through July 1, the County will conduct preconstruction surveys for golden eagle nests in areas supporting suitable nesting habitat, important eagle roost sites, and foraging areas within 2 miles of the project site. Surveys will be conducted in accordance with USFWS Interim Golden Eagle Inventory and Monitoring Protocols (USFWS 2010) or current guidance. If an active eagle's nest is found, project disturbance will not occur within 0.5 mile of the active nest site if that action is shown to disturb nesting birds. The 0.5-mile no disturbance buffer will be maintained throughout the breeding season or until the young have fledged and are no longer

dependent on the nest or parental care for survival, as determined by a qualified biologist in consultation with USFWS and/or CDFW.

Swainson's Hawk and other Raptors: If construction occurs between February 1 and August 31, Madera County will conduct surveys for nesting raptors, in accordance with established CDFW raptor survey protocols. The surveys will cover a minimum of a 0.5-mile radius around the construction area. If nesting raptors are detected, the County will establish buffers around nests that are sufficient so that breeding is not likely to be disrupted or adversely affected by construction. Buffers around active raptor nests will be 0.25 mile for Swainson's hawk and 500 feet for non-listed raptors, unless a qualified biologist, in consultation with CDFW, determines that smaller buffers will be sufficient to avoid impacts on nesting raptors. Factors to be considered for determining buffer size will include: the presence of natural buffers provided by vegetation or topography; nest height; locations of foraging territory; and baseline levels of noise and human activity. Buffers will be maintained until a qualified biologist, in consultation with CDFW, has determined that young have fledged and are no longer reliant on the nest or parental care for survival.

Migratory Birds: To avoid impacts on nesting birds, construction activity will occur outside the general nesting season (January 15–September 30). Alternatively, if construction cannot be avoided during the nesting season, preconstruction surveys for active nests of special-status birds and birds protected by the MBTA will be required before the start of any project activities. If active nests are found, a disturbance avoidance buffer will be established. An avoidance buffer will constitute an area where project-related activities (i.e., vegetation removal, earth moving, and construction) will not occur. Typcial avoidance buffers during the nesting season will be 0.5 mile for eagles and Swainson's hawk, 500 feet for other raptors, and 50 feet for nesting passerine birds. Buffer distances may be adjusted by a qualified biologist, in consultation with USFWS and/or CDFW. A qualified biologist will monitor any active nests during construction, to ensure that the species is not being harmed or harassed by the noise or activity coming from project-related construction.

Implementation of Mitigation Measure 3.4-1b would minimize disturbance or disruption of any active nesting sites of golden eagle, Swainson's hawk, other raptors, and/or migratory birds. The impact would be **less than significant with mitigation incorporated**.

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Game or the U.S. Fish and Wildlife Service?

No riparian or other sensitive habitats are present in the proposed project site. **No impact** would occur.

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?

No State or federally protected wetlands or waters are on the proposed project site. **No impact** would occur.

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?

Wildlife movement corridors typically are associated with ridgelines and valleys, rivers, and creeks supporting riparian vegetation. The proposed project site is a small, mid-slope flat property with more typical movement corridors available adjacent to the site. Proposed project development temporarily would impede wildlife use of the site; however, these project effects would be very localized and would not substantially affect wildlife movements. No wildlife nursery sites are in the proposed project site. The impact would be **less than significant**.

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

Proposed project site development would not conflict with any known local policies or ordinances, and would be consistent with provisions of the Madera County General Plan protecting fish and wildlife habitat (Goal 5 E) and vegetation (Goal 5 F). **No impact** would occur.

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?

No draft or adopted habitat conservation plans, natural community conservation plans, or other approved local, regional, or state habitat conservation plans exist. **No impact** would occur.

FEDERAL CROSS-CUTTING TOPICS

Federal Endangered Species Act

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

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

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

The take prohibition in Section 9 applies only to fish and wildlife species. However, Section 9 also prohibits the unlawful removal and possession, or malicious damage or destruction, of any endangered plant from federal land. Section 9 prohibits acts to remove, cut, dig up, damage, or destroy an endangered plant species in nonfederal

areas in knowing violation of any state law or in the course of criminal trespass. Candidate species and species that are proposed for or under petition for listing receive no protection under Section 9.

See discussion under checklist item a.

Fish and Wildlife Conservation Act

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

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

Migratory Bird Treaty Act

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

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

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

See discussion under checklist item a.

Bald and Golden Eagle Protection Act

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

See discussion under checklist item a.

Magnuson-Stevens Fishery Conservation and Management Act

The Magnuson-Stevens Fishery Conservation and Management Act, as amended (16 USC 1801), requires that Essential Fish Habitat (EFH) be identified and described in federal fishery management plans. Federal agencies must consult with NMFS on any activity that they fund, permit, or carry out that may adversely affect EFH. The EFH regulations require that federal agencies obligated to consult on EFH also provide NMFS with a written assessment of the effects of any action on EFH (50 CFR 600.920). NMFS is required to provide EFH conservation and enhancement recommendations to federal agencies. The statute also requires federal agencies receiving NMFS EFH conservation recommendations to provide a detailed written response to NMFS within 30 days of receipt, detailing how they intend to avoid, mitigate, or offset the impact of activity on EFH (Section 305[b][4][B]).

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

Clean Water Act

Section 404

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

- navigable waters of the U.S.;
- interstate waters;

- all other waters where the use or degradation or destruction of the waters could affect interstate or foreign commerce;
- tributaries to any of these waters; and
- wetlands that meet any of these criteria, or that are adjacent to any of these waters or their tributaries.

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

Section 402

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

Section 401

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

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

3.5 CULTURAL RESOURCES

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

3.5.1 ENVIRONMENTAL SETTING

This section provides an overview of the prehistory, ethnography, and history of the existing WTP site and the surrounding area.

PREHISTORIC CONTEXT

The earliest periods of known human habitation in this region are not well represented in the Millerton Lake area. The earliest human presence in the region was documented to be as early as 9,000 years ago, at Clark's Flat along the Stanislaus River drainage, approximately 80 miles north of Millerton Lake (Moratto et al. 1988). Although sites dating to this period have not been identified in the lower reaches of the San Joaquin River drainage, the bracketing of the Millerton Lake area by earlier sites suggests that such sites may be present.

The presence of sites dating to the mid-Holocene period (6,000 to 3,000 years ago) is well documented in the region. Pinto series projectile points (a type of dart point dating from this period) were found in the upper Kings River drainage. Other sites in Fresno County also have yielded Pinto series points. McGuire and Wohlgemuth (1992) note that the archaeological assemblages from this period appear to be associated with shaped milling slabs and handstones, but relative concentrations of flakestone tools suggest that hunting had greater emphasis during this period than in later periods.

Beginning approximately 3,000 years ago, the cultural chronology for the Millerton Lake area is tied to two projects of particular relevance, owing to their proximity to the Millerton Lake area and similarity in cultural, historical, and environmental contexts: the Buchanan Reservoir and Hidden Reservoir investigations. Surveys that were conducted before construction of Buchanan Reservoir (Eastman Lake) on the Chowchilla River (approximately 8.5 miles east of Merced and 24 miles northwest of Millerton Lake) yielded more than 60 prehistoric habitation sites and more than 3,000 bedrock mortars. This concentration of sites indicates intensive or long-use habitation of the area. King and Moratto excavated or tested at least 27 of these sites between 1967 and 1970. Altogether, some 20,000 artifacts, 140 burials, and 92 structural features were documented. From the data obtained, Moratto (1984) established a comprehensive, three-phase chronological sequence for the prehistory of the central Sierra foothills.

The earliest sites examined at Buchanan Reservoir date from approximately 2,800 to 1,400 years ago. Known as the Chowchilla Phase, this was a time of cultural robustness because the assemblages yielded an array of tools, such as fish spears, bone artifacts, shell ornaments, and beads. Trade also assumed greater importance at this time because shells from the Pacific Coast and obsidian obtained from the east appear at these sites. The characteristic extended or semi-extended positions of the burials from this phase often are found with ritually broken artifacts and red ochre.

The next phase, known as the Raymond Phase, dates from approximately 1,650 to 450 years ago. According to Moratto (1984:319–320), the archaeological evidence indicates that this phase was a period of instability. Tools are dominated by small and medium projectile points, milling stones, bedrock mortars, and more informal tools derived from stone flakes. Moratto et al. (1988) assesses the relative scarcity of shell ornaments as reflective of a possible breakdown in trade networks. The displays of wealth found in the grave goods from sites dating to the Chowchilla Phase also become less pronounced during the Raymond Phase. A cycle of village occupation and abandonment appears during the Raymond phase, further emphasizing a time of instability. Moratto (1984) suggests that ancestral Yokuts groups may have congregated along more reliable waterways at higher elevations, possibly in response to environmental change causing "rapid desiccation" in lowland areas.

The last period of prehistoric occupation is termed the Madera Phase, dating from 450 to 150 years ago. McGuire and Wohlgemuth (1992) indicate that this was a time of cultural growth for the ancestral Miwoks and, quite likely, of the foothill Yokuts as well. They note that key assemblage characteristics of sites dating from this period include steatite (a soft carveable stone) discs and bowls, Olivella shell beads (derived from the Pacific Coast), small arrow points, bedrock mortars, and cobble pestles. Most noteworthy during this period is an apparent shift in settlement patterns, with complex ceremonial and domestic structures and major village sites along major watercourses, and ancillary settlements along the larger tributaries. Typical of this phase are circular semi-subterranean structures with central hearths. A shift to flexed burial positions appeared, along with the introduction of cremation.

Several other investigations have contributed to an understanding of the region. Two prehistoric archaeological sites approximately 10 miles east of the Millerton Lake area were subject to excavations in the 1980s. Site CA-FRE-1671 is noteworthy because it has a 2,700-year span of occupation, dating from the Chowchilla Phase into the Madera Phase. The second site is CA-FRE-64, which yielded a local steatite industry with adjacent steatite quarries. The site spans the latter part of the Raymond Phase into the early Madera Phase (from 900 to 1600). The intensity of occupation at this site was fairly pronounced, based on the amount of accumulated midden, the presence of bedrock mortars, acorn leaching pits, a hearth, a burial, and the frequency of artefactual and dietary remains.

The Millerton Lake area has been the subject of a number of archaeological surveys since 1939. Most of these have been reconnaissance-level surveys, although some systematic surveys have been conducted along the perimeter of the reservoir impoundment. The findings of these surveys suggest continuity with the general findings established at Buchanan and Hidden reservoirs.

ETHNOHISTORIC CONTEXT

Before historic contact with Euro-Americans, most of the San Joaquin Valley and Sierra foothills were occupied by Yokutsan speakers. The Yokuts occupied a large geographic area in the San Joaquin Valley, from the mouth of

the San Joaquin River to the Tehachapis, and in the Sierra foothills from the Fresno River to the Kern River. In 1995, as an appendix to an archaeological reconnaissance report of Millerton Lake, Betty Rivers wrote a specific ethnography devoted to this area (Steidl et al. 1995). The following discussion summarizes that report.

The region surrounding Friant Dam was occupied by two subgroups of the Yokuts: the Dumna and the Kechai, both part of the Foothill linguistic division. The Yokuts were unique in that they were divided into true tribal entities, each with distinct names and territories (Kroeber 1925:474–519). The Dumna and the Kechai each controlled stretches of major drainages.

As reported in Hines (1988), the Dumna were found mainly on the northern bank of the San Joaquin River, in what is now Millerton Lake. On the southern bank, one of their major villages was leveled during construction of Fort Miller. They also may have inhabited some of the area west of Table Mountain. The Kechai lived above Millerton Lake on the southern bank of the San Joaquin River, opposite the Dumna (Kroeber 1925:474–519; Gayton 1948; Latta 1976).

During the period of ethnographic occupation, the region was located near extensive wetland, grassland, riparian and oak parkland habitats. These zones would have provided a rich resource base. Resources were controlled by each tribe, but were shared through trade and special agreements (Hines 1988).

The Dumna and Kechai built a variety of structures, including dwellings, granaries, storehouses, and sweathouses. Each family in the tribe lived in an oval or circular dwelling made of wood with a thatched roof (Kroeber 1925:474–519).

Native lifestyles were altered greatly by Euro-American contact. The aboriginal cultural ways, such as housing and diet, generally were replaced by European-style structures, store-bought foods, and manufactured clothing. This influence resulted in the loss of the traditional social structure and cultural breakdown as colonization introduced debilitating disease to the native communities. Modern reservoirs, such as Millerton Lake, have inundated areas of native inhabitation. (Spier 1978)

Today, the Dumna and the Kechai are seeking federal recognition as a sovereign tribe of Foothill Yokuts on their ancestral lands. The Table Mountain Rancheria Band of Indians, located in Dumna territory in Friant, is a consortium of displaced Foothill Yokuts and Monache from the region. The Rancheria owns a casino in Friant, approximately 5 miles east of the proposed project area.

HISTORIC-ERA CONTEXT

Millerton Lake and Friant Dam

A more extensive history of Millerton Lake and Friant Dam was conducted by JRP Historical for the Millerton Lake Resource Management Plan/General Plan (URS 2007). The following discussion is derived from that report.

The area of northeastern Fresno County and southeastern Madera County where Friant Dam and Millerton Lake are located was briefly explored but not settled during the Spanish or Mexican periods. The discovery of gold in California in 1848 quickly altered the landscape and history of the Millerton Lake area. As the gold rush intensified, the San Joaquin River was mined for its gold deposits, and the town of Rootville was established in

1851, to accommodate the miners. The Native Americans in the area opposed the influx of miners on their lands, and many accounts describe local Native American attacks on miners.

A military post, Camp Barbour, was established on the east bank of the San Joaquin River in April 1851. The fort was strategically situated on one of the widest reaches of the San Joaquin River, above the danger of flood waters. The waters of the river were not navigable above this point, and the location was within easy reach of the foothills and close enough to the district of Cassady's Bar to afford adequate protection to the miners in that vicinity (Giffen 1939). The name of Camp Barbour was changed to Fort Miller in honor of Major Miller, a commanding officer at Camp Benicia, the military headquarters for California.

In the 1930s, work began on the Central Valley Project (CVP) in the San Joaquin Valley. The CVP is the genesis of Friant Dam, Millerton Lake, and the Madera and Friant-Kern canals, which were completed in the 1940s. Friant Dam impounded the waters of the San Joaquin River, which inundated the former sites of Fort Miller and Millerton. Before the inundation, a local contractor disassembled the courthouse, and the building was reassembled in the 1970s in Millerton Lake State Recreation Area (SRA), about 2 miles from its original site.

Friant Dam was part of the initial construction of the CVP and was the first major structure to be completed in the project in the southern San Joaquin Valley. The federal project began its first appropriations to the CVP in 1935, but the first major planning and construction efforts at the Friant and Shasta Dam sites did not begin until 1937, when the U.S. Bureau of Reclamation (Reclamation) started acquiring water rights along the San Joaquin River for construction of Friant Dam, constructed a warehouse at Friant, and began awarding contracts for dam construction.

In 1939, Griffith Company and Bent Company of Los Angeles were awarded the contract for construction of the dam. Reclamation and contractors broke ground for Friant Dam on November 5, 1939, and the first bucket of concrete was poured on July 29, 1940. Construction on Shasta Dam began the same month. Reclamation began construction of the Madera Canal in 1940 and the Friant–Kern Canal in 1945.

The 36-mile-long Madera Canal was to have a capacity of 1,000 cubic feet per second (cfs) from Friant Dam, which gradually was reduced to 625 cfs at its terminus at the Chowchilla River, to account diversions along the route. From Friant Dam, the first 8.5 miles of the canal, completed by 1942, are concrete lined; the remainder of the canal is earthen lined. As with many other units of the CVP, work was stopped on the Madera Canal in 1943 because of war shortages, but the canal was completed in May 1945, at a total cost of $35 million. With the war over and Friant Dam and Madera Canal completed, Reclamation began construction of the 152-mile-long Friant–Kern Canal in 1945. Although water was diverted into the canal in 1949, it was not completed until 1951.

Friant

The town known as Friant went through a number of name changes before its current name was adopted, nearly 100 years ago. Established by Charles Converse in 1852, the town originally was known as Converse Ferry; shortly thereafter, it became Jones Ferry, when it was named after a local merchant. A post office was established in 1881, and the town became known as Hamptonville, in honor of the first postmaster. After a branch of the Southern Pacific Railroad was constructed from Fresno in 1891, the town was renamed Pollasky, after a railroad agent. Friant adopted its current name in the early 1920s, when it was renamed for Thomas Friant of the White–Friant Lumber Company (Gudde 1998).

Hidden Lake Estates

The existing and proposed WTP are to serve Hidden Lakes Estates, the subdivision in the southern half of Section 23, T10S, R21E, MDB&M in Friant, approximately 20 miles northeast of Fresno in rural Madera County. The subdivision is on the northern side of Millerton Lake, along the western side of Fine Gold Creek. This area was sparsely populated at the time that the lake was created, and a dirt road with a corral was the only built environment along what is now Hidden Lake Boulevard, the main road in the subdivision (USGS 1942; UCSB 1957).

The Hidden Lakes Estates residential development initially was subdivided in 1957 by the Madera Development Company, headed by Freeman Ralston of Fresno. Freeman Ralston, a restaurant owner and home builder from Fresno, created the Madera Development Company to development 3,000 lots on 5,000 acres on the only privately owned land in the Millerton Lake region. Roads were established in the latter half of 1957, and water lines were laid in the spring and summer of 1958 (Madera Tribune 1958). The Madera Development Company received authorization from the California Public Utility Commission in 1959 to construct and operate its own water system for Hidden Lake Estates and form a temporary contract with Reclamation to provide water through a series of submerged pumps, in place until a long-term contract could be negotiated (Madera Tribune 1959).

Initially planned for 10,000 residents, the Madera Development Company sought to build the homes in the development or provide the option for owners to build their own homes. Owner-built homes required approval by an architecture review board (Madera Tribune 1958). The ultimate vision of the development company was to sell $8 million in home sites to fund construction of Hidden Lake Village, north of Millerton Lake Shore, with two motels, an 18-hole golf course, tennis courts, a clubhouse, a three-story night club, riding stables, a restaurant, a grocery store, a butcher shop, a service station, a drug store, and various clothing retail shops. Ralston described the village as one of a kind, architecturally similar to Carmel but "nicer" (Madera Tribune 1958).

Into the early 1960s, very little home building had occurred and none of the village was developed. In 1963, a county-wide building stop order was set in place by the Madera County Board of Supervisors, impeding developers of Hidden Lakes Estates from forming an improvement district to construct water facilities. The maintenance district was to operate both the new and existing water system in an adjacent development. Around this time, the temporary contract with Reclamation to supply water from Millerton Lake expired. The long-term contract provided 200 acre feet of water a year for each of the 218 lots in the subdivision (Fresno Bee 1965).

Although Hidden Lake Estates had 218 recorded lots, review of historic maps and aerial photography reveal that in 1965, only 10 houses had been constructed (USGS 1965; UCSB 1965). In 1981, the number of houses had increased to only 13 (USGS 1981). According to Madera County assessor data, most of the homes built in Hidden Lakes Estates were constructed in the mid to late 2000s, and as of 2012, the subdivision had 49 developed lots. Houses along Hidden Lake Boulevard near the existing WTP, which was built in 1986, were constructed in the mid to late 2000s. In about 2009, Madera County placed another building moratorium on Hidden Lakes Estates because the existing WTP capacity was insufficient to serve additional residences (DGS 2012).

Literature Review

On February 20, 2019, an archival records search for this cultural resources assessment was conducted by staff of the Southern San Joaquin Valley Information Center (SSJVIC), an affiliate of the California Office of Historic Preservation's California Historical Resources Information System. The SSJVIC indicated that no archaeological

investigations or documented cultural resources are located within the proposed project site, including a 0.25-mile radius. Appendix C provides materials that were generated by the record search that was conducted at the SSJVIC.

3.5.2 Discussion

a) Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?

The proposed project site is not known to have any historical resources, as defined by Section 15064.5 of CEQA. **No impact** would occur.

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?

The proposed project site is not known to have any historical resources, as defined by Section 15064.5 of CEQA. **No impact** would occur.

c) Disturb any human remains, including those interred outside of formal cemeteries?

No human remains or internments have been encountered. **No impact** would occur.

3.5.3 Federal Cross-Cutting Topic

National Historic Preservation Act

The National Historic Preservation Act of 1966 as amended (PL 89-665; 80 Stat. 915; 16 USC 470) created the National Register of Historic Places and extended protection to historic places of state, local, and national significance. It established the Advisory Council on Historic Preservation, State Historic Preservation Officer (SHPO), Tribal Preservation Officers, and a preservation grants-in-aid program. Section 106 directs federal agencies to take into account effects of their actions ("undertakings") on properties in or eligible for the National Register. Section 106 of the act is implemented by regulations of the Advisory Council on Historic Preservation (36 Code of Federal Regulations [CFR] Part 800).

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

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

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

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

3.6 ENERGY

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VI. Energy. Would the project:				
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☒	☐
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☒	☐

3.6.1 ENVIRONMENTAL SETTING

The proposed project site is within the Pacific Gas and Electric Company's (PG&E) service area. PG&E provides natural gas and electricity to Hidden Lakes Estates. PG&E produces and purchases electricity from both renewable and non-renewable resources, with power derived from fossil fuels, nuclear, and hydroelectric sources.

3.6.2 DISCUSSION

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

The proposed project would increase the reliability of the water supply but would not increase consumption or inefficient energy use. Although energy would be consumed during project construction, this would represent irreversible consumption of finite natural energy resources.

Construction equipment and haul trucks would consume fuel during construction; however, the proposed project site's small size and relative lack of grading would minimize the energy consumed. Construction activities would not result in long-term depletion of nonrenewable energy resources and would not permanently increase reliance on energy resources that are not renewable. Construction activities would not reduce or interrupt existing electrical or natural gas services.

During operations, the WTP would consume about the same amount of energy as the existing facility, including energy required for security, safety lighting, and fuel for site maintenance workers. Furthermore, the proposed project would be required to comply with the CBC, which governs all aspects of building construction. Included in Part 6 of the CBC are standards mandating energy efficiency measures in new construction.

Compliance would ensure that the new WTP buildings be designed and built with materials with energy-efficient ratings. Thus, the proposed project would not result in the wasteful use of energy and would not consume substantial amounts of finite natural resources. The site's energy use would not increase the area's peak demand for power. Therefore, the proposed project would not adversely affect energy resources or energy conservation. Furthermore, the project would not result in an unnecessary or wasteful use of energy. The impact would be **less than significant**. No mitigation is required.

b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

State and local authorities regulate energy use and consumption through various means and programs. These regulations at the state level intended to reduce energy use and greenhouse gas (GHG) emissions. These include, among others, Assembly Bill (AB) 1493–Light-duty Vehicle Standards, California Code of Regulations Title 24, Part 6–Energy Efficiency Standards, California Code of Regulations Title 24, Part 11– California Green Building Standards.

The proposed project's construction methods are consistent with these regulations. The proposed project will comply with all state and local regulations and would not conflict with state and local policies on renewable energy and energy efficiency. Thus, the impact would be **less than significant**.

3.7 GEOLOGY AND SOILS

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VII. Geology and Soils. Would the project:				
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 California Geological Survey Special Publication 42.)	☐	☐	☐	☒
ii) Strong seismic ground shaking?	☐	☐	☒	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☐	☒
iv) Landslides?	☐	☐	☒	☐
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☐	☒	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994, as updated), creating substantial direct or indirect risks to life or property?	☐	☐	☐	☒
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☒	☐
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	☒

3.7.1 ENVIRONMENTAL SETTING

The proposed project site lies along the western margin of the central Sierra Nevada Province. The Sierra Nevada Province encompasses the Sierra Nevada and primarily is made up of intrusive rocks, including granite and granodiorite, with some metamorphosed granite and granite gneiss. The central Sierra Nevada has a complex history of uplift that has resulted in tilting of the entire Sierra Nevada block to the west. The San Joaquin River and its smaller tributaries cut through the granitic rocks present in the upper San Joaquin River watershed, and

through intrusive formations and sedimentary and metamorphosed rocks. Remnants of lava flows and layered tuff from volcanic episodes in the Sierra Nevada are present in the proposed project vicinity. Metamorphic rocks in the Friant Dam area dip steeply downstream to the west and strike northwesterly. The contact of these metamorphic rocks with the Sierra Nevada batholith lies just east of Friant Dam under Millerton Lake. Intrusive Sierra Nevada batholith rocks underlie most of Millerton Lake. (U.S. Bureau of Reclamation 2014)

Hidden Lakes Estates is adjacent to and on the northern side of Millerton Lake. The proposed project site is approximately 1,000 feet north of the shoreline's high water mark. The site is located in Paleozoic-era (i.e., approximately 542–251 million years Before Present [B.P.]) metamorphosed volcanic and volcanogenic rocks, composed of quartz-hornblende-plagioclase schist (Bateman and Busacca 1982; Kleinfelder 2017). Schist is a highly foliated, medium-grained metamorphic rock that splits easily into flakes or slabs along well-defined planes of mica.

No Alquist-Priolo Earthquake Fault Zones and no known active or potentially active faults are within 60 miles of the proposed project site (CGS 2017; Jennings and Bryant 2010). Based on a review of Madera County Soil Survey data (NRCS 2018), soil at the site consists of Coarsegold rocky loam, at 30 to 75 percent slopes. This soil type has a low shrink-swell potential. The water erosion hazard is high, and the soil is rated as hydrologic group C, which means that a high stormwater runoff potential exists. The wind erosion hazard is low because of the large soil particle size. NRCS has rated this soil as very limited for use in septic leach fields and subsurface water management because of the high rate of subsurface water movement, steep slopes, shallow depth to bedrock, and high erosion hazard. Based on the results of site-specific soil borings, Kleinfelder (2017) indicated that project site soils consist of unweathered to decomposed quartz-biotite schist, underlain by unweathered to decomposed quartz-hornblende-plagioclase schist. In other words, the "soil" at the proposed project site is composed of coarse unweathered bedrock.

3.7.2 Discussion

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 California Geological Survey Special Publication 42.)

Because the proposed project site is not located in an Alquist-Priolo Earthquake Fault Zone (CGS 2017) and no known active faults are within or adjacent to the site (Jennings and Bryant 2010), fault ground rupture would be unlikely. Therefore, **no impact** would occur.

ii) Strong seismic ground shaking?

No mapped active or potentially active faults are within 60 miles of the proposed project site (Jennings and Bryant 2010). The intensity of ground shaking depends on the distance from an earthquake epicenter to a site, the magnitude of the earthquake, and site soil conditions. The California Building Standards Code (CBC) requires a site-specific calculation of the peak ground acceleration (PGA) for use in earthquake-resistant design. As part of a site-specific geotechnical report, Kleinfelder (2017) determined that the mapped PGA for the proposed project site is 0.196*g* (where *g* is a percentage of gravity), and the

PGA adjusted for site-specific conditions is 0.235*g*. Thus, a 1-in-10 probability exists that an earthquake within 50 years would result in a peak horizontal ground acceleration of 0.235*g*, which indicates that a low level of seismic shaking is anticipated.

All project-related facilities would be designed and constructed in accordance with standard engineering practices, Madera County's Standard Plans and Specifications (Madera County 2011a), and the Madera County Code of Ordinances. In addition, project-related buildings would be required by law to be designed and constructed in accordance with the CBC, which contains engineering and design requirements that are specifically intended to reduce the loss of life and property from seismic hazards. Therefore, this impact would be **less than significant**. No mitigation is required.

iii) Seismic-related ground failure, including liquefaction?

Kleinfelder (2017) determined that, based on the average depth to groundwater, the lack of nearby active seismic sources, and the stable bedrock within which the proposed facilities would be constructed, liquefaction and seismically-induced settlement at the proposed project site would be unlikely. Thus, **no impact** would occur.

iv) Landslides?

The proposed project site is located in an area of steep slopes. However, the site is composed of stable bedrock. A geotechnical report prepared by Kleinfelder (2017) includes site-specific slope calculations based on the proposed project design, which indicate that the proposed cuts and fills and the resulting slopes would be stable. This geotechnical report also includes recommendations that specifically are designed to promote slope stability during construction. For example, heavy construction equipment, building materials, excavated soil, and vehicular traffic should be kept sufficiently distant from the top of any excavation to prevent shear stress that could cause the slope to destabilize. Therefore, this impact would be **less than significant**. No mitigation is required.

b) Result in substantial soil erosion or the loss of topsoil?

The proposed project site consists of coarse unweathered bedrock, and the amount of topsoil is very limited. Soils on steep, unvegetated slopes, like those in the proposed project vicinity, are particularly vulnerable to water erosion, especially on slopes greater than 30 percent. NRCS (2018) has rated the Coarsegold rocky loam soil at the proposed project site as highly susceptible to water erosion. However, design and construction of the proposed facilities would occur in compliance with Madera County requirements for public works projects, including the Madera County Standard Plans and Specifications (Madera County 2011a). Chapter 14.50 of Madera County Municipal Code sets minimum standards for construction, excavation, and related activities, to prevent erosion, sedimentation, and other environmental damage.

The total size of the proposed project site is just over 1 acre. Therefore, the County is required to prepare a Storm Water Pollution Prevention Plan (SWPPP), and to implement associated best management practices (BMPs) that are specifically designed to reduce construction-related erosion. Construction techniques that could be implemented to reduce the potential for stormwater runoff may include minimizing site disturbance, controlling water flow over the construction site, stabilizing bare soil, and ensuring proper site cleanup. BMPs that could be implemented to reduce erosion may include silt fences, staked straw bales/wattles, silt/sediment basins and traps,

geofabric, trench plugs, terraces, water bars, soil stabilizers, and re-seeding and mulching to revegetate disturbed areas. Because the project would be in compliance with the County's erosion and control ordinances, along with preparation of an SWPPP and implementation of BMPs designed to reduce erosion, the impact would be **less than significant**. No mitigation is required.

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?

As part of its geotechnical report, Kleinfelder (2017) considered the site-specific soil bearing loads and potential settlement. The geotechnical report includes specific recommendations for foundation design, based on soil bearing strength, anticipated vertical loads, and lateral pressures on walls and building and tank foundations. Kleinfelder determined that less than 0.25 inch of settlement is expected, based on the type and size of the proposed facilities. The proposed project site is not within water-saturated alluvial soils, and therefore liquefaction does not represent a hazard. As stated above, Kleinfelder's geotechnical report (2017) includes site-specific slope calculations based on the proposed project design, which indicate that the proposed cuts and fills and the resulting slopes should be stable. Therefore, this impact would be would be **less than significant**. No mitigation is required.

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

Based on the results of soil borings obtained by Kleinfelder (2017), the soil where the proposed project facilities would be installed is composed of weathered quartz-hornblende schist, which has a low expansion potential. Thus, **no impact** would occur.

e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?

For a septic system to function properly, soils must percolate—that is, a certain volume of water must flow through the soil within a certain period, as determined by a licensed geotechnical engineer. Wastewater is "treated" as soil bacteria feed on the waste material and, in the process, break down the material into more basic elements that are dispersed into the lower layers of the soil horizon. If wastewater percolates through the soil too quickly, the bacteria do not have enough time to digest the material. On the other hand, if wastewater percolates through the soil too slowly, the bacteria are killed by lack of oxygen.

Kleinfelder (2017) excavated two test pits and performed percolation tests to meet County requirements. The material encountered in the test pits consisted of highly weathered to decomposed quartz-hornblende schist, to a depth of approximately 2.5 feet. The percolation rate averaged approximately 1.4 minutes per 1 inch of water, which is very rapid. This results in an average effluent absorption rate of approximately 4 gallons per square foot per day for the soils in the area of the proposed leach fields.

As described in Chapter 2, "Project Description," the WTP would be equipped with a solids dewatering bin, lined with filter fabric to retain the solids and allow the washwater to drain into the septic system for final disposal. Solids from the dewatering bin periodically would be removed and transported to an appropriately permitted landfill.

Based on the results of the percolation test, the leach field would be appropriately sized and designed to meet the requirements of Madera County Code of Ordinances and the County's Local Agency Management Program for Onsite Wastewater Treatment Systems, authorized by the Central Valley Regional Water Quality Control Board (CVRWQCB) Resolution R5-2017-0044 (CVRWQCB 2017). Therefore, this impact would be **less than significant**. No mitigation is required.

f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

The Paleozoic-era metamorphosed volcanic rocks that underlie the proposed project site were formed beneath the Earth's surface under conditions of high temperature and pressure, and therefore do not contain fossils. The site does not contain any unique geologic features. Thus, **no impact** would occur.

3.8 GREENHOUSE GAS EMISSIONS

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

3.8.1 ENVIRONMENTAL SETTING

Certain gases in Earth's atmosphere, classified as GHGs, play a critical role in determining Earth's surface temperature. A portion of the solar radiation that enters the atmosphere is absorbed by Earth's surface, and a smaller portion of this radiation is reflected back toward space. This infrared radiation (i.e., thermal heat) is absorbed by GHGs in the atmosphere; therefore, infrared radiation released from Earth that otherwise would have escaped back into space is instead "trapped," resulting in a warming of the atmosphere. This phenomenon, known as the "greenhouse effect," is responsible for maintaining a habitable climate on Earth. Without the naturally occurring greenhouse effect, Earth would not be able to support life as we know it.

GHGs are present in the atmosphere naturally, are released by natural and anthropogenic (human-caused) sources, and are formed from secondary reactions taking place in the atmosphere. The following are GHGs that are widely accepted as the principal contributors to human-induced global climate change:

- carbon dioxide (CO_2)
- methane (CH_4)
- nitrous oxide (N_20)
- hydrofluorocarbons
- perfluorocarbons
- sulfur hexafluoride

Global warming potential (GWP) is a concept developed to compare the ability of each GHG to trap heat in the atmosphere relative to CO_2. The concept of CO_2 equivalents (CO_2e) is used to account the different GWP potentials of GHGs to absorb infrared radiation. The GWP of a GHG is based on several factors, including the relative effectiveness of a gas in absorbing infrared radiation and the length of time (i.e., lifetime) that the gas remains in the atmosphere ("atmospheric lifetime"). The reference gas for GWP is CO_2; therefore, CO_2 has a GWP of 1. The other main GHGs that have been attributed to human activity are CH_4, which has a GWP of 21, and N_2O, which has a GWP of 310 (UNFCC 2013). For example, 1 ton of CH_4 has the same contribution to the greenhouse effect as approximately 21 tons of CO_2. GHGs with lower emissions rates than CO_2 still may contribute to climate change because they are more effective at absorbing outgoing infrared radiation than CO_2 (i.e., high GWP).

GHG emissions associated with human activities likely are responsible for intensifying the greenhouse effect and have led to a trend of unnatural warming of Earth's atmosphere and oceans, with corresponding effects on global circulation patterns and climate (IPCC 2014). Similarly, impacts of GHGs are borne globally, as opposed to localized air quality effects of criteria air pollutants and toxic air contaminants. The quantity of GHGs that it takes ultimately to result in climate change is not known precisely; suffice it to say, the quantity is enormous, and no single project alone would measurably contribute to a noticeable incremental change in the global average temperature, or to a global, local, or microclimate. For this analysis, GHG-related effects on global climate change are considered to be inherently cumulative.

Mandatory Greenhouse Gas Reporting Rule

In 2009, USEPA published the final version of the Mandatory Greenhouse Gas Reporting Rule in the Federal Register. In general, compliance with this national reporting requirement provides USEPA with accurate and timely GHG emissions data from facilities that emit 25,000 metric tons (MT) or more of CO_2 per year. An estimated 85 percent of the total U.S. GHG emissions, from approximately 10,000 facilities, are covered by this final rule. Subsequent rulings have expanded the emissions sources required to report emissions data, and now include oil and natural gas industries, industrial wastewater treatment plants, and industrial landfills.

Executive Order S-3-05

The goal of this California Executive Order, enacted on June 1, 2005, is to reduce California's GHG emissions to 2000 levels by 2010, 1990 levels by 2020, and 80 percent below the 1990 levels by 2050. In 2006, this goal was reinforced with the passage of Assembly Bill (AB) 32.

Global Warming Solutions Act of 2006 and Executive Order S-20-06

The Global Warming Solutions Act of 2006 set the same overall GHG emissions reduction goals as outlined in Executive Order S-3-05. The act further requires that the California Air Resources Board (ARB) create a plan that includes market mechanisms, and implement rules to achieve "real, quantifiable, cost-effective reductions of greenhouse gases." Executive Order S-20-06, enacted on October 18, 2006, further directed State agencies to begin implementing the act, including the recommendations made by the State's Climate Action Team.

Senate Bill 32 and Assembly Bill 197 of 2016

August 2016, Senate Bill (SB) 32 and AB 197 were enacted, serving to extend California's GHG reduction programs beyond 2020. SB 32 amended the Health and Safety Code, to include Section 38566, which contains language to authorize ARB to achieve a statewide GHG emission reduction of at least 40 percent below 1990 levels by no later than December 31, 2030. SB 32 codified the targets established by Executive Order B-30-15 for 2030, which set the next interim step in the State's continuing efforts to pursue the long-term target expressed in Executive Orders S-3-05 and B-30-15 of 80 percent below 1990 emissions levels by 2050.

Senate Bill X1-2 of 2011 and Senate Bill 350 of 2015

SB X1-2 of 2011 requires all California utilities to generate 33 percent of their electricity from renewables by 2020. SB X1-2 sets a three-stage compliance period, requiring all California utilities, including independently owned utilities, energy service providers, and community choice aggregators, to generate 20 percent of their electricity from renewables by December 31, 2013; 25 percent by December 31, 2016; and 33 percent by

December 31, 2020. SB X1-2 also requires the renewable electricity standard to be met increasingly with renewable energy that is supplied to the California grid from sources within, or directly proximate to, California. SB X1-2 mandates that renewables from these sources make up at least 50 percent of the total renewable energy for the 2011–2013 compliance period, at least 65 percent for the 2014–2016 compliance period, and at least 75 percent for 2016 and beyond. In October 2015, SB 350 enacted, requiring retail sellers and publicly owned utilities to procure 50 percent of their electricity from renewable resources by 2026, and 60 percent by 2030.

SAN JOAQUIN VALLEY AIR POLLUTION CONTROL DISTRICT

The San Joaquin Valley Air Pollution Control District (SJVAPCD) provides a tiered approach in assessing the significance of project-specific GHG emission increases. Projects implementing best performance standards are determined to have a less than cumulatively significant impact. Otherwise, demonstration of a 29 percent reduction in GHG emissions, from business-as-usual (BAU), is required to determine that a project would have a less than cumulatively significant impact. The BAU approach was developed consistent with the GHG emission reduction targets established in the ARB's Scoping Plan (2008). However, the BAU portion of the tiered approach is problematic because of a court decision (Center for Biological Diversity versus Department of Fish & Wildlife 2015). Therefore, this analysis employs emission thresholds of significance that were developed by the Sacramento Metropolitan Air Quality Management District (SMAQMD) for evaluating construction and operation-related GHG emissions. These thresholds are available in the SMAQMD Guide to Air Quality Assessment in Sacramento County (SMAQMD 2016).

The SMAQMD recommends a two-tiered approach for assessing a project's operational emissions. The two-tier framework is recommended by air districts in the Sacramento region and was used in this analysis. The SMAQMD's first-tier threshold was derived directly from the statewide 2020 reduction targets that were established by AB 32, were developed to be consistent with CEQA requirements for developing significance thresholds, and are supported by substantial evidence. This threshold provides guidance to CEQA practitioners with regard to determining whether GHG emissions from a proposed project would be significant.

The first tier consists of comparing a project's annual operational emissions to the SMAQMD's recommended mass emission threshold. The first tier gives lead agencies the ability to assess smaller projects and conclude that each development proposal would not necessarily make a considerable contribution to the cumulative impact of climate change. The second tier consists of evaluating a project's consistency with California's GHG reduction targets. In light of the Newhall Ranch decision, the second-tier threshold is no longer applicable. Therefore, the following thresholds are considered applicable for CEQA review of projects under the jurisdiction of the SJVAPCD:

- For evaluation of construction-related emissions, if the mass emissions associated with construction of the project would exceed 1,100 metric tons of carbon dioxide-equivalent ($MTCO_2e$) per year, then the project's contribution to them would be cumulatively considerable.

- For the evaluation of operational emissions, a significant impact on the environment would not occur if they are less than 1,100 $MTCO_2e$ per year.

This analysis includes quantification of total modeled, construction-related GHG emissions. Those emissions were amortized and evaluated as a component of the proposed project's operational emissions over its 30-year life expectancy. The intent of this analysis to put proposed project-generated GHG emissions into the appropriate

statewide context with regard to whether the project's contribution to GHG emissions would reach the level that would make a considerable incremental contribution to global climate change.

3.8.2 Discussion

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

Construction-Related Impact

The short-term construction of the proposed project would generate GHG emissions. Construction-related GHG emissions would be generated by vehicle engine exhaust from construction equipment, haul trips, and construction worker trips. GHG emissions generated by the proposed project would consist primarily of CO_2. Emissions of other GHGs, such as CH_4 and N_2O, are important with respect to global climate change; however, even when considering the higher GWPs of these other GHGs, their contribution to total GHG emissions is small compared with the CO_2 emissions from the proposed project's emission sources (i.e., construction equipment and on-road vehicles). However, where appropriate emission factors were available, emissions of CH_4 and N_2O were included in the analysis of the proposed project.

Proposed project construction would generate approximately 119 $MTCO_2e$ over the entire construction period, which would last 3 months. These emissions would include heavy-duty construction equipment, haul trucks, and construction worker vehicles. To estimate the amortized construction emissions, the total construction-related GHG emissions of 119 $MTCO_2e$ associated with the proposed project were divided by 30 years (approximately 4 $MTCO_2$ per year).

As mentioned previously, many air districts recommend that construction-related GHG emissions be amortized over the lifetime of the project and compared to the thresholds of significance along with operational GHG emissions. Because the proposed project would not include additional GHG emissions associated with future operations, the amortized, construction-related emissions of 4 $MTCO_2e$ could be compared to any proposed or adopted GHG thresholds of significance. The amortized, construction-related GHG emissions would be less than the adopted or proposed GHG levels or thresholds (1,100 $MTCO_2e$ per year) previously discussed. Therefore, the proposed project would not generate GHG emissions, either directly or indirectly, that would have a significant impact on the environment. This construction-related impact would be **less than significant**. No mitigation is required.

Operation-Related Impact

Proposed project implementation would not require or result in additional operations and maintenance activities above existing conditions. Therefore, **no impact** would occur.

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

Construction-Related Impact

The County currently does not have an applicable plan, policy, or regulation adopted for reducing GHG emissions. However, as previously described, the State promulgates several mandates and goals to reduce

statewide GHG emissions, including the goal to reduce statewide GHG emissions to 1990 levels by 2020 (AB 32), and the goal to reduce statewide GHG emissions to 40 percent below 1990 levels by 2030 (SB 32).

None of the measures listed in the ARB's Climate Change Scoping Plan (ARB 2008), which contains the main strategies that California will use to achieve the emission reductions necessary to meet the goals of AB 32, relate directly to construction activities. The scoping plan includes some measures that indirectly would address GHG emissions levels associated with construction activity, such as the phasing in of cleaner technology for diesel engine fleets (including construction equipment) and development of a low-carbon fuel standard. However, successful implementation of these measures depends primarily on development of laws and policies at the State level. Those policies that were formulated under the mandate of AB 32 to be applied to construction-related activity, either directly or indirectly, would be implemented during proposed project construction. Therefore, proposed project construction is not expected to conflict with the scoping plan.

As previously described, proposed project-generated GHG emissions would not exceed GHG significance thresholds, which were prepared for compliance with statewide greenhouse reduction goals. Neither the County nor any other agency with jurisdiction over the proposed project has adopted climate change or GHG reduction measures with which the proposed project would conflict. Therefore, the project would not conflict with any applicable plans adopted for reducing GHG emissions. The impact would be **less than significant**. No mitigation is required.

Operation-Related Impact

Proposed project implementation would not require or result in additional operations and maintenance activities above existing conditions. Therefore, **no impact** would occur.

3.9 HAZARDS AND HAZARDOUS MATERIALS

	ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
IX.	**Hazards and Hazardous Materials. Would the project:**				
a)	Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b)	Create a significant hazard to the public or the environment through reasonably foreseeable upset and/or accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c)	Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
d)	Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e)	For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☐	☒
f)	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☒	☐	☐
g)	Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?	☐	☐	☒	☐

3.9.1 ENVIRONMENTAL SETTING

RECORDS SEARCH FOR HAZARDOUS MATERIALS

The SWRCB GeoTracker and the California Department of Toxic Substances Control (DTSC) EnviroStor database were searched to identify toxic releases, hazardous waste, or other violations that could affect the proposed project site (SWRCB 2019b; DTSC 2019). As of March 2019, the site is not listed as a hazardous waste site in either of these databases.

In addition, the USEPA Envirofacts database was searched. The Envirofacts database is an assemblage of USEPA databases, including the Comprehensive Environmental Response, Compensation, and Liability Act (commonly known as Superfund) Information System database, which includes National Priorities List sites being assessed

under the Superfund program, hazardous waste sites, and potential hazardous waste sites. The proposed project site is not listed in the Envirofacts database. (USEPA 2019)

VALLEY FEVER

Valley fever (*Coccidioidomycosis*) is an infection, usually targeting the lungs, which results from inhalation of a fungus (*Coccidioides immitis*). These spores live in soil and can be contracted only from inhalation; the infection cannot be passed from person to person. In California, the fungus primarily is found in the southern San Joaquin Valley. The spores can enter the air when ground-moving activities disturb spore-bearing soil. Approximately 60 percent of people who are exposed to the spores experience symptoms. Infection can cause flu-like symptoms, and if the spores are disseminated to organs other than the lungs, this can lead to severe pneumonia, meningitis, and death. Madera County is considered "highly endemic" because it has an incidence rate of more than 20 cases per 100,000 population per year. Average incidence rates in 2017 were 64 cases per 100,000 people in Madera County (California Department of Public Health 2019).

EMERGENCY EVACUATION ROUTES

The Madera County Emergency Operations Plan identifies County Roads 208 and 211 and State Route 41 as designated emergency evacuation routes (Madera County 2011b, 2019b). State Route 41 is the main travel route for all communities in Madera County, and County Roads 208 and 211 is to be used by the residents of Hidden Lake Estates during emergency evacuations.

WILDFIRE RISK AND RESPONSE

PRC 4201-4204 and Government Code 51175-51189 require identification of fire hazard severity zones in California. CAL FIRE has established a fire hazard severity classification system. Fire hazard severity zones are measured qualitatively based on vegetation, topography, weather, crown fire potential (a fire's tendency to burn upwards into trees and tall brush), ember production, and movement within the area being consumed.

Fire prevention areas considered to be under State jurisdiction are referred to as "State Responsibility Areas." In such areas, CAL FIRE is required to delineate three hazard ranges: moderate, high, and very high. The proposed project site and Hidden Lake Estates are within a State Responsibility Area and have been identified by CAL FIRE as being in a High Fire Hazard Severity Zone (CAL FIRE 2007).

Battalion 5 of CAL FIRE's Madera–Mariposa–Merced Unit is primarily responsible for response to wildland fires (CAL FIRE 2014). Battalion 5 is on the southern side of Madera County, bordering Fresno County to the south, the Sierra National Forest to the east, the valley floor of Madera County to the west, and Battalion 4 to the north. Two CAL FIRE stations are in Battalion 5. Coarsegold Station has one fire engineduring transition times and two engines during peak season. A bulldozer is available year-round, with winter maintenance done for all Madera Division CAL FIRE equipment. Rancheria Station has one engine year-round under a mutual aid contract with Madera County, and during peak fire season, a second engine also is available. Coarsegold Station is approximately 24 miles to the north, at 34555 Highway 41 in Coarsegold, and Rancheria Station is approximately 20 miles to the northeast, at 53488 Road 200 in O'Neals.

3.9.2 Discussion

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

Project construction would involve the storage, use, and transport of small amounts of hazardous materials (e.g., asphalt, fuel, lubricants, and other substances) on roadways, such as County Road 208, Hildreth Road, Hidden Lake Boulevard, as well as regional highways, such as State Route 41. Regulations governing hazardous materials transport are stated in Title 22 of the California Code of Regulations and the California Vehicle Code (Title 13 of the California Code of Regulations). The transportation of hazardous materials also is subject to applicable to other local and federal regulations, which have been specifically designed to minimize the risk of upset during routine construction activities. The State agencies with primary responsibility for enforcing federal and State regulations, and for responding to hazardous materials transportation emergencies, are the California Highway Patrol and the Caltrans. Together, these agencies determine container types to be used and license hazardous waste haulers for transportation of hazardous waste on public roads.

Construction contractors would be required to comply with California Environmental Protection Agency Unified Program; regulated activities would be managed by the Madera County Environmental Health Division, which is the designated Certified Unified Program Agency for Madera County, in accordance with the regulations included in the Unified Program (e.g., hazardous materials release response plans and inventories, California Uniform Fire Code hazardous material management plans and inventories). Such compliance would reduce the potential for accidental release of hazardous materials during project construction.

In the new WTP, raw water would be treated at the new WTP by chlorine disinfection. Maintenance of mechanical equipment would require the occasional use of small quantities of lubricants. The transportation of these materials would be subject to the applicable local, State, and federal regulations previously described for construction activities. Use of these hazardous materials would be per the manufacturer's instructions.

Construction and operation of the proposed project would be required by law to implement and comply with existing hazardous material regulations. Each of these regulations is specifically designed to protect public health through improved procedures for handling hazardous materials, better technology in equipment used to transport these materials, and a more coordinated, quicker response to emergencies. By implementing measures needed to be consistent with existing regulations, the impact would be **less than significant**. No mitigation is required.

b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and/or accident conditions involving the release of hazardous materials into the environment?

The USEPA Envirofacts, the SWRCB's GeoTracker, and DTSC's EnviroStor databases were searched to identify toxic releases, hazardous waste, or other violations that could affect the proposed project site. The site is not listed in these databases as a hazardous waste site (USEPA 2019; SWRCB 2019b; DTSC 2019).

As discussed in Section 3.3, "Air Quality," the proposed project site is not located in an area designated as "likely to contain asbestos"; therefore, the proposed project would not expose nearby receptors to substantial asbestos concentrations.

During site preparation and project construction, grading, and excavation activities would disturb soil and generate dust that potentially would contain valley fever spores. The proposed project would be required to comply with SJVAPCD Rule 8011 (General Requirements) and Rule 8021 (Construction, Demolition, Excavation, Extraction, and Other Earthmoving Activities). District Rule 8011 would requires management of fugitive dust emissions throughout construction, using water application, chemical dust suppressants, or constructing and maintaining wind barriers. District Rule 8021 would require proposed project contractors (for areas at least 1 acre in size) to submit a written Construction Notification to the SJVAPCD at least 48 hours before beginning any earth-moving activities (SJVAPCD 2019). Compliance with the SJVAPCD regulations requiring dust control measures would reduce the risk of contracting valley fever in connection with the proposed project. Therefore, the impact would be **less than significant**. No mitigation is required.

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

The proposed project site is not within 0.25 mile of an existing or proposed school. The nearest school is Spring Valley Elementary School, located approximately 6 miles north of the project site. No potential exists for hazardous emissions or handling of hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school. Therefore, **no impact** would occur.

d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code §65962.5 and, as a result, would it create a significant hazard to the public or the environment?

The proposed project site is not on the USEPA list of Superfund hazardous waste sites, nor is it on the DTSC Hazardous Waste and Substance Site list (the Cortese list) (DTSC 2019). Therefore, **no impact** would occur.

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?

The proposed project site is not in a designated airport land use plan area, nor is it located within 2 miles of a public airport. The nearest airport, the Arnold Ranch Airport, is approximately 12 miles southwest of the project site. Therefore, **no impact** would occur.

f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

State Route 41 and County Roads 208 and 211 are officially designated as emergency evacuation routes to be used by the residents of Hidden Lake Estates during an emergency evacuation (Madera County 2011b, 2019b). Access to these roadways from the proposed project site could be reduced by project construction activities. Slow-moving trucks along Hildreth Road and Hidden Lake Boulevard, and trucks entering and exiting the project site along Hidden Lake Boulevard as well as closures of narrow roadways during construction could delay the movement of emergency vehicles or interfere with evacuation of the project area. Therefore, the impact would be **potentially significant**.

Implementation of **Mitigation Measure 3.17-1, Prepare and Implement a Traffic Control Plan,** would reduce the potentially significant impact associated with emergency response and evacuation routes to a **less-than-**

significant level by requiring a plan for notifications and a process for communication with affected residents and landowners before the start of construction; requiring notification to the public, advising them of alternative routes; providing notification to administrators of police and fire stations, and ambulance service providers of the timing, location, and duration of construction activities and the locations of detours and lane closures, where applicable; and maintaining access for emergency vehicles in and/or adjacent to roadways affected by construction activities at all times. The impact would be **less than significant with mitigation incorporated**.

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

The proposed project would occur in an area rated as susceptible to wildfires, and residents and homes in Hidden Lake Estates are subject to wildfire risks. As discussed above, the proposed project site has been identified by CAL FIRE as being a High Fire Hazard Severity Zone. The project site vegetation consists of annual grasses, interspersed with foothill pine and oak tree species.

During project construction, equipment and on-site diesel engine use could pose a risk for wildfire. Sparks could result from operation of construction equipment; heated mufflers; or accidental ignition of oils, lubricants, and other combustible materials could occur, resulting in a fire. Construction-related activities such as steel cutting and welding also would be potential sources of ignition. However, contractors would be required to comply with Sections 4427, 4428, 4431, and 4442 of the PRC—during construction, they would be responsible for monitoring and implementing safety measures to prevent wildfires, in strict adherence to applicable PRC requirements.

During operation, a protective space around the new WTP would be kept clear of vegetation, which would further reduce the risk of wildland fire on adjacent grasslands, if an ignition source is associated with the plant's mechanical equipment. In addition to the new WTP, the proposed project site also would house a new 180,000-gallon water storage tank that would provide fire flows in the event of a wildfire. A vital feature of the new WTP would be provision of full fire flow recovery within 5 days of depletion above MDD.

Therefore, the impact would be **less than significant**. No mitigation is required.

3.10 HYDROLOGY AND WATER QUALITY

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
X. Hydrology and Water Quality. Would the project:				
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☐	☐	☒
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that there the project may impede sustainable groundwater management of the basin?	☐	☐	☐	☒
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
i) Result in substantial erosion or siltation on- or off-site;	☐	☐	☒	☐
ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	☐	☐	☐	☒
iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	☐	☒
iv) Impede or redirect flood flows?	☐	☐	☐	☒
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☐	☒
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☐	☒
f) Otherwise substantially degrade water quality?	☐	☐	☒	☐

3.10.1 ENVIRONMENTAL SETTING

The existing MD-1 WTP is located in the Sierra Nevada foothills of southeastern Madera County. The elevation of the MD-1 service area ranges from about 648 feet mean sea level (MSL), near the shore of Millerton Lake, to about 1,100 feet MSL in the northwestern part of the service area. The MD-1 service area encompasses approximately 200 acres.

Precipitation falls primarily in the form of rain in the winter months, extending from October through April. Based on records from Friant Government Camp about 5 miles west of the proposed project site, the average annual rainfall totals about 14.9 inches (Climate Charts.com 2019). Rainfall in the MD-1 service area likely is higher because of the orographic effects of the foothills. Monthly mean low temperatures range from 36.8 degrees

Fahrenheit (°F) in December to over 100.4°F in July. This rainfall pattern is typical of a Mediterranean climate, with seasonal wet winters and dry, hot summers.

Because of the steep topography of the MD-1 service area, the local watersheds are small and narrow. Thus, insufficient potential exists for large volumes of water to accumulate. Local streams are ephemeral and only flow during or immediately after storm events. Because of the minimal rainfall from June through September, these stream courses are dry through the summer months.

Water supplies for the MD-1 service area are pumped from Millerton Lake. Millerton Lake was formed by Friant Dam in 1942. It is the largest reservoir, by volume and surface area, on the San Joaquin River. Big Sandy Creek, Fine Gold Creek, and several ephemeral streams flow directly into Millerton Lake. Friant Dam is a 319-foot-high concrete gravity dam (U.S. Bureau of Reclamation 2014). When full, the reservoir extends 16 miles up into the river canyon from Friant Dam, at River Mile 267.6, and has more than 41 miles of shoreline. Millerton Lake has a volume of 524 thousand-acre feet, a surface area of 4,905 acres, and an elevation of 580.6 feet above MSL.

The raw water supplies are pumped to the existing WTP, where they are treated and disinfected before distribution to MD-1 service area residents. Water quality in Millerton Lake generally is high quality, with low temperatures, low turbidity, high dissolved oxygen, and low concentrations of chlorophyll-a, arsenic, and other constituents. Concentrations of most constituents decrease as water enters Millerton Lake. This likely is because of a high rate of mixing within the San Joaquin River compared with Millerton Lake, where slower water movement allows these constituents to readily settle out of the water column. This conclusion is supported by the relatively lower turbidity observed in Millerton Lake compared with the upstream San Joaquin River. The water quality of Millerton Lake is summarized in Table 3.10-1.

Millerton Lake water quality generally is suitable for most designated beneficial uses (U.S. Bureau of Reclamation 2014). Millerton Lake stores water for numerous beneficial uses, including municipal and domestic supplies, irrigation, stock watering, contact recreation, warm water fisheries, and wildlife habitat (CVRWQCB 2018.

Millerton Lake is listed for mercury in the 2012 Clean Water Act Section 303(d) list of impaired waters requiring Total Maximum Daily Loads (SWRCB 2012). This listing is based on sampling of mercury accumulation in 33 tissue samples from largemouth bass. The same study found lower concentrations of mercury in largemouth bass at a location downstream from Friant Dam, suggesting that Millerton Lake may act as a mercury sink for the San Joaquin River. Water quality conditions detected in 2010 and 2011 indicate mercury concentrations within the water column of less than 0.0005 to 0.0006 µg/L.

Table 3.10-1 Millerton Lake Water Quality

Constituent	2010	2011
Water temperature (°C)	17.6	27.8
pH	5.9	6.0
Dissolved Oxygen (mg/L)	10.8	8.6
Conductivity (mS/cm)	0.04	0.03
Turbidity (NTU)	15.0	no reading
Total Dissolved Solids (mg/L)	32.0	27.0
Alkalinity (mg/L)	13.0	11.0
Aluminum (µg/L)	26	75
Arsenic (µg/L)	2.2	less than minimum reporting level
Barium (µg/L)	7.0	8.2
Calcium (mg/L)	2.8	2.4
Chloride (mg/L)	1.6	less than minimum reporting level
Iron (mg/L)	0.06	0.10
Magnesium (mg/L)	0.6	0.6
Manganese (µg/L)	11	6
Mercury (µg/L)	0.0005	0.0006
Sodium (mg/L)	3	2
Sulfate (mg/L)	0.7	less than minimum reporting level
Chlorophyll-a (mg/m^3)	1.1	2.1

Notes:

°C = degrees Celsius; µg/L = micrograms per liter; mg/L = milligrams per liter;
mg/m^3 = milligrams per cubic meter; mS/cm = milliSiemens per centimeter;
NTU = Nephelometric Turbidity Units

Source: Reclamation 2014

3.10.2 Discussion

a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

The proposed project is intended to meet applicable water quality standards for potable water supplies and discharges that may occur during operations. Specifically, the treated water supplies from the new WTP would comply with the Long-Term 1 Enhanced Surface Water Treatment Rule maximum turbidity standard of 0.3 NTU. In addition, the new WTP would limit the level of TTHMs to not exceed 80 µg/L or HAA5 to not exceed 60 µg/L, enabling compliance with the requirements specified in Section 64536.2, Title 22 of the California Code of Regulations.

Because the proposed project would not violate applicable water quality standards, cause a waste discharge to occur, and would enable MD-1 to comply with the SWRCB compliance order regarding DBPs in the treated water supply, the proposed project would not result in any violation of water quality standards or waste discharge requirements. **No impact** would occur.

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

The proposed project would not affect groundwater supplies or interfere with groundwater recharge in any way. **No impact** would occur.

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:

i) Result in substantial erosion or siltation on- or off-site;

ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;

iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or

iv) Impede or redirect flood flows?

Proposed project construction and operation would not affect the resources listed in Item c, ii through iv. The proposed project would not result in flooding on or off-site, contribute to runoff that would exceed the capacity of an existing or planned stormwater system, or impede or redirect flood flows. **No impact** would occur.

The potential would exist for erosion and sedimentation to occur in association with proposed project construction. By implementing Madera County's requirements for public works projects, including the County's Standard Plans and Specifications (Madera County 2011a), the potential for accelerated erosion would be minimized. The impact would be **less than significant**. No mitigation is required.

d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

The proposed project site is not located near a body of water and would not be subject to seiche or tsunami. The site would not pose a risk to release pollutants associated with inundation. **No impact** would occur.

e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

The proposed project would not result in conflicts with implementation of a water quality control plan or sustainable groundwater management plan. The proposed project would not result in conditions that would alter or contribute to conflicts with an applicable water quality control plan or sustainable groundwater management plan. **No impact** would occur.

f) Otherwise substantially degrade water quality?

The proposed project would not substantially degrade water quality by introducing pollutants that may be released by inundation or altered drainage patterns. In addition, measures implemented to control potential soil erosion would minimize risk of effects on surface water quality in local waterways. By implementing Madera County's

requirements for public works projects, including the County's Standard Plans and Specifications (Madera County 2011a), the impact would be **less than significant**. No mitigation is required.

3.10.3 FEDERAL CROSS-CUTTING TOPICS

FLOOD PLAIN MANAGEMENT – EXECUTIVE ORDER NUMBER 11988

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

RIVERS AND HARBORS ACT

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

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

Safe Drinking Water Act, Sole Source Aquifer Protection

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

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

The Fresno Sole Source Aquifer was designated by USEPA in 1979 (44 Federal Register 52751). USEPA has designated portions of the San Joaquin River and Kings River watersheds upstream from Friant Dam and the Friant–Kern Canal as a Streamflow Source Zone. Figure 3.10-1 shows the area encompassed by the Fresno SSA and Streamflow Source Zone.

Figure 3.10-1 **Sole Source Aquifer**

The potential would exist for erosion and sedimentation to occur in association with proposed project construction. Grading, excavation, and other surface soil disturbance are expected to occur during WTP installation. By implementing Madera County's requirements for public works projects, including the County's Standard Plans and Specifications (Madera County 2011a), the potential for accelerated erosion and impact on the groundwater aquifer would be minimized. In addition, the proposed project would not result in conflicts with implementation of a water quality control plan or sustainable groundwater management plan. The proposed project would not result in conditions that would alter or contribute to conflicts with an applicable water quality control plan or sustainable groundwater management plan, including the Fresno SSA designation.

As previously noted, the proposed project would not violate applicable water quality standards, cause a waste discharge to occur, and would enable MD-1 to comply with the SWRCB compliance order regarding DBPs in the treated water supply. The proposed project would not result in any violation of water quality standards or waste discharge requirements.

Implementation of the proposed project would not conflict with the purpose of the SSA or pose a threat to the groundwater aquifer used for drinking water purposes.

3.11 LAND USE AND PLANNING

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

3.11.1 ENVIRONMENTAL SETTING

The proposed project site is within Hidden Lakes Estates, a small rural community in Madera County with approximately 208 lots and 46 homes receiving water. No housing units or residents are located on the project site. The site is zoned for Rural Mountain Single Family use and is designated Very Low Density Residential. (Madera County 1995).

3.11.2 DISCUSSION

a) Physically divide an established community?

The proposed project site is in a small rural area. The proposed project is not a linear feature that would divide an existing community. **No impact** would occur.

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?

The proposed project would support the County's goal (3C) of an adequate and safe water supply. The proposed project would not change any land uses outside the project site property and would not include other changes to the existing environment that could result in inconsistencies with County General Plan policies, land use designations, or zoning (Madera County 1995). Specific impacts on other resources and issue areas are addressed in each technical section of this document, as appropriate. These technical sections provide a detailed analysis of other relevant physical environmental effects that could result from the project. Land use inconsistencies are not physical effects on the environment. Therefore, **no impact** would occur.

3.11.3 FEDERAL CROSS-CUTTING TOPIC

COASTAL ZONE MANAGEMENT ACT

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

3.12 MINERAL RESOURCES

	ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XII.	**Mineral Resources. Would the project:**				
a)	Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b)	Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	☐	☐	☐	☒

3.12.1 ENVIRONMENTAL SETTING

The San Joaquin River and Millerton Lake area upstream from Friant Dam, including the proposed project site, have not been classified for mineral resources by the California Geological Survey (CGS) (CGS 2019). The San Joaquin River below Friant Dam, southwest of the proposed project site, is an important source of aggregate sand and gravel in the State, and mining occurs at multiple locations on the floodplain and river terraces (Youngs and Miller 1999). Pumice mining also has occurred at Millerton Lake Quarry, approximately 2 miles west of Friant Dam (Larose et al. 1999).

Historically, gold was mined from quartz veins in the Mother Lode of the northern Sierra Nevada as well as from placer deposits in loosely consolidated alluvial sediments throughout the Sierra Nevada foothills. Placer gold was mined from the San Joaquin River in the area now covered by Millerton Lake in the 1850s and 1860s. Exploration and development of gold mining in the proposed project region continued into the 1930s (Bateman and Busacca 1982). In addition, copper was obtained from larger mines in Madera County from the 1860s through approximately 1905; smaller copper mining operations continued through approximately 1940 (Madera County 1995). A review of available online mining data indicates that two recorded historic mining claims were in the Hidden Lakes Estates area before it was developed as a residential subdivision. These consisted of the Ohio and Marsaba Mines (placer gold) and Big Chief (a copper prospect, which likely now is located below the water line of Millerton Lake) (The Diggings 2019).

3.12.2 DISCUSSION

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?

Regionally important mineral resources generally consist of those areas classified by CGS as 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. However, the proposed project site is not located within the boundaries of a CGS mineral lands classification study. The nearest commercial mining operations (i.e., aggregate resources) are approximately 5.5 miles southwest of the proposed project site along the San Joaquin River, below Friant Dam. Gold and copper mining in the proposed project area ceased to be viable for commercial purposes in the first half

of the twentieth century. No known regionally important mineral deposits are on the proposed project site or in the immediate vicinity, which consists of a residential housing development. Therefore, **no impact** would occur.

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?

The Madera County General Plan Background Report (Madera County 1995) indicates that the only locally important mineral resource recovery sites in the county are those designated by CGS as MRZ-2. In the proposed project region, these MRZ-2 areas are located along the San Joaquin River below Friant Dam. As described in a) above, no known mineral resources are on the proposed project site or in the immediate vicinity, which consists of a residential housing development. Therefore, **no impact** would occur.

3.13 NOISE

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

3.13.1 ENVIRONMENTAL SETTING

The area around the proposed project site has been developed with rural residential uses in a recreational lake-based community. The most significant source of noise generated in the project area is associated with vehicular traffic on Hidden Lake Boulevard and motorized boat noise associated with recreational lake activity, and to a lesser extent, neighborhood noise.

3.13.2 DISCUSSION

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?

The Madera County General Plan identifies noise level limits for sensitive land uses (schools, hospitals, churches, and residential) exposed to improvement projects; daily noise levels (L_{dn}) limits that were identified for these receptors is 60 A-weighted decibels (dBA) at exterior areas and 45 decibels (dB) at interior areas (Madera County 1995). Madera County Code of Ordinances limits construction activities to the hours between 7 a.m. and 7 p.m., Monday through Friday, and between 9 a.m. and 5 p.m. on Saturdays. Project construction activities would be prohibited on Sundays. Construction activities may result in temporary noise level increases because of the operation haul trucks on local roadways and the use of heavy construction equipment at the proposed project site.

Traffic volumes associated with operations and maintenance of the existing WTP would not significantly increase because of operations and maintenance of the new WTP. The proposed project would increase the daily traffic volumes along specified haul routes during the construction phase only. The proposed project would result in approximately 15 truck trips (30 trips one way) and approximately 10 worker trips (20 trips one way) to the

project site each day. Associated traffic noise levels were estimated using the Federal Highway Traffic Noise Prediction Model (FHWA 1978). Traffic noise levels attributable to proposed project traffic would be 52 dBA L_{dn} at exterior areas and 27 dBA L_{dn} at interior areas of sensitive receptors located within 50 feet of project traffic only. The proposed project would not expose sensitive receptors to exterior noise levels above 60 dBA L_{dn} or interior noise levels above 45 dBA L_{dn}, established by the County.

Equipment expected to be used during construction would include a backhoe with excavator attachment, a crane, two compactors, a water truck, two flat-bed delivery trucks, a concrete truck, compressors/jackhammers, and two electrical generators. The noise levels during these activities may reach 80 to 85 dB at 50 feet from the source. The nearest sensitive receptor to proposed project construction activities is approximately 95 feet from the acoustical center of the proposed project area and would be approximately 125 feet from proposed project decommissioning activities for the existing WTP. Noise levels decrease with distance from the source and shielding effects provided by natural topography.

Accounting distance and partial shielding effects, temporary project construction activities would result in hourly noise levels of approximately 75 dBA L_{eq} and 72 dBA L_{eq} at receptors adjacent to the proposed project area and the existing WTP site, respectively. The resulting hourly interior noise levels would be 50 dBA and 47 dBA, respectively. Proposed project construction activities would comply with the Madera County Code, limiting construction activities to daytime hours noise level standards; however, hourly (L_{eq}) project construction noise levels would exceed 60 dBA at exterior areas and 45 dBA at interior areas. For this reason, the impact would be **potentially significant**.

Mitigation Measure 3.13-1: Implement Noise-Reducing Construction Practices

The project applicant shall see that the following measures are implemented during construction activities, where construction occurs within 95 feet of a sensitive receptor, to avoid and minimize construction noise effects on sensitive receptors:

- All construction equipment will be equipped with noise-reduction devices, such as mufflers, to minimize construction noise, and all internal combustion engines will be equipped with exhaust and intake silencers, in accordance with manufacturers' specifications.
- The use of bells, whistles, alarms, and horns will be restricted to safety warning purposes only.
- Mobile and fixed construction equipment (e.g., compressors and generators), construction staging and stockpiling areas, and construction vehicle routes will be located at the most distant point feasible from noise-sensitive receptors.
- The project applicant shall see that all heavy trucks are properly maintained and equipped with noise-control (e.g., muffler) devices, in accordance with manufacturers' specifications, at each worksite during project construction, to minimize construction traffic noise effects on sensitive receptors.

Implementation of Mitigation Measure 3.13-1 would reduce the potentially significant impact associated with temporary construction noise to a **less-than-significant** level because construction noise levels would be reduced through adjusting operational practices (limiting bell whistle and horn use, not allowing equipment to idle for extended periods of time), maintaining operational mufflers and locating any stationary equipment as far as

possible from receptors or shielding stationary noise with on-site equipment or materials and limiting construction activity to daytime hours to avoid sleep disruption during the sensitive nighttime hours. Therefore, the long-term impacts from project-generated noise would be **less than significant with mitigation incorporated**.

b) Generation of excessive groundborne vibration or groundborne noise levels?

Project construction activities may generate temporary groundborne vibration from equipment movement and operation. The Federal Transit Administration (FTA) has developed criteria for human annoyance and California Department of Transportation (Caltrans) has developed criteria for potential structural damage to adjacent buildings. To determine project vibration impacts for human annoyance and structural damage, these FTA and Caltrans standards commonly are applied as an industry standard. FTA recommends 72 VdB at residential uses to avoid human annoyance (FTA 2018:Table 6-3:126); Caltrans recommends 0.3 inch per second peak particle velocity (PPV) at residential uses, to avoid structural damage to newer buildings (Caltrans 2013:Table 19:38). The Madera County General Plan Noise Element (Madera County 2013) establishes a perception threshold of 0.1 inch per second PPV.

Based on FTA reference vibration levels, vibration levels associated with the use of a large truck is 0.076 inch per second PPV (87 vibration decibels [VdB]) at 25 feet. The nearest vibration sensitive uses, adjacent residential use along Hidden Lake Boulevard, to proposed project construction activities is approximately 75 feet away. At this distance, the highest vibration levels generated by project construction equipment would attenuate to 0.015 PPV and 71 VdB. The vibration generated by equipment is not anticipated to be excessive or significant.

Long-term operational-related activities, such as those associated with the relocated MD-1 WTP, would not include any major new sources of groundborne noise or vibration. Furthermore, the nearest vibration sensitive receptors are more than 75 feet away, a sufficient distance to have attenuated and dampened potential groundborne vibration and groundborne noise impacts.

Short-term construction or long-term operation of the project would not result in the exposure of persons to or generation of excessive groundborne noise or vibration levels. Therefore, the impact would be **less than significant**. No mitigation is required.

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?

The proposed project area is not in the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, and the proposed project would not expose people residing or working in the proposed project area to excessive noise levels. The Fresno Air Terminal is approximately 19 miles south of the proposed project site. Therefore, **no impact** would occur.

3.14 POPULATION AND HOUSING

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

3.14.1 ENVIRONMENTAL SETTING

The proposed project site is located within Hidden Lake Estates, a small rural community in Madera County with approximately 208 lots and 46 homes receiving water. The closest large city is Clovis, approximately 15 miles to the southwest. No housing units or residents are on the site. During new WTP operation, 3 workers are expected to be employed.

3.14.2 DISCUSSION

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)?

The proposed project would not include any new homes or businesses, but would increase the amount of water flow capacity. The smallest Trident HS unit available has a design flow rate of 350 gpm, which is more than twice the capacity needed to supply current demands. In response to this excess capacity, the County proposes to limit the use of the two Millerton Lake intake pumps, which have a combined capacity of 320 gpm, until future demand would warrant increased water supply and future assessment in accordance with CEQA is completed. This limit would enable the new WTP to operate at 132 gpm, which would satisfy the MDD and peak hour demand and fire flow recovery requirements discussed in Chapter 2.0, "Project Description." Furthermore, if an intake pump needed repair, the other one could be used to ensure consistent supply. The capacity would be limited, and any future change in the use of the intake pumps would require additional environmental analysis. Thus, the impact would be **less than significant**. No mitigation is required.

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

No housing units or residents are on the proposed project site. **No impact** would occur.

3.14.3 FEDERAL CROSS-CUTTING TOPIC

ENVIRONMENTAL JUSTICE EXECUTIVE ORDER 12898

Executive Order (EO) 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, was issued in1994. The EO directs federal agencies to identify and address the disproportionately high and adverse human health or environmental effects of their actions on minority and low-income populations, to the greatest extent practicable and permitted by law.

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

3.15 PUBLIC SERVICES

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

3.15.1 ENVIRONMENTAL SETTING

Implementing the proposed project would not affect parks, schools, or other public services. Therefore, the following discussion focuses on fire and police protection providers that serve the Hidden Lakes Estates community, including the proposed project site.

MADERA COUNTY FIRE DEPARTMENT

The Madera County Fire Department provides fire protection services to unincorporated areas of Madera County. The Fire Department has 17 fire stations; a fleet of 56 apparatus and support vehicles; and 32 career fire suppression personnel, 175 paid call firefighters, and seven support personnel (Madera County Fire Department 2019). The Fire Department responds to structure fires, vehicle accidents, medical aids, or any other emergencies. Seven of Madera County's fire stations are staffed 24 hours a day by a full-time career fire captain or fire apparatus engineer, and five of these stations are augmented by paid call firefighters. The remaining 10 fire stations are staffed exclusively with paid call firefighters (Madera County Fire Department 2019).

The Fire Department is administered, and career suppression personnel are provided, through a contract with the California Department of Forestry and Fire Protection (CAL FIRE). The Fire Department assists with providing fire protection to the city of Madera through a mutual aid agreement and has a cooperative agreement with Central California Women's Facility for fire protection services in the northern end of Madera County (Madera County Fire Department 2019). CAL FIRE holds primary responsibility of preventing and suppressing wildfires in Madera County (see Section 3.9, "Hazards and Hazardous Materials," for further discussion).

The nearest fire station to the proposed project site is O'Neals Volunteer Fire Station 17, approximately 10 miles to the south, at Road 201 in O'Neals. This fire station is not staffed full time; paid call firefighters respond from this station.

MADERA COUNTY SHERIFF'S DEPARTMENT

Law enforcement in unincorporated areas of Madera County is provided by the Madera County Sheriff's Department. The Sheriff's Department is divided into three distinct divisions (Valley Division, Mountain Division, and Administrative Division). Specialized members of the Sheriff's Department also serve on additional units, including the Agricultural Crimes Unit, Off-Highway Vehicle Unit, Special Weapons and Tactics Team, Dive Team, and Search and Rescue Team (Madera County Sheriff's Department 2019). The nearest police station to the proposed project site is approximately 20 miles to the southwest, at 14143 Road 28 in the city of Madera.

The Sheriff's Department is responsible for coordinating emergency services in Madera County. Area-wide emergency services are handled in cooperation with the Federal Emergency Management Agency; the U.S. Forest Service; the State Emergency Response Network, run by the Office of Emergency Services; CAL FIRE; the California Highway Patrol; and local fire departments, hospitals, and ambulance services (Madera County Sheriff's Department 2019).

3.15.2 DISCUSSION

a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the 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?

The proposed project would update and improve the MD-1 WTP. The proposed project would not include any new housing or businesses that would increase demand for fire protection services and facilities. Therefore, the proposed project would not affect the Fire Department's response times or other performance objectives, and would not result in construction of new or expansion of existing fire protection facilities. **No impact** would occur.

Police protection?

The proposed project would update and improve the MD-1 WTP. The new WTP would include security fencing with locked gates and emergency lighting to minimize the potential for vandalism. When operation of the new WTP begins, the existing WTP facilities and equipment would be retired and secured on site. The proposed project would not increase the population in the project area because of new housing or employment opportunities that would increase demand for police protection services or require additional Sheriff's Department staffing to maintain its officer-to-population service ratio. Therefore, the proposed project would not cause construction of new or expansion of existing police protection facilities. **No impact** would occur.

Schools?

Implementation of the proposed project would not provide any new housing that would generate new students or increase the demand for school services and facilities. **No impact** would occur.

Parks?

The proposed project would occur within Hidden Lakes Estates, a community adjacent to and on the northern side of Millerton Lake and north of the Millerton Lake State Recreation Area (SRA). No community or neighborhood park is within or near the proposed project site. Section 3.16, "Recreation," describes recreational facilities at the Millerton Lake SRA.

The proposed project would not increase the population in the project area because of new housing or employment opportunities. Therefore, the proposed project would not increase the use of existing neighborhood or community parks or require construction of new parks to meet the County's parkland standard. **No impact** would occur.

Other public facilities?

No other public facilities are in the vicinity of the proposed project site. Therefore, operation of the new WTP would not increase demand for other public facilities. **No impact** would occur.

3.16 RECREATION

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XVI. Recreation.				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	☐	☐	☐	☒

3.16.1 ENVIRONMENTAL SETTING

The proposed project would occur within Hidden Lakes Estates, a community located adjacent to and on the northern side of Millerton Lake and north of the Millerton Lake SRA. The Millerton Lake SRA encompasses approximately 10,500 acres and includes 63 miles of shoreline surrounding 4,905 surface acres of water. The Millerton Lake SRA is managed by the California Department of Parks and Recreation through agreements with the U.S. Bureau of Reclamation and California Department of Fish and Wildlife (U.S. Bureau of Reclamation and State Parks 2010).

Visitors are drawn to the Millerton Lake SRA for water-oriented and shoreline recreation opportunities. Motor boating, sailing, waterskiing, jet skiing, swimming, and fishing are the primary activities. Shoreline activities include picnicking, hiking, biking, camping, and nature watching. Fall and spring, when temperatures are cooler, are the most popular periods for activities such as hiking, mountain biking, and some types of angling. Special recreation events that have been held at the lake include sailing regattas, water-ski competitions, and triathlons (U.S. Bureau of Reclamation and State Parks 2010).

3.16.2 DISCUSSION

a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

No community parks are within or in the vicinity of Hidden Lakes Estates. The nearest recreational facilities are within the Millerton Lake SRA, approximately 5 miles to the south. The proposed project would not increase the population in the project area because of new housing or employment opportunities. Therefore, the proposed project would not increase the use of existing neighborhood and regional parks or other recreational facilities. **No impact** would occur.

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

The proposed project would update and improve the MD-1 WTP. The proposed project would not increase the population in the project area because of new housing or employment opportunities. Therefore, the proposed project would not result in construction or expansion of recreational facilities. **No impact** would occur.

3.17 TRANSPORTATION/TRAFFIC

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

3.17.1 ENVIRONMENTAL SETTING

ROADWAYS

The proposed project site would be accessed from existing local roadways. Roadways that would be used by construction traffic would include Avenue 12, CA-145, Road 211, Hildreth Road, Road 216, and Hidden Lake Boulevard (see Figure 2-4 in Chapter 2, "Project Description"). The Madera County Transportation Commission (MCTC) 2018 Traffic Volume Report (MCTC 2018a) provides traffic counts for certain roadways in the county. However, neither the county roads in the proposed project area nor Hidden Lake Boulevard are included in the report because of their relatively low traffic volumes.

Because of the rural character of the MD-1 service area and vicinity, no pedestrian or bicycle facilities are on or near the proposed project site, nor does Hidden Lakes Estates or the county roadways in the proposed project area provide these facilities. No transit facilities and no railroads are in the proposed project area. Furthermore, no airports or airstrips are in the vicinity.

Operation of a roadway system typically is described in terms of level of service (LOS). LOS is designated by the letters A through F, with A corresponding to the lowest levels of congestion and F corresponding to the highest level of congestion. At LOS A, traffic is free-flowing at or above the speed limit. At LOS F, traffic is very slow, and each vehicle moves only when traffic around it moves. Traffic frequently slows and stops.

No federal or State plans, policies, regulations, or laws related to transportation/traffic apply to the proposed project. Government Code Section 53091 states that building and zoning ordinances do not apply to "construction of facilities for the production, generation, storage, treatment, or transmission of water, wastewater, or electrical energy by a local agency." Public utility projects that serve the facilities described above would not be subject to local plans, policies, regulations, or ordinances. Local goals and policies related to transportation/traffic resources

were used to assist with CEQA review significance thresholds for evaluating potential impacts associated with the proposed project.

The proposed project site is located within the boundaries of Madera County General Plan (Madera County 1995). Thus, development and operation of the proposed project would be subject to applicable goals and policies contained therein. The General Plan is a comprehensive, long-term planning document. It contains goals and policies pertaining to planning and development of roadways and maintenance of LOS. However, none of the policies pertain to issues associated with access or other transportation aspects of the proposed project.

The Madera County Regional Transportation Plan and Sustainable Communities Strategy (RTP/SCS) (MCTC 2018b) reflects the horizon or "planning" year of 2042, ensuring that the region's transportation system and implementation policies/programs will safely and efficiently accommodate growth envisioned in the Land Use Elements of the general plans of the cities of Chowchilla and Madera and Madera County. The RTP/SCS is prepared by the MCTC, which is the Regional Transportation Planning Agency for Madera County. The RTP establishes the goals, objectives, and policies for future transportation improvements. The RTP/SCS also establishes an acceptable minimum LOS standard of "D" for local facilities. Any segment of local roadway that is worse than LOS D is considered to be a deficiency in the transportation system. These deficiencies then may become the basis for project priorities in the County's capital improvement program.

Operations following project construction would not change when compared to existing conditions. Therefore, an analysis of project-related traffic impacts using LOS was not performed, because LOS primarily is used for analyzing long-term effects of projects on traffic flow. This analysis used the recommended screening criterion from the Institute of Transportation Engineers (ITE) (ITE 1988) for assessing the effects of construction projects that create temporary traffic increases. To account the large percentage of heavy trucks associated with typical construction projects, ITE recommends a threshold level of 50 or more new peak-direction (one-way) trips during the peak hour.

3.17.2 DISCUSSION

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

Proposed project construction would require hauling equipment/materials and worker commute trips to and from the project area along local surface streets. During WTP installation, one to two flatbed semi-trucks would transport the building material to the project site over approximately 50 trips. During the remainder of the project, a limited number of light-duty trucks would be used by construction personnel. An estimated 5 workers would be required for the duration of the project. Proposed project implementation would replace and relocate the existing facility within a distance of 200 feet and would not introduce any new land uses or activities in the proposed project area that would generate long-term increases in traffic volume. Potential traffic increases would be limited to temporary, construction-related activities, associated with installing the proposed facilities.

Trucks trips associated with import or removal of the required materials would result in approximately 3 to 8 round trips per day to the worksite during peak construction activity (i.e., 6 to 16 trips per day, assuming a passenger car equivalent [PCE] value of 2.0). In addition, commuting by construction workers would result in approximately 5 additional total daily trips in each direction (i.e., 10 trips per day) on the area roadways. In total, activities associated with the proposed project may add as many as 26 total daily trips to project area roadways

over the course of the 8-hour work window. This would result in a maximum of 21 additional trips on area roadways during the peak hour (8 truck trips per hour [16 trips per hour, assuming a PCE value of 2.0], and 5 worker trips per peak hour).

Because the proposed project would not result in more than 50 new trips during the a.m. or p.m. peak hours, the proposed project is not anticipated to cause an increase in traffic that would be substantial in relation to the existing traffic load and capacity of the street system. Thus, the proposed project would not result in substantial trip-generated traffic congestion. Also, construction-generated traffic would be temporary, and therefore would not result in any long-term degradation in performance of any of the roadways in the proposed project vicinity. Furthermore, the proposed project would not conflict with adopted applicable policies or plans related to the performance of the circulation system. This impact would **be less than significant**. No mitigation is required.

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

The proposed project would not generate additional vehicle miles traveled (VMT) per employee. The proposed project would not require a change in the existing land use designation. Operations following project construction would not change when compared to existing conditions. Proposed project implementation would not require or result in additional activities for operations and maintenance beyond existing conditions. Therefore, **no impact** would occur.

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

The maneuvering of project construction vehicles and equipment among general purpose vehicles on local roads could cause safety hazards. Haul trucks and other on-road vehicles to be used during project construction could increase the hazard risk on existing roadways. The traffic safety hazard risk could increase because of conflicts with construction vehicles entering a public right-of-way from a project worksite; conflicts where road width is narrowed or a roadway is closed during construction activities, which could result in delays to emergency vehicles passing through the project area; or increased truck traffic (necessitating slower speed and a wider turning radius for trucks) during construction.

In addition to these potential impacts, the use of large trucks to transport equipment and material to and from the worksite could affect road conditions on the access routes by increasing the rate of road wear. The degree to which this potential impact would occur would depend on the design (pavement type and thickness) and the existing condition of the road. Major arterials and collectors are designed to accommodate a mix of vehicle types, including heavy trucks. The potential impacts are expected to be negligible on those roads. However, lower capacity roadways could be affected substantially if project construction equipment uses them.

Because of the temporary disruption to traffic flow, roadway wear and tear, the presence of construction equipment in the public right-of-way, and the localized increase in traffic congestion, drivers would be presented with unexpected driving conditions and obstacles, which could result in an increased occurrence of automobile or haul truck accidents. Therefore, the impact would be **potentially significant**.

Mitigation Measure 3.17-1: Prepare and Implement a Traffic Control Plan

Before construction begins, Madera County or its construction contractor will prepare and implement a traffic control plan to minimize construction-related traffic safety hazards on the affected roadways and ensure adequate access for emergency responders. Madera County or its contractor will coordinate development and implementation of this plan with jurisdictional agencies, as appropriate. The traffic control plan will, at a minimum:

- include a discussion of work hours, haul routes, work area delineation, traffic control, and flagging;
- determine the need to require workers to park personal vehicles at an approved staging area and take only necessary project vehicles to the work sites;
- develop and implement a plan for notifications and a process for communication with affected residents and landowners before the start of construction:
  - public notification will include posting of notices and appropriate signage of construction activities;
  - written notification will include the construction schedule, the exact location and duration of activities on each street (e.g., which roads/lanes and access points/driveways will be blocked on which days and for how long), and contact information for questions and complaints;
- provide notification to the public advising them of alternative routes that may be available to avoid delays;
- ensure that appropriate warning signs are posted in advance of construction activities, alerting bicyclists and pedestrians to any closures of nonmotorized facilities;
- provide notification to administrators of police and fire stations, ambulance service providers, and recreational facility managers of the timing, location, and duration of construction activities and the locations of detours and lane closures, where applicable;
- maintain access for emergency vehicles in and/or adjacent to roadways affected by construction activities at all times; and
- require the repair and restoration of affected roadway rights-of-way to their original condition after construction is completed.

Implementing Mitigation Measure 3.17-1 would reduce the potentially significant impact associated with traffic hazards to a **less-than-significant** level because the traffic control plan would be used to develop detours to ensure acceptable traffic flow through and/or around the construction zone, minimize impacts on multimodal facilities by providing alternate routes for users of the facilities, and minimize traffic congestion.

d) Result in inadequate emergency access?

Emergency access to roadways in the project area could be reduced by activities associated with proposed project construction. Slow-moving trucks along Hildreth Road and Hidden Lake Boulevard, and those entering and exiting the project site along Hidden Lake Boulevard could delay the movement of emergency vehicles. However, flaggers would be deployed in this area when such vehicles would be accessing these roadways. Because flaggers would be present to control truck traffic in the event of an emergency to allow unimpeded movement of emergency vehicles, this impact would be **less-than-significant**. No mitigation is required.

3.18 TRIBAL CULTURAL RESOURCES

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XVIII. Tribal Cultural Resources. Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
a) 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	☐	☐	☐	☒
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☐	☐	☒

3.18.1 ENVIRONMENTAL SETTING

AB 52, enacted in 2014, amended sections of CEQA relating to Native Americans. AB 52 establishes a new category of cultural resources, named tribal cultural resource (TCRs), and states that a project that may cause a substantial adverse change in the significance of a TCR may have a significant effect on the environment. Section 21074 was added to the PRC to define TCRs, as follows:

(a) "TCRs" are either of the following:

(1) Sites, features, places, cultural landscapes, 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.

(B) Included in a local register of historical resources as defined in subdivision (k) of Section 5020.1.

(2) 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.

(b) A cultural landscape that meets the criteria of subdivision (a) is a TCR to the extent that the landscape is geographically defined in terms of the size and scope of the landscape.

(c) A historical resource described in Section 21084.1, a unique archaeological resource as defined in subdivision (g) of Section 21083.2, or a "non-unique archaeological resource" as defined in subdivision (h) of Section 21083.2 may also be a tribal cultural resource if it conforms with the criteria of subdivision (a).

3.18.2 DISCUSSION

NATIVE AMERICAN CONSULTATION

The Native Heritage Commission (NAHC) was requested to conduct a sacred lands search on February 20, 2019. The purpose of the search was to ascertain whether additional resources or locations, including existing TCRs that may be of importance to Native Americans who traditionally have resided in the proposed project area. On February 27, 2019, the NAHC responded, stating that a review of its files yielded positive results. The NAHC indicated that the Dumna Wo-Wah Tribal Government should be contacted, and contact information was provided for the California Miwok Tribe; California Valley Miwok Tribe, AKA Sheep Rancheria of Me-Wuk Indians of California; Robert Ledger Sr., chairperson with the Dumma Wo-Wah Tribal Government; Ron Goode, chairperson with North Fork Mono Tribe; Gary Walker, chairperson, with the North Fork Rancheria of Mono Indians; Katherine Erolinda Perez, chairperson, with the North Valley Yokuts Tribe; William Leonard, chairperson with the Wouthern Sierra Miwuk Nation, and Kenneth Woodrow, chairperson with the Wuksache Indian Tribe/Eshorn Valley Band.

On behalf of Madera County, AECOM contacted these tribes by letter on March 12, 2019. Tiger Paulk with the California Valley Miwok Tribe asked that he be contacted if any cultural material was observed. Both Robert Ledger with the Dumma Wo Wah Tribal Government of Ron Goode with the North Fork Mono Tribe requested a digital copy of the NAHC response letter, which was sent on March 28, 2019. Both individuals stated that they would respond after reading the letter. Voice messages were left for the remaining tribes. With the exception of California Valley Miwok Tribe, follow-up phone calls or email messages were sent to all groups on April 24, 2019. California Valley Miwok Tribe, North Fork Mono Tribe representative Ron Goode responded on April 24, 2019 and asked that he be contacted if any artifacts were found during work. North Fork Rancheria of Mono Indians representative Christina McDonald emailed a response on April 24, 2019 stating that she was sending the NAHC response letter to the tribal archaeologist for review. Another email message was sent to Robert Ledger with the Dumna Wo-Wah Tribal Government on April 25, 2019 along with a copy of the NAHC response letter. Mr. Robert Ledger promised a formal email response no later than April 26, 2019. As of April 29, 2019, AECOM had not received a response. Because of a lack of evidence for the presence of tribal cultural resources, AECOM considers consultation under AB52 complete.

a) 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

Consultation with local Native American groups and individuals failed to identify tribal cultural resources in the project site. **No impact** would occur.

b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

Consultation with local Native American groups and individuals failed to identify tribal cultural resources in the project site. **No impact** would occur.

3.19 UTILITIES AND SERVICE SYSTEMS

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XIX. Utilities and Service Systems. Would the project:				
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☐	☒
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☐	☒
c) Result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand, in addition to the provider's existing commitments?	☐	☐	☐	☒
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☒	☐
e) Comply with federal, State, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☐	☒

3.19.1 ENVIRONMENTAL SETTING

Implementing the proposed project would not affect stormwater drainage, electric power, natural gas, or telecommunications facilities. The proposed project consists of upgrading a municipal wastewater treatment provider. Thus, these topics are not discussed further. Therefore, the following discussion focuses on water supply and demand, and the solid waste facilities that would serve the proposed project.

WATER SUPPLY AND DEMAND

The MD-1 WTP is located within Hidden Lake Estates and is the sole potable water supply for the community. The WTP serves a population of about 162 residents, using 49 water connections. The MD-1 service area encompasses approximately 154 acres. The existing WTP is on the eastern side of Hidden Lake Boulevard, and the chlorine injection point is approximately 0.5 mile to the south, near Millerton Lake (see Figure 2-2 in Chapter 2, "Project Description").

Water diverted by Madera County originates from Millerton Lake, in accordance with a contract between the County and the U.S. Bureau of Reclamation, which operates the Central Valley Project. The MD-1 system

produced 10.24 MG in 2017, and the MMADD was 31.2 gpm. Currently, the ADD and MDD are 36 gpm and 97 gpm, respectively (see Table 2-1 in Chapter 2, "Project Description").

Solid Waste Disposal

Solid waste disposal in the County is managed by the Madera County Resource Management Agency. The County owns and operates the Fairmead Sanitary Landfill. This landfill encompasses 121 acres, with a permitted disposal area of 77 acres. It is classified as a Class III municipal solid waste landfill facility and is permitted to accept general residential, commercial, and industrial refuse for disposal, including municipal solid waste, construction and demolition debris, asbestos, agricultural debris, and other nonhazardous designated debris (CalRecycle 2019a). The Fairmead Sanitary Landfill has a maximum permitted throughput of 1,100 tons per day (tpd) of solid waste. The landfill has a permitted maximum capacity of approximately 9.4 million cubic yards and a remaining capacity of 5.5 million cubic yards. The closure date of the landfill is expected to be in 2028 (CalRecycle 2019a).

The County does not have a construction debris or demolition recycling program, but it does remove some construction wastes out of the waste stream at the Mammoth Material Recovery Facility. The Mammoth Material Recovery Facility is located at the Fairmead Sanitary Landfill. The facility has a maximum throughput of 500 tpd and accepts construction and demolition waste, green materials, inert metals, mixed municipal waste, and wood waste (CalRecycle 2019b).

3.19.2 Discussion

a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

The proposed project would not include any new development that would require relocation or construction of new or expanded municipal wastewater treatment, stormwater drainage, natural gas, or telecommunications facilities. **No impact** would occur.

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

The proposed project would not include any new development that would increase water supply demand. The purpose of the project would be to improve the reliability of the domestic water supply. Any future development that would increase water supply demand would be subject to future CEQA compliance. **No impact** would occur.

c) Result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand, in addition to the provider's existing commitments?

A septic tank and a leach field would be installed to dispose the treated wastewater stream. Therefore, the proposed project would not exceed a wastewater treatment provider's capacity. **No impact** would occur.

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?

Construction of the proposed project would involve site clearing and grubbing. The 2016 CALGreen Code (Title 24, Part 11 of the California Code of Regulations) requires that 100 percent of trees, stumps, rocks, and associated vegetation and soils resulting primarily from land clearing be reused or recycled (California Building Standards Commission 2016). Excavated material, other than organic material removed during clearing and grubbing, would remain on site and would be used for site-leveling backfill material, and organic material would be recycled consistent with the 2016 CALGreen Code.

Demolition of Upper Tank and elements of the existing WTP and installation of the new WTP would generate various construction-related wastes, including scrap lumber, scrap finishing materials, various scrap metals, and other recyclable and nonrecyclable construction-related wastes. The 2016 CALGreen Code (Title 24, Part 11 of the California Code of Regulations) requires all construction contractors to reduce construction waste and demolition debris by 65 percent. Code requirements include preparing a construction waste management plan that identifies the materials to be diverted from disposal by efficient usage, recycling, re-use on the project, or salvage for future use or sale; determining whether materials will be sorted on site or mixed; and identifying diversion facilities where the collected materials will be taken. The code also specifies that the amount of materials diverted should be calculated by weight or volume, but not by both (California Building Standards Commission 2016).

To meet the requirements of the 2016 CALGreen Code County requires contractors to prepare a construction waste management plan. The construction waste management plan must be submitted to and approved by the County's Building Division before issuance a building permit. A construction waste management plan would be implemented for the proposed project.

Solid waste generated at the proposed project site would be hauled to the Fairmead Sanitary Landfill. This landfill has a maximum permitted throughput of 1,100 tpd, a remaining capacity of approximately 5.5 million cubic yards, and an expected closure date of 2028 (CalRecycle 2019a). The amount of waste that would be generated cannot be quantified; however, the proposed project is not expected to generate substantial quantities of solid waste. In addition, solid waste would be generated only during the 3-month construction period. Furthermore, operation of the new WTP would not generate solid waste that would require disposal at the Fairmead Sanitary Landfill. A septic tank and a leach field would be installed to dispose the treated wastewater stream.

As discussed above, the Fairmead Sanitary Landfill would have sufficient capacity to accommodate the solid waste disposal needs of the proposed project. Waste generated by the proposed project would not exceed State standards or otherwise impair the attainment of solid waste reduction goals. Therefore, the impact would be **less than significant**.

e) Comply with federal, State, and local management and reduction statutes and regulations related to solid waste?

Madera County has not adopted countywide recycling goals or waste reduction statutes, other than those required by the State. As discussed in Item (d), the proposed project would comply with 2016 CALGreen Code by re-using excavated soil, recycling 100 percent of the organic material cleared from the project site, and preparing and implementing a construction waste management plan. Therefore, **no impact** would occur.

3.20 WILDFIRE

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XX. Wildfire. - If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☒	☐	☐
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☒	☐
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☐	☒
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☐	☒

3.20.1 ENVIRONMENTAL SETTING

The proposed project site lies within an SRA and generally is rated as a High Fire Hazard Severity Zone by CAL FIRE (CAL FIRE 2007). Battalion 5 of CAL FIRE's Madera–Mariposa–Merced Unit has primarily responsibility for response to wildland fires (CAL FIRE 2014). Section 3.9, "Hazards and Hazardous Materials," provides a detailed discussion of wildfire risk and response.

3.20.2 DISCUSSION

a) Substantially impair an adopted emergency response plan or emergency evacuation plan?

As discussed in Item f) of Section 3.9, "Hazards and Hazardous Materials," State Route 41 and County Roads 208 and 211 are officially designated as emergency evacuation routes to be used by the residents of Hidden Valley Estates during an emergency evacuation (Madera County 2011b, 2019b). Slow-moving trucks along Hildreth Road and Hidden Lake Boulevard and those entering and exiting the project site along Hidden Lake Boulevard as well as closures of narrow roadways during construction could delay the movement of emergency vehicles or interfere with evacuation of the proposed project area. Therefore, the impact would be **potentially significant**.

Implementation of **Mitigation Measure 3.17-1, Prepare and Implement a Traffic Control Plan**, would reduce the impact to a **less-than-significant** level by requiring a plan for notifications and a process for communication with affected residents and landowners, before the start of construction; requiring notification to the public,

advising them of alternative routes; providing notification to administrators of police and fire stations, and ambulance service providers of the timing, location, and duration of construction activities and the locations of detours and lane closures, where applicable; and maintaining access for emergency vehicles in and/or adjacent to roadways affected by construction activities at all times.

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?

The proposed project site is located in an area of steep slopes. However, as discussed in Section 3.7, "Geology and Soils," the site is composed of stable bedrock and low risk exists for slope destabilization.

Project construction would involve some soil disturbance and grading for installation and operation of the new WTP, a fire flow water storage tank, a septic tank, and a leach field. During construction, equipment and on-site diesel fuel could pose a risk for wildfire, by possible ignition sources such as internal combustion engines, gasoline-powered tools, and equipment that could produce a spark, fire, or flame. However, contractors would have to comply with Sections 4427, 4428, 4431, and 4442 of the Public Resources Code (PRC). During construction, contractors would be responsible for monitoring and safety measures, in compliance with applicable PRC requirements so that any risk of wildfire.

During operations, a protective space around the new WTP would be kept clear of vegetation, which would further reduce the risk of wildland fire on adjacent grasslands, if an ignition source is associated with the plant's mechanical equipment. In addition to the new WTP, the proposed project site also would house a new 180,000-gallon water storage tank that would provide fire flows in the event of a wildfire. A vital feature of the new WTP would be to provide full fire flow recovery within 5 days of depletion above MDD.

Therefore, the impact would be **less than significant**. No mitigation is required.

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?

The proposed project would consist of installation and operation of a new WTP, a fire flow water storage tank, a septic tank, and a leach field. The proposed project would not include installation of new roads, fuel breaks, emergency water sources, power lines, or other utilities that could exacerbate fire risk or result in temporary or ongoing impacts on the environment. Therefore, **no impact** would occur.

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?

The proposed project would not include any habitable structures. The proposed project site is in an area of steep slopes. However, as discussed in Section 3.7, "Geology and Soils," the site is composed of stable bedrock and a low risk exists of slope destabilization that could lead to landslides. As discussed in Section 3.10, "Hydrology and Water Quality," the proposed project would not result in flooding off-site, contribute to runoff that would exceed the capacity of an existing or planned stormwater system, impede or redirect flood flows, or alter drainage

patterns. Therefore, the proposed project would not expose people or structures to significant risks because of runoff, post-fire slope instability, or drainage changes. **No impact** would occur.

3.21 MANDATORY FINDINGS OF SIGNIFICANCE

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

Authority: Public Resources Code Sections 21083, 21083.5.

Reference: Government Code Sections 65088.4.
Public Resources Code Sections 21080, 21083.5, 21095; *Eureka Citizens for Responsible Govt. v. City of Eureka* (2007) 147 Cal.App.4th 357; *Protect the Historic Amador Waterways v. Amador Water Agency* (2004) 116 Cal.App.4th at 1109; *San Franciscans Upholding the Downtown Plan v. City and County of San Francisco* (2002) 102 Cal.App.4th 656.

3.21.1 DISCUSSION

a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of an endangered, rare, or threatened species, or eliminate important examples of the major periods of California history or prehistory?

The proposed project would not substantially degrade the quality of the environment, reduce the habitat of fish or wildlife species, or cause a fish or wildlife population to drop below self-sustaining levels. Measures described in Section 3.4, "Biological Resources," would mitigate potential significant impacts to biological resources to a less-than-significant level. As discussed in Section 3.5, "Cultural Resources," the proposed project would not eliminate important examples of the major periods of California history or prehistory, and impacts on cultural resources would be less than significant. With incorporation of mitigation identified in Section 3.4, "Biological Resources," the impact would be **less than significant with mitigation incorporated.**

b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)

Proposed project activities would result in short-term, temporary impacts that mainly would be limited to the proposed project site. No past, current, or probable future projects were identified in the project vicinity that, when added to project-related impacts, would result in significant cumulative impacts on any other environmental resources. Furthermore, the proposed project would not make a cumulatively considerable incremental contribution to any significant cumulative impacts for any resources affected by past, current, or probable future projects in the project vicinity. Implementation of the proposed project would not contribute to cumulative effects of other past, present, and future projects. The impact would be **less than significant**.

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

The proposed project would not have environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly. The impact would be **less than significant**.

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4 ALTERNATIVES

This chapter was prepared in compliance with the federal cross-cutting requirements of the Drinking Water State Revolving Fund regulations, which require that an explanation of the alternatives considered for a project and the rationale for selection of the chosen project alternative be prepared, and that the explanation assesses the environmental impacts of each alternative. Specifically, the environmental alternative analysis must include the following:

- the range of feasible alternatives, including a "no project/no action" alternative;
- a comparative analysis among the alternatives that discusses direct, indirect, cumulative, beneficial, and adverse environmental impacts on the existing and future environment, as well as sensitive environmental issues; and
- appropriate mitigation measures to address potential significant and significant impacts.

4.1 NO PROJECT ALTERNATIVE

With selection of the No Project Alternative, the proposed project would not be constructed and a new WTP would not be installed or operated to serve the MD-1 service area. The No Project Alternative would avoid less-than significant construction-related impacts on local air quality, potential erosion of soils, and temporary noise and traffic impacts that would be associated with construction of a new WTP. These impacts would be less than significant with incorporation of mitigation. Other impacts would be less than significant or avoided entirely.

Selection of the No Project Alternative would prevent Madera County from establishing a drinking water supply for the MD-1 service area that complies with Title 22, Section 64653 of the California Code of Regulations. Therefore, the drinking water system would continue to operate in violation of the Citation for Noncompliance with California Health and Safety Code (SWRCB 2018).

4.2 ALTERNATIVE TREATMENT PLANT CAPACITY

The proposed project would be required to meet all drinking water standards and address the compliance order for DBPs, by switching from pre-treatment chlorination to post-treatment chlorination. Improvements to the WTP system also would increase the capacity of the plant to meet existing peak demands, fire flows, and limited additional future demands. The failing Upper Tank would be replaced with a new tank, so that the system would have a sufficient supply of water during emergencies.

WesTech has informed the County that the smallest Trident® HS unit available has a design flow rate of 350 gpm. This capacity is more than twice the size needed to supply current demands. In response to this design restriction, the County intends to limit the volume of raw water diverted from Millerton Lake that is delivered through two intake pumps.

The CWS require that the new WTP be sized with a capacity to accommodate the MDD (SWRCB 2019a). The MDD is estimated to be 97 gpm. The Drinking Water State Revolving Fund funding source restricts eligibility for funding, to accommodate an allowance of no more than 10 percent growth of the population served, with an additional allowance for fire flow (SWRCB 2019a). Based on this growth allowance, a 10 percent growth over the

current MDD, a capacity of 107 gpm is calculated. A WTP capacity of 132 gpm is calculated after the fire flow recovery demand of 25 gpm is included.

As described in Chapter 2 "Project Description," the County proposes to use only one of the two existing Millerton Lake intake pumps to supply the MD-1 service area. The two pumps have a combined capacity of 320 gpm. With this proposal, the second intake pump would provide adequate backup to the first pump and would not be used routinely until future demand warrants increased water supply and future regulatory compliance is completed. Using only one pump would enable the new WTP to operate at about 132 gpm and would satisfy the MDD and fire flow recovery requirements.

Based on this information, no WTP capacity alternatives would be feasible to implement. Because of the high turbidity levels found in the raw water intake, the Trident HS unit is the preferred WTP system, capable of providing a reliable water supply. Design limits would prevent installation of a smaller WTP system, and regulatory restrictions would prevent installation of larger capacity WTP systems.

4.3 ALTERNATIVE WTP SITE LOCATIONS

No alternative, site-specific location studies have been performed. However, based on the following features, multiple conclusions can be drawn to compare alternative WTP site locations with the proposed project site.

The existing WTP site currently is connected to the raw water intake pipeline, emanating from Millerton Lake. The WTP site is about 0.62 mile from Millerton Lake. Relocation of the WTP site would require extension and/or relocation of portions of this raw water intake pipeline to the alternative WTP site. Such extension and/or relocation of the pipeline would require trenching, soil disturbance, vegetation removal, obstruction of existing paved roadways, and exposure of additional residents to project construction-related dust emissions and noise.

Depending on the location of the alternative WTP location, potential impacts associated with pipeline extension may prove to be more severe because of steep topography, crossing swales or ephemeral drainages, removal of larger trees, and larger areas needing grading for WTP installation.

All lands in the vicinity of the MD-1 service area are privately owned, and acquisition by the County would require willing-seller transfer or condemnation. No information regarding willingness of sellers is available at this time.

4.4 ALTERNATIVE TREATMENT TECHNOLOGIES

In 2007 a technical evaluation and feasibility study to assess deficiencies in the MD-1 WTP system was completed (Boyle 2007). At the time of the study, the water system was not in compliance with the DBP rule, could not meet MDD during summer months, and could not comply with filtered water turbidity requirements during wet periods. The resulting report included analysis of a wide range of potential options to provide a reliable source of drinking water to MD-1 customers, including consideration of groundwater wells, riverbank filtration wells, a packaged conventional surface water treatment plant, and a membrane filtration surface water treatment plant. The 2007 study recommended that MD-1 replace the existing WTP with a new membrane filtration plant, using chlorine for primary disinfection and monochloramine for secondary disinfection.

Kenneth D. Schmidt and Associates evaluated the area in 2007, to determine whether groundwater potentially could be used as the source of water for MD-1. The analysis included an investigation into subsurface geologic conditions, review of existing well logs in the area, and a production well location recommendation. No geologic formation intersections were identified within the MD-1 service area boundaries.

Outside formation intersections, linear surface fractures represent the best indication of subsurface water-producing locations. Two well locations were identified, based on an analysis of linear surface features. Both locations would be problematic because neither well site would be accessible for a drill rig. Substantial design and construction efforts would be required, including property acquisition, to construct an access road and drilling site at either location. Because of these obstacles, the County discontinued this effort.

Madera County subsequently hired the AECOM/Provost and Pritchard engineering team, to re-assess the treatment process recommendations from the 2007 report and design a new WTP. The final Preliminary Design Report recommended the use an approved, packaged, alternative filtration technology, consisting of the Westech Trident/Trimite (Trimite) process which includes an up-flow contact clarifier (i.e., roughing filter) and a conventional multi-media down-flow filter (AECOM 2016). The recommendation in the Preliminary Design Report was based on the water quality summary that was presented in the Boyle 2007 report and additional turbidity. Both the Boyle 2007 report summary and the more recent data indicated that the average day raw water turbidity never exceeded 15 NTU and the average turbidity was approximately 2 NTU. These turbidities are within the range that could be treated by a standard packaged filtration system.

In May 2017, additional raw water turbidity data indicated that MD-1 received sustained turbidity levels greater than 40 NTU for periods longer than a week during the winter and early spring months (Provost & Pritchard 2018). The County was obligated to operate the existing WTP in winter 2017, to provide water to the MD-1 service area residents. Elevated turbidity levels were exhibited during this period. Because of these levels, the MD-1 WTP was unable to meet the drinking water standards for filtered water turbidity, and the County was required to issue boil water notices. Because of these high turbidity levels, the Trimite system was found not to be suitable. The MD-1 WTP clarifier quickly clogged and the clarifier and filter run times became very short. After researching other, more suitable systems to treat surface water at MD-1, the Trident HS system was selected.

Unlike other packaged plants, the Trident HS system is able to treat water with high turbidities because it includes an inclined tube clarifier with chemical pretreatment and solids recirculation as an additional first stage, before the filtration process. The solids that settle to the bottom in the first stage are recycled into the raw water near the coagulation point, to help form heavier floc, which is intended to improve settling velocities. The recycle flowrate can be adjusted to help maintain a consistent solids load to the tube clarifier, preventing upsets and minimizing solids carryover into the adsorption clarifier. This system has been successful in treating raw water turbidities well over 100 NTU and reliably can handle the highest turbidity raw water quality expected at the existing WTP, as was observed in winter 2017. A key advantage of the Trident HS system is the way its settling pretreatment process is incorporated into a single piece of equipment, minimizing process integration issues. Based on this history of investigation and design analysis, it was concluded that other treatment technologies could not be operated reliably at similar cost and efficiencies when compared to the proposed Trident HS system.

4.5 COMPARISON OF ALTERNATIVES

Table 4-1 shows the expected environmental impacts of the proposed project with the three identified alternatives. For each environmental topic, the most severe impact finding is noted. Other impacts that are identified in Chapter 3, "Environmental Checklist" for each of these environmental topics were found to be less severe that the conclusion shown in Table 4-1.

Table 4-1 Comparison of Project Alternatives

Environmental Topic	Alternative			
	Proposed Project	Smaller WTP Capacity	Alternative WTP Site Location	Alternative WTP Treatment Technology
Aesthetics	Less than Significant Impact	Same as proposed project	Same as proposed project	Same as proposed project
Agriculture & Forestry	No Impact	Same as proposed project	Same as proposed project	Same as proposed project
Air Quality	Less than Significant Impact	Same as proposed project	Same as proposed project	Same as proposed project
Biological Resources	Less than Significant Impact	Same as proposed project	Unknown. potential significant impact	Same as proposed project
Cultural Resources	No Impact	Same as proposed project	Unknown. potential significant impact	Same as proposed project
Energy	Less than Significant Impact	Same as proposed project	Same as proposed project	Same as proposed project
Geology and Soils	Less than Significant Impact	Same as proposed project	Same as proposed project	Same as proposed project
Greenhouse Gas Emissions	Less than Significant Impact	Same as proposed project	Same as proposed project	Same as proposed project
Hazards and Hazardous Materials	Less than Significant Impact	Same as proposed project	Same as proposed project	Same as proposed project
Hydrology and Water Quality	Less than Significant Impact	Same as proposed project	Less than Significant with Mitigation	Same as proposed project
Land Use & Planning	No Impact	Same as proposed project	Same as proposed project	Same as proposed project
Minerals	No Impact	Same as proposed project	Same as proposed project	Same as proposed project
Noise	Less than Significant Impact	Same as proposed project	Same as proposed project	Same as proposed project
Population & Housing	Less than Significant Impact	Same as proposed project	Same as proposed project	Same as proposed project
Public Services	No Impact	Same as proposed project	Same as proposed project	Same as proposed project
Recreation	No Impact	Same as proposed project	Same as proposed project	Same as proposed project
Transportation & Traffic	Less than Significant Impact with Mitigation	Same as proposed project	Same as proposed project	Same as proposed project
Tribal Cultural Resources	No Impact	No Impact	Unknown. potential significant impact	No Impact
Utilities and Service Systems	Less than Significant Impact with Mitigation	Same as proposed project	Same as proposed project	Same as proposed project
Wildfire	Less than Significant Impact with Mitigation	Same as proposed project	Same as proposed project	Same as proposed project
Mandatory Findings	Less than Significant Impact with Mitigation	Same as proposed project	Same as proposed project	Same as proposed project

Source: Compiled by AECOM in 2019

As shown in Table 4-1, the impacts associated with the proposed project would be similar to those associated with the other alternatives. The potential impacts associated with alternative project capacities and alternative treatment technologies would be substantively the same as the proposed project. Alternative WTP locations would have the greatest potential to generate potentially significant environmental impacts, where the proposed project would not. For three specific topic areas, the impacts associated with the alternative locations could be different. These specific topic areas are discussed next.

4.5.1 Biological Resources

The presence of and potential impacts on special-status species, wetlands and other waters, riparian and sensitive habitats, nest locations, or other important biological resources would depend on the location of the new WTP and the disturbance area associated with its construction. The analysis conducted for the proposed project found that multiple special-status species designated by federal or State legislation potentially may inhabit the proposed project vicinity. The specific locations where they may reside would depend on site-specific conditions and habitat features present in the area.

Table 3.3-2 shows those species that may be found in the proposed project vicinity. Because several special-status species may occur, implementation of a new WTP at alternative locations may adversely affect local populations, habitats, or migratory paths. Other features, including wetlands or other waters the United States, riparian vegetation, and other habitat features also occur in the vicinity of the MD-1 service area. Implementation of a new WTP at alternative locations may adversely affect these features, unless specifically mitigated.

4.5.2 Hydrology and Water Quality

Construction of a new WTP at an alternative location would have the potential to adversely affect water quality, caused by accelerated erosion and sedimentation associated with grading and excavation for plant foundations, a leach field, piping, underground electric systems, and other subsurface features. The severity and magnitude of these potential impacts would depend on site conditions and the availability of mitigation to avoid or reduce **potential significant or significant impacts**. Measures, including best management practices and measures included in an SWPPP, are expected to be available to mitigate potentially significant or significant impacts to a **less-than-significant level**.

4.5.3 Cultural Resources

Alternative WTP locations would have the potential to adversely affect unknown cultural resources that may occur in the MD-1 service area and vicinity. Available site records indicate that the proposed project site does not contain any known cultural materials. However, this conclusion cannot be applied to other locations in the MD-1 service area without a site-specific evaluation and survey. Because the potential exists for cultural resources to be present at alternative WTP locations, such sites can be presumed to have the potential to generate a significant environmental impact.

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5 REFERENCES

ARB. *See* California Air Resources Board.

Bateman, P. C., and A. J. Busacca. 1982. Geologic Map of the Millerton Lake Quadrangle, West-Central Sierra Nevada, California. U.S. Geological Survey, Geologic Quadrangle Map GQ-1548. Available: https://ngmdb.usgs.gov/Prodesc/proddesc_29.htm. Accessed March 20, 2019.

CAL FIRE. *See* California Department of Forestry and Fire Protection.

California Air Resources Board. 2008. *Climate Change Scoping Plan.*

———. 2019. *Air Quality Standards and Area Designations*. Available: https://www.arb.ca.gov/desig/desig.htm. Accessed March 27, 2019.

California Building Standards Commission. 2016. *California Green Building Standards Code* (CALGreen). Available: http://www.bsc.ca.gov/Home/CALGreen.aspx. Accessed March 26, 2019.

California Department of Conservation. 2016a. *California Important Farmland Finder*. Available: https://maps.conservation.ca.gov/DLRP/CIFF/. Accessed March 22, 2019.

———. 2016b. *Madera County Williamson Act FY 2015–2016*. Available: ftp://ftp.consrv.ca.gov/pub/dlrp/wa/. Accessed March 22, 2019.

California Department of Fish and Wildlife. CDFW. 2000 (January). *Life History Account for Spea hammondii*. California Interagency Wildlife Task Group. Available: https://www.wildlife.ca.gov/Data/CWHR/Life-History-and-Range.

———. 2019. *California Natural Diversity Database* (CNDDB). Wildlife and Habitat Data Analysis Branch. Available: https://www.wildlife.ca.gov/Data/CNDDB.

California Department of Forestry and Fire Protection. 2007 (November). *Madera County Fire Hazard Severity Zones in SRA*. Available: http://www.fire.ca.gov/fire_prevention/fhsz_maps_madera. Accessed March 26, 2019.

———. 2014 (May). *CAL FIRE Madera–Mariposa–Merced Unit Strategic Fire Plan*. Available: https://firewisemaderacounty.org/madera-mariposa-merced-unit-strategic-fire-plan/. Accessed March 27, 2019.

California Department of General Services. 2012. *Bid Opening, State of California*. Available: https://web.archive.org/web/20170209053657/https://www.documents.dgs.ca.gov/resd/Surplus_Property/ForSale/HiddenLakeBidPackage.pdf. Accessed February 21, 2019.

California Department of Public Health. 2019 (February). *Yearly Summaries of Selected Communicable Diseases in California, 2011–2017*. Available:

https://www.cdph.ca.gov/Programs/CID/DCDC/Pages/Coccidioidomycosis.aspx#. Accessed March 27, 2019.

California Department of Resources Recycling and Recovery. 2019a. *Facility/Site Summary Details: Fairmead Solid Waste Disposal Site* (20-AA-0002). Available: https://www2.calrecycle.ca.gov/swfacilities/Directory/20-AA-0002/. Accessed March 25, 2019.

———. 2019b. *Facility/Site Summary Details: Mammoth Recycling Facility and TS* (20-AA-0031). Available: https://www2.calrecycle.ca.gov/swfacilities/Directory/20-AA-0031/. Accessed March 25, 2019.

California Department of Toxic Substances Control. 2019. EnviroStor Database. Available: https://www.envirostor.dtsc.ca.gov/public/map/?myaddress=hidden+lake+boulevard%2C+madera%2C+ca. Accessed March 28, 2019.

California Department of Transportation. 2013 (September). *Transportation and Construction Vibration Guidance Manual*. Sacramento, CA.

———. 2019. California Scenic Highway Mapping System. Available: http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/index.htm. Accessed March 19, 2019.

California Geological Survey. 2017. CGS Information Warehouse, Regulatory Maps. Available: http://maps.conservation.ca.gov/cgs/informationwarehouse/index.html?map=regulatorymaps. Accessed March 21, 2019.

———. 2019. *CGS Information Warehouse, Mineral Lands Classification*. Available: http://maps.conservation.ca.gov/cgs/informationwarehouse/index.html?map=regulatorymaps. Accessed March 15, 2019.

California Native Plant Society. 2019. Inventory of Rare and Endangered Plants of California. Available: http://rareplants.cnps.org/.

CalRecycle. *See* California Department of Resources Recycling and Recovery.

Caltrans. *See* California Department of Transportation.

CDFW. *See* California Department of Fish and Wildlife.

Central Valley Regional Water Quality Control Board. 2017 (April). *Resolution R5-2017-0044 Approving the Local Agency Management Program for Madera County Environmental Health Division*. Available: https://www.maderacounty.com/home/showdocument?id=178. Accessed March 21, 2019.

———. 2018 (May). The Water Quality Control Plan (Basin Plan) for the California Regional Water Quality Control Board Central Valley Region. Available: http://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/.

CGS. *See* California Geological Survey.

Climate Charts.com 2019. World Climate. Available: https://www.climate-charts.com/index.html. Accessed March 27, 2019.

CNPS. *See* California Native Plant Society.

CVRWQCB. *See* Central Valley Regional Water Quality Control Board.

Department of the Interior. 2017 (December 22). Opinion M-37050 The Migratory Bird Treaty Act Does Not Prohibit Incidental Take.

DGS. *See* California Department of General Services.

DOC. *See* California Department of Conservation.

DOI. *See* Department of the Interior.

DTSC. *See* California Department of Toxic Substances Control.

eBird. 2012. eBird: An online database of bird distribution and abundance [web application]. eBird, Ithaca, New York. Available: http://www.ebird.org. (Accessed: Date [e.g., February 2, 2012]).

Federal Highway Administration. 1978 (December). Federal Highway Traffic Noise Prediction Model FHWA RD 77-108. Washington, DC.

Federal Transit Administration. 2018 (September). *Transit Noise and Vibration Impact Assessment*. Washington, DC. Prepared by John A. Volpe National Transportation Systems Center.

FHWA. *See* Federal Highway Administration.

Fresno Bee. 1965 (September 17). "U.S. Okays CVP Water Supply for Hidden Lake."

FTA. *See* Federal Transit Administration.

Gayton, A. H. 1948. *Yokuts and Western Mono Ethnography*. University of California Anthropological Records 10(1-2): 1-301.

Giffen, H. S. 1939. *Fort Miller and Millerton: Memories of Southern Mines*. Quarterly Publication of the Historical Society of Southern California: 3-15.

Google Earth. 2019. *Google Earth Pro*. Accessed March 20, 2019.

Gudde, E. G. 1998. *California Place Names*. Revised and expanded by William Bright. University of California Press, Berkeley.

Hines, P. 1988. *CA-MAD-98: Excavation of a Prehistoric Village Site at Millerton Lake State Recreation Area*. Report on file, California Department of Parks and Recreation, Sacramento.

Institute of Transportation Engineers. 1988. *Traffic Access and Impact Studies for Site Development.* Transportation Planners Council. Washington, DC.

Intergovernmental Panel on Climate Change. 2013. Carbon and Other Biogeochemical Cycles. In *Climate Change 2013: The Physical Science Basis, Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*. Available: http://www.climatechange2013.org/images/report/WG1AR5_ALL_FINAL.pdf.

———. 2014. *Climate Change 2014 Synthesis Report: Approved Summary for Policymakers*. Available: http://www.ipcc.ch/.

IPCC. *See* Intergovernmental Panel on Climate Change.

ITE. *See* Institute of Transportation Engineers.

Jennings, C. W., and W. A. Bryant. 2010. 2010 Fault Activity Map of California. Available: http://maps.conservation.ca.gov/cgs/fam/. Accessed March 20, 2019.

Kleinfelder, Inc. 2017 (July). *Geotechnical Investigation Report, Madera County Maintenance District 1 Hidden Lakes, Friant, Madera County, California*. Prepared for AECOM. Project No. 20170625. Fresno, CA.

Kroeber, A. L. 1925. *Handbook of the Indians of California*. Bureau of American Ethnology Bulletin 78, Washington, D.C. Reprinted, Dover Publications, New York, 1976.

Larose, K., L. Youngs, S. Kohler-Antablin, and K. Garden. 1999. *Mines and Mineral Producers Active in California (1997–1998)*. California Department of Conservation Division of Mines and Geology, in Cooperation with California Department of Conservation Office of Mine Reclamation. Special Publication 103. Sacramento, CA.

Latta, F. F. 1976. *Handbook of Yokuts Indians*. Bear State Books, Santa Cruz, CA

Madera County. 1995 (October). *Madera County General Plan Background Report*. Available: https://www.maderacounty.com/Home/ShowDocument?id=2852. Accessed March 15, 2019.

———. 2011a. *Standards Plans and Specifications*. Available: https://www.maderacounty.com/madera-county-standards/-folder-206. Accessed March 20, 2019.

———. 2011b. *Madera County Hazard Mitigation Plan*. Available: https://www.maderacounty.com/government/sheriff/lhmp. Accessed March 27, 2019.

———. 2013. *Madera County General Plan Noise Element*. Madera County, CA.

———. 2019a. Madera County, California, Code of Ordinances. Available: https://library.municode.com/ca/madera_county/codes/code_of_ordinances?nodeId=TIT9PESAMO_VOFAGPUPE_CH9.58NORE_9.58.020GENORE. Accessed March 27, 2019.

———. 2019b. *Emergency Operations Plan*. Available: https://www.maderacounty.com/government/sheriff/office-of-emergency-services. Accessed March 27, 2019.

Madera County Fire Department. 2019. *Fire Prevention and Suppression*. Available: https://www.maderacounty.com/government/fire-department. Accessed March 24, 2019.

Madera County Sheriff's Department. 2019. *Sheriff*. Available: https://www.maderacounty.com/government/sheriff. Accessed March 24, 2019.

Madera County Transportation Commission. 2018a. *2018 Traffic Volume Report*.

———. 2018b. *Madera County Regional Transportation Plan and Sustainable Communities Strategy*.

Madera Tribune. 1958 (September 23). "Whole Town Is Ultimate Goal of Huge Millerton Subdivision."

———. 1959 (October 21). "Water System Approved by PUC."

McGuire, K. R., and E. Wohlgemuth. 1992. *Archaeological Survey Report for a Proposed Upgrade of Rural Route 180 between Fowler and Cove Avenues, Fresno County, California*. Report prepared for California Department of Transportation, District 6, Fresno.

MCTC. *See* Madera County Transportation Commission.

Moratto, M. J. 1984. *California Archaeology*. Academic Press, New York.

Moratto, M. J, L. H. Shoup, and J. D. Tordoff. 1988. *Culture Change in the Central Sierra Nevada, 8000 BC–AD 1950*. Final Report of the New Melones Archeological Project, Volume IX. Report submitted to the National Park Service, Washington, DC.

NRCS. *See* U.S. Natural Resources Conservation Service.

Reclamation. *See* U.S. Bureau of Reclamation.

Sacramento Metropolitan Air Quality Management District. 2016. *SMAQMD CEQA Guide*.

San Joaquin Valley Air Pollution Control District. 1994 (October 20). *Rule 9110, General Conformity*. Available: https://www.valleyair.org/rules/currntrules/r9110.pdf. Accessed March 27, 2019.

———. 2002 (January 10). *Guide for Assessing and Mitigating Air Quality Impacts*.

———. 2018 (March 21). *Rule 9510, Indirect Source Review*. Available: https://www.valleyair.org/rules/currntrules/r9510-a.pdf. Accessed March 27, 2019.

———. Current District Rules and Regulations. Available: http://www.valleyair.org/rules/1ruleslist.htm. Accessed April 2, 2019.

Sawyer, J. O., T. Keeler-Wolf, J. M. Evens. 2009. *A Manual of California Vegetation*. Second edition. California Native Plant Society and California Department of Fish and Game.

SJVAPCD. *See* San Joaquin Valley Air Pollution Control District.

SMAQMD. *See* Sacramento Metropolitan Air Quality Management District.

Spier, R. F. G. 1978. Foothill Yokuts. In *California*, edited by R. F. Heizer, pp. 471–484. *Handbook of the Indians of North America*, Vol. 8. Smithsonian Institution. Washington, DC.

State Water Resources Control Board. 2005 (May 18). *Notice of Petitions for Change in Place of Use Permit 11887*. Application 5638.

———. 2012. *303(d) List of Water Quality Limited Segments and 305(b) Surface Water Quality Assessment*. Available: https://www.waterboards.ca.gov/centralvalley/water_issues/tmdl/impaired_waters_list/. Accessed March 27, 2019.

———. 2017 (December 29). *California Regulations Related to Drinking Water*. Titles 17 and 22, California Code of Regulations.

———. 2018. *Citation for Noncompliance with California Health and Safety Code*. Section 116555(a)(1) and Section 64536.2(a), Title 22, California Code of Regulations.

———. 2019a. *Drinking Water State Revolving Fund Program Policy, Appendix H, Capacity Limits*. Available: https://www.waterboards.ca.gov/drinking_water/services/funding/documents/srf/dw_capacity_limitations_final.pdf. Accessed March 21, 2019.

———. 2019b. *GeoTracker*. Available: http://geotracker.waterboards.ca.gov/map/?CMD=runreport&myaddress=hidden+lake+boulevards%2C+madera%2C+ca. Accessed March 28, 2019.

Steidl, L., B. Steidl, and K. Lindahl. 1995. *An Archaeological Reconnaissance Survey at Millerton Lake*. On file, Southern San Joaquin Valley Information Center, California State University, Bakersfield.

Sullivan, B. L., C. L. Wood, M. J. Iliff, R. E. Bonney, D. Fink, and S. Kelling. 2009. eBird: A Citizen-Based Bird Observation Network in the Biological Sciences. Cornell Lab of Ornithology, Ithaca, NY.

SWRCB. *See* State Water Resources Control Board.

The Diggings. 2019. *Mining Claims and Mineral Deposits in California*. Available: https://thediggings.com/usa/california. Accessed March 15, 2019.

UCSB. *See* University of California, Santa Barbara.

United Nations Framework Convention on Climate Change. 2013. *Global Warming Potentials*. Available: http://unfccc.int/ghg_data/items/3825.php. Accessed March 28, 2019.

University of California, Santa Barbara. 1957 (September 15). Historic Aerial Photograph Collection, Flight ABI, frame 53T-95. Available: http://mil.library.ucsb.edu/ap_indexes/FrameFinder/. Accessed February 21, 2019.

———. 1965 (June 25). Historic Aerial Photograph Collection, Flight FRE, frame 1-131. Available: http://mil.library.ucsb.edu/ap_indexes/FrameFinder/. Accessed February 21, 2019.

URS. *See* URS Corporation.

URS Corporation. 2007. *Millerton Lake Recreation Area Management Plan/General Plan, Cultural Resources Inventory and Evaluation.* On File at URS Oakland.

U.S. Bureau of Reclamation. 2014 (August). *Upper San Joaquin River Basin Storage Investigation.* Draft Environmental Impact Statement—Chapter 11, Geology and Soils. Available: https://www.usbr.gov/mp/nepa/nepa_project_details.php?Project_ID=821. Accessed March 21, 2019.

U.S. Bureau of Reclamation and California Department of Parks and Recreation (State Parks). 2010 (April). *Millerton Lake Final Resource Management Plan/General Plan Environmental Impact Statement/Environmental Impact Report.* Accessible: https://www.parks.ca.gov/?page_id=25488. Accessed March 24, 2019.

U.S. Department of Health and Human Services. 2019. *Farmland Protection Policy Act.* Available: https://bphc.hrsa.gov/sites/default/files/bphc/archive/policiesregulations/capital/environmentandhistoric/farmland.pdf. Accessed March 27, 2019.

U.S. Environmental Protection Agency. 2009 (October 30). Mandatory Greenhouse Gas Reporting Rule. *Federal Register.*

———. 2015. *EJ Screen: EPA's Environmental Justice Screening and Mapping Tool.* Available: https://ejscreen.epa.gov/mapper/. Accessed March 26, 2019.

———. 2019. *Envirofacts.* Available: https://www3.epa.gov/enviro/index.html. Accessed March 28, 2019.

USEPA. *See* U.S. Environmental Protection Agency.

U.S. Fish and Wildlife Service. 2005. *Recovery Plan for Vernal Pool Ecosystems in California and Southern Oregon.* Available: https://www.fws.gov/sacramento/es/Recovery-Planning/Vernal-Pool/.

USFWS. 2010. Interim Golden Eagle Inventory and Monitoring Protocols; and Other Recommendations.

———. 2019a. *Information for Planning and Consultation.* Available: https://ecos.fws.gov/ipac/.

———. 2019b. *Environmental Conservation Online System (ECOS): Critical Habitat Mapper.* Available: https://ecos.fws.gov/ecp/report/table/critical-habitat.html.

———. 2019c. *Critical Habitat Mapper.* Available: https://www.arcgis.com/home/item.html?id=2c2453ee613f47cdae9dbd0ed7939409#!.

USFWS. *See* U.S. Fish and Wildlife Service.

U.S. Geological Survey (USGS). 1942. Millerton Lake, California. 1:62,500.

———. 1965. Millerton Lake West, California. 1:24,000.

———. 1981. Millerton Lake West, California. 1:24,000.

USGS. *See* U.S. Geological Survey.

U.S. Natural Resources Conservation Service. 2018 (September). *Web Soil Survey*. Available: https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm. Accessed March 15, 2019.

USEPA. *See* U.S. Environmental Protection Agency.

USHRSA. *See* U.S. Department of Health and Human Services.

WesTech. 2019. *Westech® HS Package Water Treatment Plant*. Available: http://www.westech-inc.com/en-usa/products/package-water-treatment-plant-trident-hs. Accessed March 20, 2019.

Youngs, L. G., and R. V. Miller. 1999. *Update of Mineral Land Classification: Aggregate Materials in the Fresno Production-Consumption Region, California*. California Division of Mines and Geology, Open-File Report 99-02. Sacramento, CA.

6 INITIAL STUDY PREPARERS

MADERA COUNTY

AECOM

Petra Unger, Project Director
Richard Hunn, CEQA Manager
Allison Kochan, Assistant CEQA Manager
Stephen Spencer, Senior Engineer
Kelly McEnerney, Project Engineer
Jenifer King, Environmental Scientist
Kate Dadey, Senior Regulatory Specialist
Kristin Asmus, Biologist
Vanessa Tucker, Biologist
Issa Mahmodi, Environmental Scientist
Chris Shields, Noise Technician
Wendy Copeland, Environmental Analyst
Richard Deis, Cultural Resources Manager
Diana Ewing, Archaeological Technician
Chandra Miller, Historic Architectural Historian
Beth Duffey, Technical Editor
Deborah Jew, Word Processor
Vivian Gaddie, Graphics
Lucy Trumbull, Graphics

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APPENDIX A

Air Emissions-CalEEMod Output Models

Madera WTP

Madera County, Annual

ct Characteristics

Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Popula
Defined Commercial	1.00	User Defined Unit	0.50	0.00	0

Project Characteristics

	Rural	**Wind Speed (m/s)**	2.9	**Precipitation Freq (Days)**	51
	3			**Operational Year**	2022
ny	Pacific Gas & Electric Company				
	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

Entered Comments & Non-Default Data

acteristics -

Estimated from Site Layout, Figure 2-4.

Phase - No Demolition.

ipment - Project Description.

ipment - Project Description.

ipment - Project Description.

ipment - From Project Description.

ipment - From Project Description.

ipment - From Project Description.

MT - Project Description.

Madera WTP - Madera County, Annual

Table Name	Column Name	Default Value	New Value
tblGrading	AcresOfGrading	0.50	2.50
tblLandUse	LotAcreage	0.00	0.50
ffRoadEquipment	HorsePower	78.00	97.00
ffRoadEquipment	LoadFactor	0.48	0.37
ffRoadEquipment	OffRoadEquipmentType		Air Compressors
ffRoadEquipment	OffRoadEquipmentType		Generator Sets
ffRoadEquipment	OffRoadEquipmentType		Generator Sets
ffRoadEquipment	OffRoadEquipmentType		Generator Sets
ffRoadEquipment	OffRoadEquipmentType	Tractors/Loaders/Backhoes	Air Compressors
ffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
ffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
ffRoadEquipment	UsageHours	6.00	4.00
jectCharacteristics	UrbanizationLevel	Urban	Rural
lTripsAndVMT	HaulingTripNumber	0.00	26.00
lTripsAndVMT	HaulingTripNumber	0.00	26.00
lTripsAndVMT	HaulingTripNumber	0.00	26.00
lTripsAndVMT	HaulingTripNumber	0.00	26.00
lTripsAndVMT	HaulingTripNumber	0.00	26.00
lTripsAndVMT	VendorTripNumber	0.00	16.00
lTripsAndVMT	VendorTripNumber	0.00	16.00
lTripsAndVMT	VendorTripNumber	0.00	16.00
lTripsAndVMT	VendorTripNumber	0.00	16.00
lTripsAndVMT	VendorTripNumber	0.00	16.00
lTripsAndVMT	WorkerTripNumber	8.00	3.00
lTripsAndVMT	WorkerTripNumber	15.00	8.00

ions Summary

Construction

Construction

ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr										MT/yr					
0.0712	0.7460	0.6611	1.3300e-003	8.9100e-003	0.0359	0.0448	2.5100e-003	0.0340	0.0365	0.0000	117.8865	117.8865	0.0214	0.0000	118.4224
0.0712	**0.7460**	**0.6611**	**1.3300e-003**	**8.9100e-003**	**0.0359**	**0.0448**	**2.5100e-003**	**0.0340**	**0.0365**	**0.0000**	**117.8865**	**117.8865**	**0.0214**	**0.0000**	**118.4224**

onstruction

ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr										MT/yr					
0.0712	0.7460	0.6611	1.3300e-003	8.9100e-003	0.0359	0.0448	2.5100e-003	0.0340	0.0365	0.0000	117.8864	117.8864	0.0214	0.0000	118.4223
0.0712	**0.7460**	**0.6611**	**1.3300e-003**	**8.9100e-003**	**0.0359**	**0.0448**	**2.5100e-003**	**0.0340**	**0.0365**	**0.0000**	**117.8864**	**117.8864**	**0.0214**	**0.0000**	**118.4223**

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

	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
	6-1-2021	8-31-2021	0.4863	0.4863
	9-1-2021	9-30-2021	0.1591	0.1591
		Highest	0.4863	0.4863

l Operational

d Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

Operational

perational

ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr										MT/yr					
0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

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

ruction Detail

n Phase

Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
e Preparation	Site Preparation	6/1/2021	6/1/2021	5	1	
ading	Grading	6/2/2021	6/3/2021	5	2	
lding Construction	Building Construction	6/4/2021	10/21/2021	5	100	
ving	Paving	10/22/2021	10/28/2021	5	5	
chitectural Coating	Architectural Coating	10/29/2021	11/4/2021	5	5	

rading (Site Preparation Phase): 2.5

rading (Grading Phase): 0

aving: 0

l Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural sqft)

quipment

Madera WTP - Madera County, Annual

ase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
	Air Compressors	1	6.00	78	0.48
	Cement and Mortar Mixers	1	4.00	9	0.56
	Generator Sets	1	6.00	84	0.74
ıction	Generator Sets	1	6.00	84	0.74
	Tractors/Loaders/Backhoes	1	8.00	97	0.37
	Concrete/Industrial Saws	1	8.00	81	0.73
ıction	Forklifts	2	6.00	89	0.20
ating	Generator Sets	1	6.00	84	0.74
	Pavers	1	7.00	130	0.42
	Rollers	1	7.00	80	0.38
	Graders	1	8.00	187	0.41
	Rubber Tired Dozers	1	1.00	247	0.40
ıction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
	Tractors/Loaders/Backhoes	1	7.00	97	0.37
ıction	Cranes	1	4.00	231	0.29
	Tractors/Loaders/Backhoes	1	6.00	97	0.37
ıction	Air Compressors	1	6.00	97	0.37
ating	Air Compressors	1	6.00	78	0.48

MT

me	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
on	2	5.00	16.00	26.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
	3	3.00	16.00	26.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
	6	8.00	16.00	26.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
ruction	7	0.00	16.00	26.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
oating	2	0.00	16.00	26.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

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d Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
					1.3300e-003	0.0000	1.3300e-003	1.4000e-004	0.0000	1.4000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	3.2000e-004	3.9100e-003	2.0100e-003	0.0000		1.5000e-004	1.5000e-004		1.4000e-004	1.4000e-004	0.0000	0.4276	0.4276	1.4000e-004	0.0000	0.4310
	3.2000e-004	**3.9100e-003**	**2.0100e-003**	**0.0000**	**1.3300e-003**	**1.5000e-004**	**1.4800e-003**	**1.4000e-004**	**1.4000e-004**	**2.8000e-004**	**0.0000**	**0.4276**	**0.4276**	**1.4000e-004**	**0.0000**	**0.4310**

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ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr										MT/yr					
1.0000e-004	3.3400e-003	5.4000e-004	1.0000e-005	2.2000e-004	1.0000e-005	2.3000e-004	6.0000e-005	1.0000e-005	7.0000e-005	0.0000	0.9778	0.9778	6.0000e-005	0.0000	0.9792
3.0000e-005	8.3000e-004	2.0000e-004	0.0000	5.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	2.0000e-005	0.0000	0.1993	0.1993	2.0000e-005	0.0000	0.1997
1.0000e-005	1.0000e-005	1.1000e-004	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0274	0.0274	0.0000	0.0000	0.0274
1.4000e-004	**4.1800e-003**	**8.5000e-004**	**1.0000e-005**	**3.0000e-004**	**1.0000e-005**	**3.1000e-004**	**8.0000e-005**	**1.0000e-005**	**1.0000e-004**	**0.0000**	**1.2045**	**1.2045**	**8.0000e-005**	**0.0000**	**1.2063**

onstruction On-Site

ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr										MT/yr					
				1.3300e-003	0.0000	1.3300e-003	1.4000e-004	0.0000	1.4000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
3.2000e-004	3.9100e-003	2.0100e-003	0.0000		1.5000e-004	1.5000e-004		1.4000e-004	1.4000e-004	0.0000	0.4276	0.4276	1.4000e-004	0.0000	0.4310
3.2000e-004	**3.9100e-003**	**2.0100e-003**	**0.0000**	**1.3300e-003**	**1.5000e-004**	**1.4800e-003**	**1.4000e-004**	**1.4000e-004**	**2.8000e-004**	**0.0000**	**0.4276**	**0.4276**	**1.4000e-004**	**0.0000**	**0.4310**

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
	1.0000e-004	3.3400e-003	5.4000e-004	1.0000e-005	2.2000e-004	1.0000e-005	2.3000e-004	6.0000e-005	1.0000e-005	7.0000e-005	0.0000	0.9778	0.9778	6.0000e-005	0.0000	0.9792
	3.0000e-005	8.3000e-004	2.0000e-004	0.0000	5.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	2.0000e-005	0.0000	0.1993	0.1993	2.0000e-005	0.0000	0.1997
	1.0000e-005	1.0000e-005	1.1000e-004	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0274	0.0274	0.0000	0.0000	0.0274
	1.4000e-004	**4.1800e-003**	**8.5000e-004**	**1.0000e-005**	**3.0000e-004**	**1.0000e-005**	**3.1000e-004**	**8.0000e-005**	**1.0000e-005**	**1.0000e-004**	**0.0000**	**1.2045**	**1.2045**	**8.0000e-005**	**0.0000**	**1.2063**

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d Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
					7.5000e-004	0.0000	7.5000e-004	4.1000e-004	0.0000	4.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	6.6000e-004	5.8300e-003	5.8700e-003	1.0000e-005		3.2000e-004	3.2000e-004		3.1000e-004	3.1000e-004	0.0000	0.8362	0.8362	1.3000e-004	0.0000	0.8394
	6.6000e-004	**5.8300e-003**	**5.8700e-003**	**1.0000e-005**	**7.5000e-004**	**3.2000e-004**	**1.0700e-003**	**4.1000e-004**	**3.1000e-004**	**7.2000e-004**	**0.0000**	**0.8362**	**0.8362**	**1.3000e-004**	**0.0000**	**0.8394**

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ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr										MT/yr					
1.0000e-004	3.3400e-003	5.4000e-004	1.0000e-005	2.2000e-004	1.0000e-005	2.3000e-004	6.0000e-005	1.0000e-005	7.0000e-005	0.0000	0.9778	0.9778	6.0000e-005	0.0000	0.9792
5.0000e-005	1.6700e-003	3.9000e-004	0.0000	1.0000e-004	0.0000	1.0000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.3986	0.3986	3.0000e-005	0.0000	0.3995
2.0000e-005	1.0000e-005	1.3000e-004	0.0000	4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0328	0.0328	0.0000	0.0000	0.0329
1.7000e-004	**5.0200e-003**	**1.0600e-003**	**1.0000e-005**	**3.6000e-004**	**1.0000e-005**	**3.7000e-004**	**1.0000e-004**	**1.0000e-005**	**1.1000e-004**	**0.0000**	**1.4093**	**1.4093**	**9.0000e-005**	**0.0000**	**1.4115**

onstruction On-Site

ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr										MT/yr					
				7.5000e-004	0.0000	7.5000e-004	4.1000e-004	0.0000	4.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
6.6000e-004	5.8300e-003	5.8700e-003	1.0000e-005		3.2000e-004	3.2000e-004		3.1000e-004	3.1000e-004	0.0000	0.8362	0.8362	1.3000e-004	0.0000	0.8394
6.6000e-004	**5.8300e-003**	**5.8700e-003**	**1.0000e-005**	**7.5000e-004**	**3.2000e-004**	**1.0700e-003**	**4.1000e-004**	**3.1000e-004**	**7.2000e-004**	**0.0000**	**0.8362**	**0.8362**	**1.3000e-004**	**0.0000**	**0.8394**

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onstruction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
	1.0000e-004	3.3400e-003	5.4000e-004	1.0000e-005	2.2000e-004	1.0000e-005	2.3000e-004	6.0000e-005	1.0000e-005	7.0000e-005	0.0000	0.9778	0.9778	6.0000e-005	0.0000	0.9792
	5.0000e-005	1.6700e-003	3.9000e-004	0.0000	1.0000e-004	0.0000	1.0000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.3986	0.3986	3.0000e-005	0.0000	0.3995
	2.0000e-005	1.0000e-005	1.3000e-004	0.0000	4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0328	0.0328	0.0000	0.0000	0.0329
	1.7000e-004	**5.0200e-003**	**1.0600e-003**	**1.0000e-005**	**3.6000e-004**	**1.0000e-005**	**3.7000e-004**	**1.0000e-004**	**1.0000e-005**	**1.1000e-004**	**0.0000**	**1.4093**	**1.4093**	**9.0000e-005**	**0.0000**	**1.4115**

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d Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
	0.0626	0.5912	0.5885	9.6000e-004		0.0332	0.0332		0.0314	0.0314	0.0000	83.4741	83.4741	0.0181	0.0000	83.9267
	0.0626	**0.5912**	**0.5885**	**9.6000e-004**		**0.0332**	**0.0332**		**0.0314**	**0.0314**	**0.0000**	**83.4741**	**83.4741**	**0.0181**	**0.0000**	**83.9267**

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ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr										MT/yr					
1.0000e-004	3.3400e-003	5.4000e-004	1.0000e-005	2.2000e-004	1.0000e-005	2.3000e-004	6.0000e-005	1.0000e-005	7.0000e-005	0.0000	0.9778	0.9778	6.0000e-005	0.0000	0.9792
2.7500e-003	0.0835	0.0197	2.1000e-004	4.7800e-003	2.4000e-004	5.0300e-003	1.3800e-003	2.3000e-004	1.6100e-003	0.0000	19.9316	19.9316	1.7100e-003	0.0000	19.9743
0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2.8500e-003	**0.0868**	**0.0202**	**2.2000e-004**	**5.0000e-003**	**2.5000e-004**	**5.2600e-003**	**1.4400e-003**	**2.4000e-004**	**1.6800e-003**	**0.0000**	**20.9094**	**20.9094**	**1.7700e-003**	**0.0000**	**20.9535**

onstruction On-Site

ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr										MT/yr					
0.0626	0.5912	0.5885	9.6000e-004		0.0332	0.0332		0.0314	0.0314	0.0000	83.4740	83.4740	0.0181	0.0000	83.9266
0.0626	**0.5912**	**0.5885**	**9.6000e-004**		**0.0332**	**0.0332**		**0.0314**	**0.0314**	**0.0000**	**83.4740**	**83.4740**	**0.0181**	**0.0000**	**83.9266**

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onstruction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
	1.0000e-004	3.3400e-003	5.4000e-004	1.0000e-005	2.2000e-004	1.0000e-005	2.3000e-004	6.0000e-005	1.0000e-005	7.0000e-005	0.0000	0.9778	0.9778	6.0000e-005	0.0000	0.9792
	2.7500e-003	0.0835	0.0197	2.1000e-004	4.7800e-003	2.4000e-004	5.0300e-003	1.3800e-003	2.3000e-004	1.6100e-003	0.0000	19.9316	19.9316	1.7100e-003	0.0000	19.9743
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	2.8500e-003	**0.0868**	**0.0202**	**2.2000e-004**	**5.0000e-003**	**2.5000e-004**	**5.2600e-003**	**1.4400e-003**	**2.4000e-004**	**1.6800e-003**	**0.0000**	**20.9094**	**20.9094**	**1.7700e-003**	**0.0000**	**20.9535**

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d Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
	2.6500e-003	0.0243	0.0273	4.0000e-005		1.3400e-003	1.3400e-003		1.2800e-003	1.2800e-003	0.0000	3.7598	3.7598	7.5000e-004	0.0000	3.7786
	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	2.6500e-003	**0.0243**	**0.0273**	**4.0000e-005**		**1.3400e-003**	**1.3400e-003**		**1.2800e-003**	**1.2800e-003**	**0.0000**	**3.7598**	**3.7598**	**7.5000e-004**	**0.0000**	**3.7786**

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ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr										MT/yr					
1.0000e-004	3.3400e-003	5.4000e-004	1.0000e-005	2.2000e-004	1.0000e-005	2.3000e-004	6.0000e-005	1.0000e-005	7.0000e-005	0.0000	0.9778	0.9778	6.0000e-005	0.0000	0.9792
1.4000e-004	4.1700e-003	9.8000e-004	1.0000e-005	2.4000e-004	1.0000e-005	2.5000e-004	7.0000e-005	1.0000e-005	8.0000e-005	0.0000	0.9966	0.9966	9.0000e-005	0.0000	0.9987
1.2000e-004	8.0000e-005	8.6000e-004	0.0000	2.5000e-004	0.0000	2.5000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.2190	0.2190	1.0000e-005	0.0000	0.2191
3.6000e-004	**7.5900e-003**	**2.3800e-003**	**2.0000e-005**	**7.1000e-004**	**2.0000e-005**	**7.3000e-004**	**2.0000e-004**	**2.0000e-005**	**2.2000e-004**	**0.0000**	**2.1933**	**2.1933**	**1.6000e-004**	**0.0000**	**2.1970**

onstruction On-Site

ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr										MT/yr					
2.6500e-003	0.0243	0.0273	4.0000e-005		1.3400e-003	1.3400e-003		1.2800e-003	1.2800e-003	0.0000	3.7598	3.7598	7.5000e-004	0.0000	3.7786
0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2.6500e-003	**0.0243**	**0.0273**	**4.0000e-005**		**1.3400e-003**	**1.3400e-003**		**1.2800e-003**	**1.2800e-003**	**0.0000**	**3.7598**	**3.7598**	**7.5000e-004**	**0.0000**	**3.7786**

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
	1.0000e-004	3.3400e-003	5.4000e-004	1.0000e-005	2.2000e-004	1.0000e-005	2.3000e-004	6.0000e-005	1.0000e-005	7.0000e-005	0.0000	0.9778	0.9778	6.0000e-005	0.0000	0.9792
	1.4000e-004	4.1700e-003	9.8000e-004	1.0000e-005	2.4000e-004	1.0000e-005	2.5000e-004	7.0000e-005	1.0000e-005	8.0000e-005	0.0000	0.9966	0.9966	9.0000e-005	0.0000	0.9987
	1.2000e-004	8.0000e-005	8.6000e-004	0.0000	2.5000e-004	0.0000	2.5000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.2190	0.2190	1.0000e-005	0.0000	0.2191
	3.6000e-004	**7.5900e-003**	**2.3800e-003**	**2.0000e-005**	**7.1000e-004**	**2.0000e-005**	**7.3000e-004**	**2.0000e-004**	**2.0000e-005**	**2.2000e-004**	**0.0000**	**2.1933**	**2.1933**	**1.6000e-004**	**0.0000**	**2.1970**

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d Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	1.2200e-003	9.7500e-003	0.0115	2.0000e-005		5.5000e-004	5.5000e-004		5.5000e-004	5.5000e-004	0.0000	1.6981	1.6981	1.0000e-004	0.0000	1.7005
	1.2200e-003	**9.7500e-003**	**0.0115**	**2.0000e-005**		**5.5000e-004**	**5.5000e-004**		**5.5000e-004**	**5.5000e-004**	**0.0000**	**1.6981**	**1.6981**	**1.0000e-004**	**0.0000**	**1.7005**

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ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr										MT/yr					
1.0000e-004	3.3400e-003	5.4000e-004	1.0000e-005	2.2000e-004	1.0000e-005	2.3000e-004	6.0000e-005	1.0000e-005	7.0000e-005	0.0000	0.9778	0.9778	6.0000e-005	0.0000	0.9792
1.4000e-004	4.1700e-003	9.8000e-004	1.0000e-005	2.4000e-004	1.0000e-005	2.5000e-004	7.0000e-005	1.0000e-005	8.0000e-005	0.0000	0.9966	0.9966	9.0000e-005	0.0000	0.9987
0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2.4000e-004	**7.5100e-003**	**1.5200e-003**	**2.0000e-005**	**4.6000e-004**	**2.0000e-005**	**4.8000e-004**	**1.3000e-004**	**2.0000e-005**	**1.5000e-004**	**0.0000**	**1.9744**	**1.9744**	**1.5000e-004**	**0.0000**	**1.9779**

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ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr										MT/yr					
0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
1.2200e-003	9.7500e-003	0.0115	2.0000e-005		5.5000e-004	5.5000e-004		5.5000e-004	5.5000e-004	0.0000	1.6981	1.6981	1.0000e-004	0.0000	1.7005
1.2200e-003	**9.7500e-003**	**0.0115**	**2.0000e-005**		**5.5000e-004**	**5.5000e-004**		**5.5000e-004**	**5.5000e-004**	**0.0000**	**1.6981**	**1.6981**	**1.0000e-004**	**0.0000**	**1.7005**

ectural Coating - 2021

Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
	1.0000e-004	3.3400e-003	5.4000e-004	1.0000e-005	2.2000e-004	1.0000e-005	2.3000e-004	6.0000e-005	1.0000e-005	7.0000e-005	0.0000	0.9778	0.9778	6.0000e-005	0.0000	0.9792
	1.4000e-004	4.1700e-003	9.8000e-004	1.0000e-005	2.4000e-004	1.0000e-005	2.5000e-004	7.0000e-005	1.0000e-005	8.0000e-005	0.0000	0.9966	0.9966	9.0000e-005	0.0000	0.9987
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	2.4000e-004	**7.5100e-003**	**1.5200e-003**	**2.0000e-005**	**4.6000e-004**	**2.0000e-005**	**4.8000e-004**	**1.3000e-004**	**2.0000e-005**	**1.5000e-004**	**0.0000**	**1.9744**	**1.9744**	**1.5000e-004**	**0.0000**	**1.9779**

tional Detail - Mobile

tion Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

mmary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
er Defined Commercial	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

pe Information

	Miles			Trip %			Trip Purpose %		
l Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
d Commercial	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0

ix

d Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
d Commercial	0.530844	0.031753	0.165023	0.117863	0.020860	0.005456	0.014179	0.100253	0.002735	0.001704	0.007139	0.001243	0.000949

y Detail

ergy Use: N

ion Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

by Land Use - NaturalGas

d

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

by Land Use - NaturalGas

NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	C
kBTU/yr	tons/yr										MT/yr					
0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.
	0.0000	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.**

by Land Use - Electricity

Electricity Use	Total CO2	CH4	N2O	CO2e
kWh/yr	MT/yr			
0	0.0000	0.0000	0.0000	0.0000
	0.0000	**0.0000**	**0.0000**	**0.0000**

y by Land Use - Electricity

	Electricity Use	Total CO2	CH4	N2O	CO2e
	kWh/yr	MT/yr			
	0	0.0000	0.0000	0.0000	0.0000
		0.0000	**0.0000**	**0.0000**	**0.0000**

Detail

ion Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005

SubCategory

ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr										MT/yr					
0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
0.0000	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr										MT/yr					
0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
0.0000	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

Detail

tion Measures Water

	Total CO2	CH4	N2O	CO2e
	MT/yr			
	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000

by Land Use

d

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
	Mgal	MT/yr			
	0 / 0	0.0000	0.0000	0.0000	0.0000
		0.0000	**0.0000**	**0.0000**	**0.0000**

y Land Use

Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Mgal	MT/yr			
0 / 0	0.0000	0.0000	0.0000	0.0000
	0.0000	**0.0000**	**0.0000**	**0.0000**

Detail

on Measures Waste

ear

Total CO2	CH4	N2O	CO2e
MT/yr			
0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000

by Land Use

ed

	Waste Disposed	Total CO2	CH4	N2O	CO2e
	tons	MT/yr			
	0	0.0000	0.0000	0.0000	0.0000
		0.0000	**0.0000**	**0.0000**	**0.0000**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
	tons	MT/yr			
	0	0.0000	0.0000	0.0000	0.0000
		0.0000	**0.0000**	**0.0000**	**0.0000**

tional Offroad

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

onary Equipment

and Emergency Generators

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

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

ed Equipment

uipment Type	Number

tation

APPENDIX B

Federal Biological Resources Assessment

Federal Biological Resources Assessment

Setting and Site Description

The Madera County Public Works Department (Madera County) operates and maintains the Maintenance District No. 1 (MD-1) drinking water system for Hidden Lakes Estates. The MD-1 WTP is located within the Hidden Lake Estates subdivision, an unincorporated community in Madera County. When the existing water treatment plant (WTP), as constructed, was unable to meet the regulatory requirements for disinfection, Madera County relocated the chlorine injection point to the raw water transmission pipeline near the Millerton Lake water intake. This modification provided adequate disinfectant contact with the water supply; however, it resulted in increased formation of disinfection byproducts (DBPs). In addition, other deficiencies of the WTP caused the County to establish a self-imposed service connection moratorium until those issues were resolved.

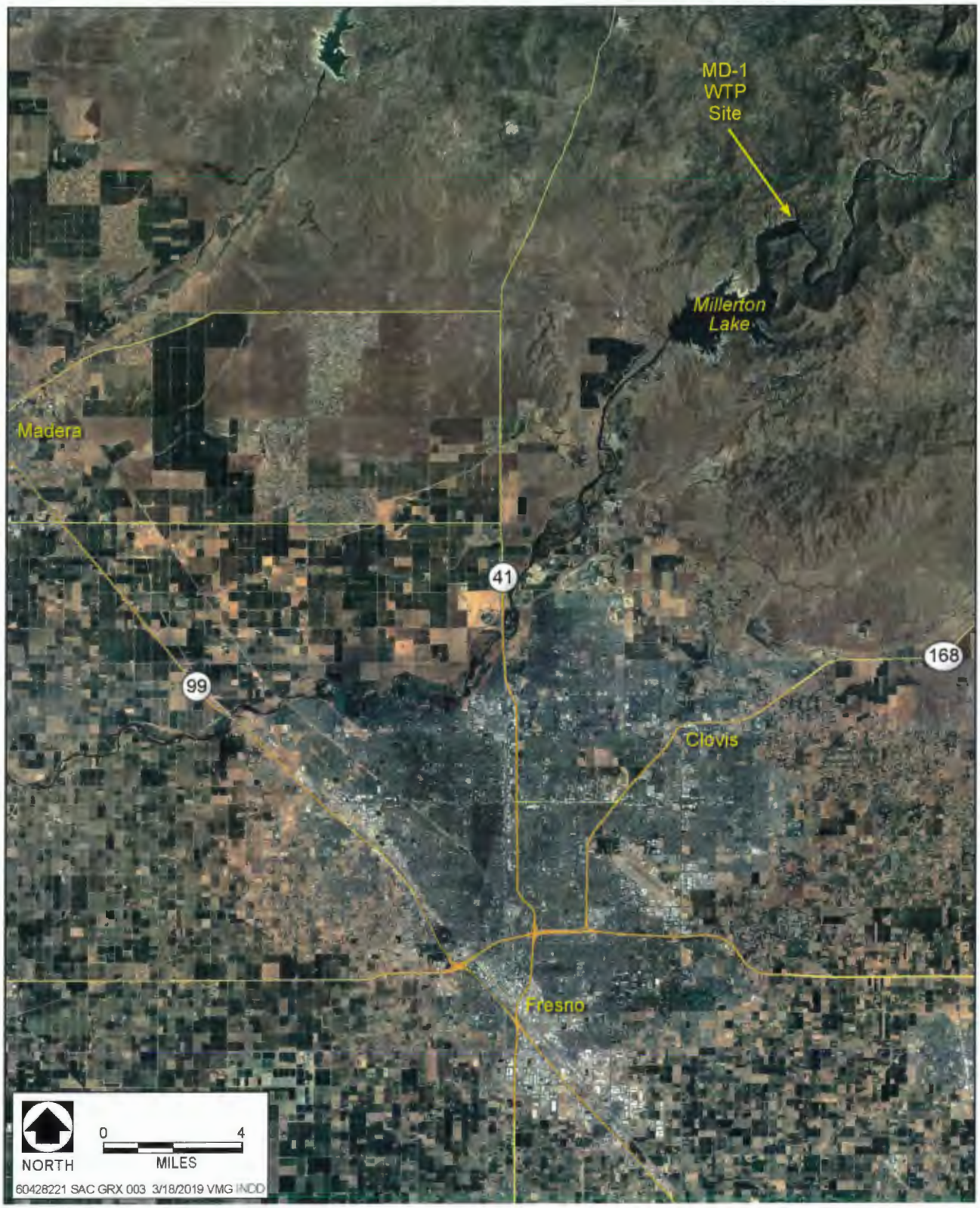
The existing MD-1 WTP is on the eastern side of Hidden Lake Boulevard, and the chlorine injection point is approximately 0.5 mile to the south, near Millerton Lake. Figures 1 and 2 show the regional location and the location of the WTP within the Hidden Lake Estates service area, respectively. Because of the limited water demand in the MD-1 service area, a small package treatment plant would be most suitable to serve community needs while complying with applicable regulatory requirements. To accommodate the new WTP and leach field, a new location of sufficient size is required to enable construction and operation of the facility. Figure 3 shows the proposed location of the new WTP, the fire flow water storage tank, and the leach field.

The biological study area encompasses the proposed project site and the location of the proposed water storage tank (at the existing WTP site), as well as adjacent lands that were surveyed by biologists as part of this evaluation. Surrounding land use consists of rural residential properties and open space and recreational uses at Millerton Lake SRA to the south. The elevations of the proposed project site range from approximately 820 to 850 feet above mean sea level.

Vegetation Communities and Habitats

The proposed project site lies within the low-elevational range of the Sierra Nevada foothills ecoregion. Habitats in this region vary from foothill oak savanna and chaparral to mixed coniferous forest and riparian canyons at mid-elevations, to alpine and wet meadow at the highest elevations. On the eastern slopes of the Sierra Nevada, the landscape is drier and is characterized by juniper woodlands, sagebrush, and desert scrub.

The proposed project site is on a flat, disturbed, nonnative annual grassland, opening in a hilly landscape of oak and pine woodland intermixed with chaparral and other grassland openings. The woodland vegetation community in the proposed project area most closely resembles the foothill pine (*Pinus sabiniana*) woodland alliance, according to the Manual of California Vegetation (MCV) (Sawyer et al. 2009), and is dominated by foothill pine with interior live oak (*Quercus wislizeni* ssp. *wislizeni*) and deciduous oak tree species (*Q douglasii* and/or *Q. lobata*). The patches of shrub community are best described as buck brush (*Ceanothus cuneatus*) chaparral alliance (Sawyer et al. 2009). Other shrubs and vines, observed in the proposed project area and associated with these communities, include native deerweed (*Acmispon glaber*), silver bush lupine (*Lupinus albifrons* var. *albifrons*) and sierra man-root (*Marah horrida*).



Source: Google Earth 2019

Figure 1 **Regional Location**

Source: Google Earth 2018

Figure 2 **MD-1 Service Area**

Source: Google Earth 2019

Figure 3 **Proposed WTP Site Layout**

Nonnative annual grasses on the proposed project site include wild oats (*Avena fatua*) and ripgut brome (*Bromus diandrus*). The survey was conducted too early in the year to determine which grass species may be dominant; therefore, this community ultimately could be classified as any one of the several nonnative, grass-dominated, herbaceous semi-natural alliances described in the MCV (Sawyer et al. 2009). Other grasses that were observed included rattail sixweeks grass (*Festuca myuros*) and perennial rye (*Festuca perennis*). Native forbs included common fiddleneck (*Amsinckia menziesii*), miner's lettuce (*Claytonia perfoliata* var. *perfoliata*), foothill snowdrops (*Plagiobothrys nothofulvus*), blue dicks (*Dichelostemma capitatum* ssp. *capitatum*), sky lupine (*Lupinus nanus*), miniature lupine (*L. bicolor*), fringe pod (*Thysanocarpus curvipes*), and red maids (*Calandrinia menziesii*). Nonnative forbs included (*Erodium brachycarpum*), smooth cat's ear (*Hypochaeris glabra*), wood sorrel (*Oxalis* sp.), and common chickweed (*Stellaria media*).

The value of a site to wildlife is influenced by a combination of the physical and biological features of the immediate environment. Species diversity is a function of abiotic and biotic conditions, and may be affected greatly by human use of the land. The wildlife habitat quality of an area, therefore, ultimately is determined by the type, size, and diversity of vegetation communities present and their degree of disturbance. For example, as a plant community is degraded by the loss of understory diversity, creation of openings, or reduction in area, generally a loss of structural diversity occurs. Degradation of the structural diversity of a community typically diminishes wildlife habitat quality and usually results in a reduced ability to support a variety of wildlife species.

Wildlife habitats typically are distinguished by vegetation type, with varying combinations of plant species providing different resources for consumption. Grassland habitats, both native and non-native, attract reptiles and amphibians, such as alligator lizard (*Gerrhonotus* spp.), western fence lizard, and Pacific slender salamander (*Batrachoseps attenuatus*), which feed on invertebrates found within and beneath fallen logs in the vegetation community. This habitat also attracts seed-eating and insect-eating species of birds and mammals. California quail (*Callipepla californica*), mourning dove, and western meadowlarks are a few granivores that nest and forage in grasslands. Insectivores, such as the western scrub-jay (*Aphelocoma californica*), barn swallow (*Hirundo rustica*), and northern mockingbird (*Mimus polyglottos*), use the habitat for foraging only. Grasslands are important foraging grounds for insectivorous bats, such as myotis (*Myotis* spp.) and pallid bats (*Antrozous pallidus*).

A large number of other mammal species, such as the California vole (*Microtus californicus*), deer mouse (*Peromyscus maniculatus*), Botta's pocket gopher (*Thomomys bottae*), Beechey (=California) ground squirrel (*Spermophilus beecheyi*), coyote (*Canis latrans*), red fox, striped skunk (*Mephitis mephitis*), and black-tailed hare (*Lepus californicus*), also forage and nest or den within grasslands. Small rodents attract raptors (i.e., birds of prey), such as owls, which hunt at night, as well as day-hunting raptors, such as the red-tailed hawk and red-shouldered hawk, among others. Burrowing owls nest in grassland habitats that are characterized by short vegetation and ground squirrel activity. Some amphibian species that breed in adjacent irrigation canals also aestivate (or spend the summer) in small mammal burrows within portions of these habitats. Black-tailed deer (*Odocoileus hemionus californicus*) also can use grasslands for browsing and resting. Although the surrounding landscape predominantly is undisturbed open space, the proposed project site is small and appears to have been disced or lightly graded in the recent past. Because it is disturbed, its value to wildlife has been diminished and it is unlikely to support much diversity of wildlife species.

METHODS

Field reconnaissance, database searches, and a background literature review were conducted to characterize biological resources present or with the potential to occur in the proposed project site. A site reconnaissance and survey and protocol-level botanical survey was conducted on March 15, 2019. No protocol-level wildlife surveys have been conducted within the site to date. To support the site survey, records searches of the following databases were performed to identify special-status species known to occur or with the potential to occur in the proposed project site and vicinity, and any wetlands or waters:

- California Natural Diversity Database (CNDDB) nine-quadrangle (quad) search in the U.S. Geologic Survey (USGS) Millerton Lake West quad, where the proposed project site is located, and the adjacent eight quads (CNDDB 2019);
- California Native Plant Society (CNPS) Rare Plant Inventory standard nine-quad search in the USGS Millerton Lake West quad (CNPS 2019);
- U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation database, identifying federally regulated sensitive resources with the potential to occur in the proposed project site (USFWS 2019a) (Attachment A);
- USFWS online Critical Habitat Mapper (USFWS 2019b);
- NRCS soil survey data, in the Soil Survey Geographic Database (SSURGO) (NRCS 2018);
- USFWS National Wetland Inventory Wetlands Mapper (USFWS 2019c);
- Records for 2019 from eBird, an online citizen-based bird observation network (eBird 2019); and

RESULTS

SENSITIVE BIOLOGICAL RESOURCES

Sensitive biological resources include those species, natural communities, and habitats that receive special protection through the federal Endangered Species Act, Clean Water Act (CWA), and Porter-Cologne Act; or that are otherwise considered sensitive by federal conservation agencies. No wetlands and/or waters of the U.S. are on the proposed project site, or any special-status natural communities or habitats.

No critical habitat is in the proposed project site; the nearest critical habitat is approximately 2.5 miles to the east and 4 miles to the northeast for the vernal pool tadpole shrimp (*Lepidurus packardi*), and 4 miles to the south and east for both vernal pool fairy shrimp (*Branchinecta lynchi*) and California tiger salamander (*Ambystoma californiense*).

The sensitive biological resources evaluated as part of this assessment are special-status plant and wildlife species.

SPECIAL-STATUS SPECIES

Special-status species include plants and wildlife in the following categories:

- species listed by the federal government as endangered, threatened, or rare;
- candidates for federal listing as endangered or threatened;
- birds protected under the Migratory Bird Treaty Act (MBTA);

The database searches that are identified above resulted in 5 federal special-status plant species being evaluated for their potential to occur in the proposed project site or vicinity. Table 3.4-1 summarizes the regulatory status, habitat, and bloom period for these species with potential to occur at the project site.

Table 3.4-1 Special-Status Plant Species Known or with the Potential for Occurrence on the Project Site

Species	Regulatory Status[a]	Blooming Period	Habitat/Elevation Range	Potential for Occurrence
Mariposa pussypaws *Calyptridium pulchellum*	FT	Apr–Aug	Chaparral, Cismontane woodland; sandy or gravelly, granitic / 1,310 to 3,610 feet	None. Site is outside elevation range.
Succulent owl's-clover *Castilleja campestris* var. *succulenta*	FT	(Mar) Apr–May	Vernal pools (often acidic) / 160 to 2,460 feet	None. No suitable habitat present.
San Joaquin Valley Orcutt grass *Orcuttia inaequalis*	FT	Apr–Sep	Vernal pools / 30 to 2,475 feet	None. No suitable habitat present.
Hairy Orcutt grass *Orcuttia pilosa*	FE	May–Sep	Vernal pools / 150 to 655 feet	None. No suitable habitat present and site is outside elevation range.
Hartweg's golden sunburst *Pseudobahia bahiifolia*	FE	Mar–Apr	Cismontane woodland, Valley and foothill grassland; clay, often acidic / 45–490	None. Site is outside elevation range.

Notes:
CNDDB = California Natural Diversity Database
[a] Legal Status Definitions:
FT = federally listed as threatened
FE = federally listed as endangered
Sources: AECOM 2019; USFWS 2019a; CNPS 2019

The database searches for special-status wildlife resulted in 17 listed special-status wildlife species being evaluated for their potential to occur in the proposed project site or vicinity. Twelve species are federally listed, three are bird species protected under the Migratory Bird Treaty Act and tracked by the CNDDB, plus golden eagle and bald eagle. Table 3.4-2 summarizes the regulatory status and habitat requirements of these species. Of the 17 species, one federally listed species, the California tiger salamander, and thrree protected bird species are known or have the potential to occur in the proposed project area (Table 3.4-2).

The remaining special-status wildlife species either are unlikely to occur or have no potential to occur because of a lack of suitable habitat on site or the site is outside the known range of the species.

Table 3.4-2 Special-Status Animal Species Known or with Potential for Occurrence on the Project Site

Species	Regulatory Status[a]	Habitat	Potential for Occurrence
Invertebrates			
Conservancy fairy shrimp *Branchinecta conservatio*	E	Inhabit large, cool-water vernal pools with moderately turbid water. The pools generally last until June. However, the shrimp are gone long before then. They have been collected from early November to early April.	None. Project site is found outside of the species range, no recorded occurrences of the species, and no suitable habitat for the species was observed during the site visit.
Vernal pool fairy shrimp *Branchinecta lynchi*	T	Vernal pools and other seasonal wetlands in valley and foothill grasslands. Tends to occur in smaller wetland features (less than 0.05 acre in size).	None. No suitable vernal pools, seasonal wetlands, and seasonal swales were observed at the project site. Nearest occurrence has been documented 4.9 miles southwest of the project site.
Valley elderberry longhorn beetle *Desmocerus californicus dimorphus*	T	Occurs only in the Central Valley of California, in association with blue elderberry (*Sambucus mexicana*). Prefers to lay eggs in elderberries 2-8 inches in diameter; some preference shown for "stressed" elderberries.	None. There are no elderberry shrubs in or surrounding the project site, therefore this species is not present. The nearest occurrence is 4.5 miles southeast of the site.
Vernal pool tadpole shrimp *Lepidurus packardi*	E	Vernal pools and other seasonal wetlands in valley and foothill grasslands that pond for sufficient duration to allow the species to complete its life cycle. Typically found in ponds ranging from 0.1 to 80 acres in size.	None. No suitable vernal pools, seasonal wetlands, and seasonal swales were observed at the project site. Nearest occurrence has been documented 4.9 miles southwest of the project site.
Fish			
Delta smelt *Hypomesus transpacificus*	T	Inhabits open waters of bays, tidal rivers, channels, and sloughs; rarely occurs in water with salinity of more than 10–12 ppt; when not spawning, found where salt water and freshwater mix; typically spawns upstream, but some spawning events have been documented in estuaries.	None. No suitable open water, rivers, channels or sloughs were observed at the project site.
Amphibians and Reptiles			
California tiger salamander *Ambystoma californiense*	T	Small ponds, lakes, or vernal pools in grasslands and oak woodlands for larvae; rodent burrows, rock crevices, or fallen logs for cover for adults and for summer dormancy.	High. No suitable aquatic habitat is present throughout the proposed project site (site). However; suitable upland habitat is found throughout the site and this species has been recorded within a mile northwest of the site at a higher elevation. The species is known to travel up to 1 mile to find suitable breeding habitat. The potential exists for the species to be living in ground squirrel or mole burrows near or on the site.
Blunt-nosed leopard lizard *Gambelia silus*	E	Found in the San Joaquin Valley and adjacent foothills. Inhabits open, sparsely vegetated areas. Found most commonly in annual grasslands and valley sink scrub.	None. No suitable habitat for the species was observed.

Table 3.4-2 Special-Status Animal Species Known or with Potential for Occurrence on the Project Site

Species	Regulatory Status[a]	Habitat	Potential for Occurrence
California red-legged frog *Rana draytonii*	T	Occurs throughout California and northern Baja California. Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation. Requires 11 to 20 weeks of permanent water for larval development and must have access to aestivation habitat. Endemic to California and Baja California, at elevations ranging from sea level to 1,524 meters (5,000 feet). Has a distinct aquatic and upland habitat requirement which includes; pools of slow moving streams, perennial or ephemeral ponds and upland sheltering habitats.	None. No suitable habitat is found within the project site. No records of the species have been documented in the vicinity.
Birds			
Tricolored blackbird *Agelaius tricolor* (nesting colony)	MBTA	Forages in agricultural lands and grasslands; nests in marshes, riparian scrub, and other areas that support cattails or dense thickets of shrubs or herbs. Requires open water and protected nesting substrate, such as flooded, spiny, or thorny vegetation.	None. No suitable habitat was observed in the project site and there are no CNDDB or eBird occurrences within 5 miles or 30+ years.
Golden eagle *Aquila chrysaetos* (nesting)	BGPA	Prefers open terrain for hunting, such as grasslands, meadows, deserts, savannas, and early successional stages of forest and shrub habitats. Nests in rugged, open habitats with canyons and escarpments, typically on cliffs and rock outcroppings; however, it also will nest in large trees within open areas, including oaks, sycamores, redwoods, pines, and eucalyptus, overlooking open hunting habitat.	Moderate. No suitable nesting habitat on site. Suitable nesting or foraging habitat is present adjacent to the site and this species has been documented in March 2019 less than 2 miles from the site (eBird 2019).
Burrowing owl *Athene cunicularia* (year round)	MBTA	Nests and forages in grasslands, agricultural lands, open shrublands, and open woodlands with existing ground squirrel burrows or friable soils. Suitable burrow sites consist of short, herbaceous vegetation with only sparse cover of shrubs or taller herbs.	None. No ground squirrel burrows were observed in the project site. Nearby ground squirrel burrows had no signs of burrowing owl occupancy such as whitewash or pellets. This species is most likely to occupy suitable habitat that is located in the agricultural fields to the southwest of the project site.
Swainson's hawk *Buteo swainsoni* (nesting)	MBTA	Forages in grasslands and agricultural lands; nests in riparian and isolated trees.	Low. No suitable nesting habitat on site. Suitable nesting habitat is found adjacent to the site. Foraging habitat is within 5 miles of the site. It has been observed within 2 miles of the site in April–May (eBird 2019).

Table 3.4-2 Special-Status Animal Species Known or with Potential for Occurrence on the Project Site

Species	Regulatory Status[a]	Habitat	Potential for Occurrence
Western yellow-billed cuckoo *Coccyzus americanus occidentalis*	T	Riparian forest nester, along the broad, lower flood-bottoms of larger river systems. Nests in riparian jungles of willow often mixed with cottonwoods, with lower story of blackberry, nettles, or wild grape.	None. No suitable habitat is present in the project site and the last recorded occurrence in the area was in 1883.
Bald eagle *Haliaeetus leucocephalus* (nesting and wintering)	D; BGPA	In western North America, nests and roosts in coniferous forests within 1 mile of a lake, reservoir, river, or the ocean.	Low. Known to occur near the proposed project area and suitable conifers are adjacent to the site for an eagle to nest. This species is known to occur from October until April near the proposed project vicinity, but no known nests are in the area.
Mammals			
Fresno Kangaroo rat *Dipodomys nitratoides exilis*	E	Occupies sands and saline sandy soils in chenopod scrub and annual grassland communities of the Valley floor. Have also been found in alkali sink communities between 200 to 300 feet in elevation. The topography is often flat, consisting of clay-based soils that become inundated seasonally.	None. The project site is located within the species' range; however no suitable flat grasslands were observed.
San Joaquin kit fox *Vulpes macrotis mutica*	E	Alkali sink, valley grassland, and woodland, in valleys and adjacent gentle foothills; hunt in areas with low sparse vegetation that allows good visibility and mobility.	None. Suitable habitat occurs near the project site; however the last recorded sighting in the CNDDB was in the 1990's approximately 6 miles to the southwest of the project site.
Sierra Nevada red fox *Vulpes vulpes necator*	C	Found in a variety of habitats from wet meadows to forested areas. Use dense vegetation and rocky areas for cover and den sites. Prefer forests interspersed with meadows or alpine fell-fields.	None. Rare, only two populations remain; one near Lassen Peak and the second one near Sonora Pass in the Humboldt and Stanislaus national forests.

Notes:
CNDDB = California Natural Diversity Database
[a] Legal Status Definitions
BGPA = Bald Eagle Golden Eagle Protection Act
C = Candidate
D = Delisted
E = Endangered
MBTA = Migratory Bird Treaty Act and tracked by CNDDB
T = Threatened
Sources: CDFW 2019; USFWS 2019a; eBird 2019

RECOMMENDATIONS

The proposed project construction would result in temporary and permanent impacts on habitat. Temporary impacts related to construction would be related to vegetation removal and grading. Permanent habitat loss would occur only in the areas occupied by the new WTP. Existing vegetation would remain in all areas not occupied by permanent facilities or infrastructure. The following construction activities could cause direct and indirect impacts on sensitive biological resources present in the project site:

- vegetation removal and grading;
- trenching, excavation, backfill, and construction of retaining walls;
- siltation from the construction site into adjacent areas; and
- potential runoff of diesel fuel, gasoline, oil, or other toxic materials used for project equipment, into adjacent drainages and habitat for special-status species.

Special-Status Plants

Of the five special-status plants that occur in the region, none have potential to occur on site because the site is outside the known elevation range, there is no habitat on site, or both.

Reptiles and Amphibians

AECOM biologists conducted a visual habitat assessment for amphibians and reptiles at the proposed project site on March 15, 2019. No aquatic features, such as ponds or vernal pools that could provide potentially suitable breeding habitat for California tiger salamander (CTS) were identified during the habitat assessment, and no other aquatic features were identified. The central portion of the site is disturbed ground; however, small mammal burrows are present on the edges of the site and potentially could provide upland refugia to CTS.

A pond is approximately 1 mile northwest of the proposed project site, and the CNDDB database includes documented CTS occurrences at the location. Two morel documented CTS breeding ponds are approximately 1.5 miles from the site. In addition, several seasonal wetlands have been documented to occur in the foothills of Millerton Lake, which are suitable for breeding CTS. However, multiple barriers to movement including roads and developed habitat, are between the project site and the nearest suitable breeding habitat, making the terrain inhospitable to dispersing amphibians. CTS are known to range up to 1.24 miles from suitable breeding habitat. Although the terrain coupled with the prior disturbance at the proposed project site make it unlikely, CTS possibly could use refugia on the site.

Construction activities would be limited to the proposed project site, which is adjacent to ephemeral drainages in the surrounding hillside draws. Although it would be unlikely for CTS to be aestivating on site or for a wandering CTS individual to occur on site during construction, this possibly could occur. An aestivating or wandering individual of CTS could be killed or injured by construction activities. In addition, a wandering individual could be trapped in steep-walled holes or trenches or open ended pipes, or could become entangled in erosion control material. Therefore, the following mitigation measure is recommended to protect CTS:

> **Mitigation Measure 3.4-1a: Avoid and Minimize Impacts on California Tiger Salamander**
>
> A qualified biologist will survey the project site and map burrows suitable as refugia for CTS 30 days before the start of construction. A 35-foot buffer from all burrows will be established as an environmentally sensitive area (ESA). No construction activity or parking of equipment will be allowed within the designated ESA.

A qualified CTS biologist (defined as an individual with 3 years of experience conducting surveys for CTS and its habitat) will be present on site to conduct monitoring during project construction activities that will disturb surface soils.

Project-related vehicle traffic will be restricted to established roads. To the extent possible, Madera County will confine all project-related parking, storage areas, laydown sites, equipment storage, and any other surface-disturbing activities to previously disturbed areas.

All steep walled holes or trenches that are 1 foot deep or greater will have at least one escape ramp constructed of earthen fill or wooden planks, will be completely covered before sunset of each workday using boards or metal plates that are placed flush to the ground, and will be inspected before the start of daily construction activities.

To prevent inadvertent entrapment of CTS during project construction, all construction pipes, culverts, conduits, and other similar structures stored on site overnight will be capped before storage or will be inspected before the structure is buried. Plastic mono-filament netting will not be used for sediment control because it can pose an entrapment hazard to CTS and other wildlife.

Raptors and Migratory Birds

Golden Eagle

No eagles were observed in or around the proposed project site during the March 15, 2009 survey. Suitable habitat in the form of large conifers and live oaks (*Quercus* spp.) surround the site and would have the potential for golden eagles to nest in them. Millerton Lake is 0.45 mile east and 0.37 mile south of the site, and it also provides suitable foraging habitat for the species. The species has been documented by local citizens in the area, using eBird as recent as March 2019 (eBird 2019). Local nest locations are surpressed by CDFW in the CNDDB database, to protect the species; therefore, nest locations were not included in the anaylsis.

Swainson's Hawk

No hawks were observed in or around the proposed project site during the March 15, 2009 survey, and no hawk nests are present in the project site. During this survey, one raven nest was approximately 600 feet north of the site. Large coniferous trees and oaks surround the site and may provide suitable nesting habitat for the species. Most CNDDB occurences of Swainson's hawk were documented west of the site, near agricultural fields, which suggests that Swainson's hawks may be using Millerton Lake as foraging habitat.

Other Raptors and Migratory Birds

Several raptors species may forage and nest within various communities in the proposed project area. Potential nesting trees for raptors surround the proposed project site. Special-status migratory birds forage and nest in various artificial and natural biological communities, such as the foothill pine woodland, buck brush chaparral, and annual grassland habitats in and surrounding the site.

Disruption or destruction of migratory bird nests is a violation of the Migratory Bird Treaty Act. Disruption or destruction of active raptor nests is a violation of Section 3503.5 of the California Fish and Game Code. Therefore, the following mitigation measure is recommended to protect raptors and migratory birds:

Mitigation Measure 3.4-1c: Conduct Pre-Construction Surveys for Raptors and Migratory Birds

General Measure: Removal of trees and vegetation will be avoided to the greatest extent possible. If possible, trees and vegetation will be removed outside the nesting season, October 1 through December 30.

Golden Eagle: If construction occurs between December 30 through July 1, the County will conduct preconstruction surveys for golden eagle nests in areas supporting suitable nesting habitat, important eagle roost sites, and foraging areas within 2 miles of the project site. Surveys will be conducted in accordance with USFWS Interim Golden Eagle Inventory and Monitoring Protocols (USFWS 2010) or current guidance. If an active eagle's nest is found, project disturbance will not occur within 0.5 mile of the active nest site if that action is shown to disturb nesting birds. The 0.5-mile no disturbance buffer will be maintained throughout the breeding season or until the young have fledged and are no longer dependent on the nest or parental care for survival, as determined by a qualified biologist in consultation with USFWS and/or CDFW.

Swainson's Hawk and other Raptors: If construction occurs between February 1 and August 31, Madera County will conduct surveys for nesting raptors, in accordance with established CDFW raptor survey protocols. The surveys will cover a minimum of a 0.5-mile radius around the construction area. If nesting raptors are detected, the County will establish buffers around nests that are sufficient so that breeding is not likely to be disrupted or adversely affected by construction. Buffers around active raptor nests will be 0.25 mile for Swainson's hawk and 500 feet for non-listed raptors, unless a qualified biologist, in consultation with CDFW, determines that smaller buffers will be sufficient to avoid impacts on nesting raptors. Factors to be considered for determining buffer size will include: the presence of natural buffers provided by vegetation or topography; nest height; locations of foraging territory; and baseline levels of noise and human activity. Buffers will be maintained until a qualified biologist, in consultation with CDFW, has determined that young have fledged and are no longer reliant on the nest or parental care for survival.

Migratory Birds: To avoid impacts on nesting birds, construction activity will occur outside the general nesting season (January 15–September 30). Alternatively, if construction cannot be avoided during the nesting season, preconstruction surveys for active nests of special-status birds and birds protected by the MBTA will be required before the start of any project activities. If active nests are found, a disturbance avoidance buffer will be established. An avoidance buffer will constitute an area where project-related activities (i.e., vegetation removal, earth moving, and construction) will not occur. Typcial avoidance buffers during the nesting season will be 0.5 mile for eagles and Swainson's hawk, 500 feet for other raptors, and 50 feet for nesting passerine birds. Buffer distances may be adjusted by a qualified biologist, in consultation with USFWS and/or CDFW. A qualified biologist will monitor any active nests during construction, to ensure that the species is not being harmed or harassed by the noise or activity coming from project-related construction.

CONCLUSION

No wetlands or waters of the U.S. are present on site. No sensitive communities or critical habitat are present on site. No special-status plants have potential to occur on site. California tiger salamander, federally listed as threatened, has high potential to occur in the project area and could occur on site. Protected raptors and migratory

bird species are known from the region and have some potential to occur on site. Implementation of the recommended mitigation measures will minimize potential impacts to CTS, and minimize disturbance or disruption of any active nesting sites of golden eagle, Swainson's hawk, other ratpors, and migratory birds.

REFERENCES

California Department of Fish and Wildlife. CDFW. 2019. *California Natural Diversity Database* (CNDDB). Wildlife and Habitat Data Analysis Branch. Available: https://www.wildlife.ca.gov/Data/CNDDB.

California Native Plant Society. 2019. Inventory of Rare and Endangered Plants of California. Available: http://rareplants.cnps.org/.

CDFW. *See* California Department of Fish and Wildlife.

CNPS. *See* California Native Plant Society.

eBird. 2012. eBird: An online database of bird distribution and abundance [web application]. eBird, Ithaca, New York. Available: http://www.ebird.org. (Accessed: Date [e.g., February 2, 2012]).

NRCS. *See* U.S. Natural Resources Conservation Service.

Sawyer, J. O., T. Keeler-Wolf, J. M. Evens. 2009. *A Manual of California Vegetation*. Second edition. California Native Plant Society and California Department of Fish and Game.

U.S. Natural Resources Conservation Service. 2018 (September). *Web Soil Survey*. Available: https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm. Accessed March 15, 2019.

USFWS. 2010. Interim Golden Eagle Inventory and Monitoring Protocols; and Other Recommendations.

———. 2019a. *Information for Planning and Consultation*. Available: https://ecos.fws.gov/ipac/.

———. 2019b. *Environmental Conservation Online System (ECOS): Critical Habitat Mapper*. Available: https://ecos.fws.gov/ecp/report/table/critical-habitat.html.

———. 2019c. *Critical Habitat Mapper*. Available: https://www.arcgis.com/home/item.html?id=2c2453ee613f47cdae9dbd0ed7939409#!.

APPENDIX C

Cultural Records Memo

AECOM Imagine it. Delivered.

AECOM
2020 L Street
Sacramento, CA 95811
aecom.com

Project name: Initial Study/Mitigation Negative Declaration for the Maintenance District No. 1 Water Treatment Plant Upgrade Project
Project ref: 60428221

To:
County of Madera Public Works Department
200 W. 4th Street
Madera, CA 93637

CC:

From:
Richard Deis, MA, RPA
Diana R. Ewing, MA
Chandra Miller, MA

Date:
April 9, 2019

Cultural Resource Investigation for Maintenance District No. 1 (MD-1) Drinking Water System for Hidden Lakes Estates, Madera County, California

Introduction

This document provides support for an Initial Study (IS), prepared in accordance with the California Environmental Quality Act (CEQA), Section 21000 et seq. of the Public Resources Code (PRC), and the State CEQA Guidelines (Title 14, Section 15000 et seq. of the California Code of Regulations). Madera County has principal responsibility for carrying out the Maintenance District No. 1 (MD-1) Drinking Water System Project and is the CEQA lead agency for the IS.

Madera County is applying for financial assistance to implement the proposed water treatment plant (WTP) upgrades. The California State Water Resources Control Board (SWRCB), Division of Finance oversees the Clean Water State Revolving Fund (CWSRF). The CWSRF Program is partially funded by the U.S. Environmental Protection Agency (USEPA). The CWSRF Program provides low-interest financing and is administered by the Division of Finance under the SWRCB.

In addition to meeting the requirements of CEQA, the applicant must conduct the necessary studies and analyses, and prepare documentation demonstrating that the proposed project is in compliance with the federal cross-cutting environmental authorities. As the USEPA-designated, "non-federal" state agency representative responsible for consultation with appropriate federal agencies, the SWRCB will review materials for compliance with relevant federal cross-cutting topics. Therefore, because federal funding is involved, this document also complies with Section 106 of the National Environmental Policy Act (NEPA).

Location

The existing and proposed WTP serves the Hidden Lakes Estates residential subdivision located within the south half of section 23, T10S, R21E, Mount Diablo Base and Meridian (MDB&M) in Friant, California, approximately 20 miles northeast of Fresno in rural Madera County (Figures 1 through 3). The approximately 154-acre residential subdivision is located on the north side of Millerton Lake along the west side of Fine Gold Creek. The proposed WTP would be located opposite the existing WTP, on the eastern side of Hidden Lake Boulevard.

Figure 1. Project Location
Source: Compiled by AECOM in 2019

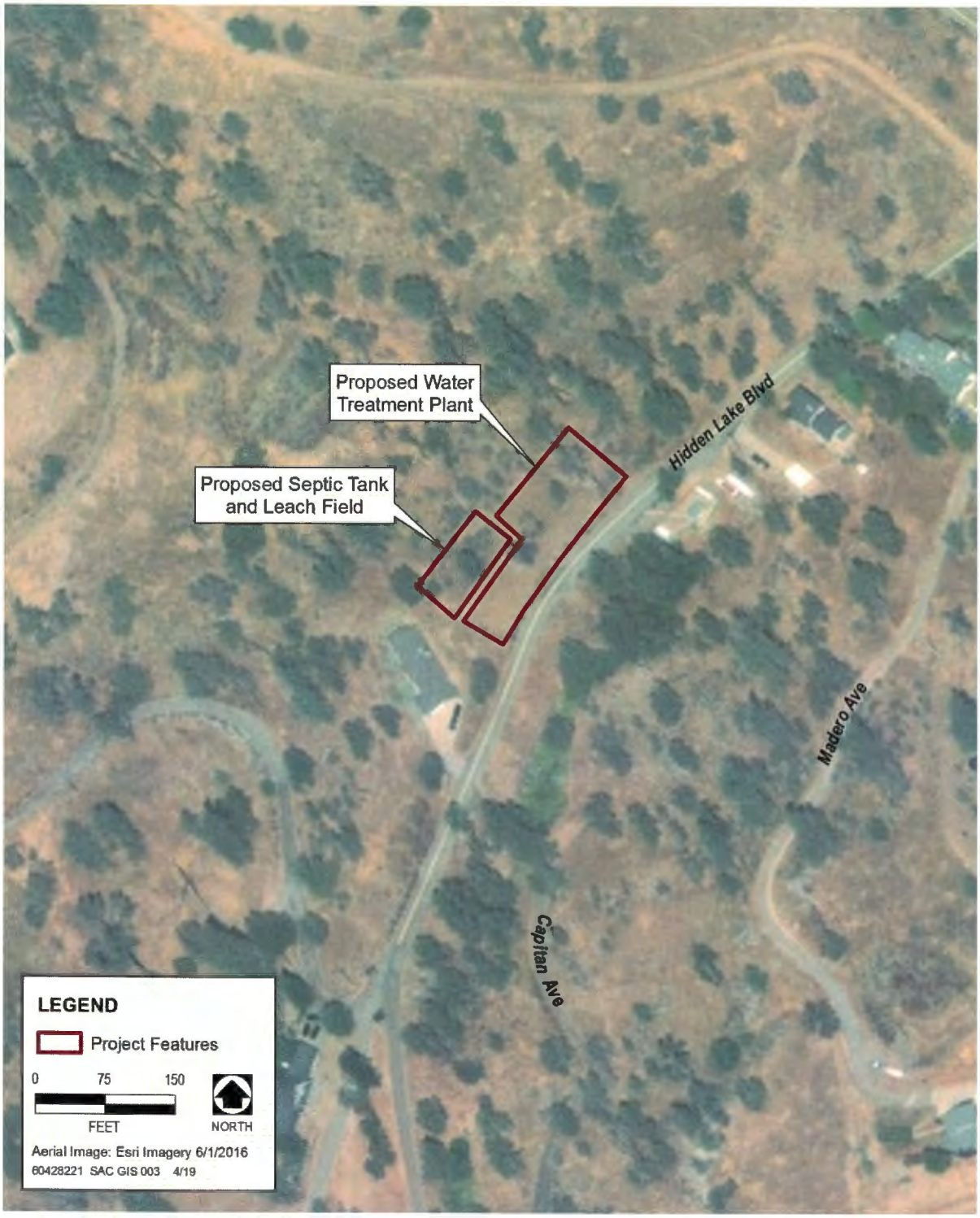


Figure 2. Project Components
Source: Compiled by AECOM in 2019

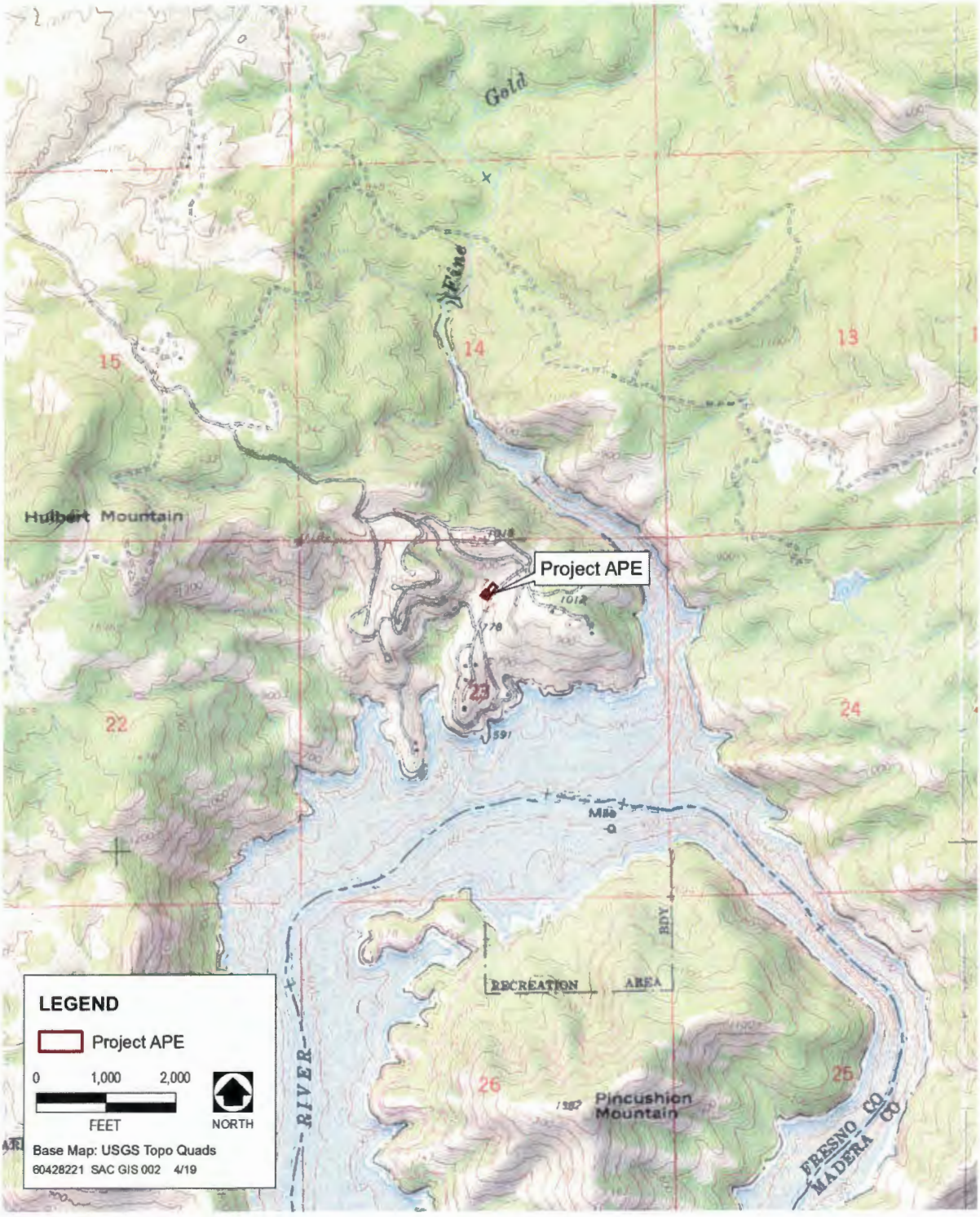


Figure 3. Area of Potential Effects (APE)
Source: Compiled by AECOM in 2019

Project Description and Area of Potential Effects

The Madera WTP project consists of upgrades and replacement of facilities associated with the existing facility. Specifically, the project would consist of constructing a WTP, septic tank, leach field, and storage tank (Figure 2). Together, these constituents compose the Area of Potential Effects (APE), which is depicted in Figure 3. Construction of the proposed treatment facilities would include grading currently unimproved property, constructing retaining walls and level equipment pads, transporting and installing equipment, and constructing process units. The construction would occur with periodic activity peaks, requiring brief periods of significant effort followed by longer periods of reduced activity.

Regulatory Setting and Need for Study

Federal Regulations

Madera County is applying for financial assistance to implement the proposed WTP upgrades. The SWRCB, Division of Finance oversees the Clean Water State Revolving Fund (CWSRF). The CWSRF Program is a program partially funded by the USEPA. The CWSRF Program provides low-interest financing and is administered by the Division of Finance under the SWRCB. The CWSRF Program is partially funded through a capitalization grant from the USEPA on an annual basis. The USEPA delegated the SWRCB the authority to consult with relevant federal agencies responsible for overseeing those federal laws and regulations. Distribution of CWSRF funds constitutes a federal undertaking and, therefore, mandates compliance with Section 106 of the National Historic Preservation Act (NHPA) of 1966 (16 United States Code [USC] 470f).

To comply with Section 106 of the NHPA, the proposed project proponent must "take into account the effect of the undertaking on any district, site, building, structure, or object that is included in or eligible for inclusion in the National Register." The implementing regulations for Section 106 are found under 36 Code of Federal Regulations (CFR) Part 800, as amended (2001). Section 5 discusses eligibility criteria for listing cultural resources in the National Register of Historic Places (NRHP). Cultural resources also may be considered separately under NEPA (42 USC) Sections 4321–4327, whereby federal agencies are required to consider potential environmental impacts and appropriate mitigation measures for projects with federal involvement.

Section 106 of the National Historic Preservation Act

Federal protection of resources is legislated by (a) the NHPA of 1966 as amended by 16 USC 470, (b) the Archaeological Resource Protection Act of 1979, and (c) the Advisory Council on Historical Preservation. These laws and organizations maintain processes for determination of the effects on historical properties eligible for listing in the NRHP.

Section 106 of the NHPA and accompanying regulations (36 CFR 800) constitute the main federal regulatory framework guiding cultural resources investigations and require consideration of effects on properties that are listed in, or may be eligible for listing in, the NRHP. The NRHP is the nation's master inventory of known historic resources. It is administered by the National Park Service and includes listings of buildings, structures, sites, objects, and districts that possess historic, architectural, engineering, archaeological, and cultural districts that are considered significant at the national, state, or local level.

The formal criteria (36 CFR 60.4) for determining NRHP eligibility are as follows:

1. The property is at least 50 years old (however, properties under 50 years of age that are of exceptional importance or are contributors to a district can also be included in the NRHP);
2. It retains integrity of location, design, setting, materials, workmanship, feeling, and associations; and
3. It possesses at least one of the following criteria:

    A. Association with events that have made a significant contribution to the broad patterns of history (events).
    B. Association with the lives of persons significant in the past (persons).
    C. Distinctive characteristics of a type, period, or method of construction, or represents the work of a master, or possesses high artistic values, or represents a significant, distinguishable entity whose components may lack individual distinction (architecture).
    D. Has yielded, or may be likely to yield, information important to prehistory or history (information potential).

California Register of Historical Resources

The proposed project must comply with the CEQA Guidelines, which determine, in part, whether the proposed project has a significant effect to a unique archaeological resource or a historical resource, pursuant to Sections 21083.2 and 21084.1, respectively. Section 15064.5 of CEQA notes that "a project with an effect that may cause a substantial adverse change in the significance of a historical resource is a project that may have a significant effect on the environment." Responsible agencies are expected to identify potentially feasible measures to mitigate significant adverse changes in the significance of a historical resource before they approve such projects. Historical resources are those that:

- Are listed in, or determined to be eligible for listing in, the California Register of Historical Resources (CRHR) (PRC 5024.1(k));
- Are included in a local register of historical resources (PRC 5020.1) or identified as significant in an historical resource survey meeting the requirements of Section 5024.1(g); or
- Are determined by a lead state agency to be historically significant.

CEQA Section 15064.5 also applies to unique archaeological resources, as defined in PRC 21084.1.

The CRHR includes resources that are listed in, or are formally determined eligible for listing in, the NRHP, as well as some California State Landmarks and Points of Historical Interest (PRC Section 5024.1; 14 California Code of Regulations, Section 4850). Properties of local significance that have been designated under a local preservation ordinance (local landmarks or landmark districts), or that have been identified in a local historical resources inventory, may be eligible for listing in the CRHR and are presumed significant resources for purposes of CEQA, unless a preponderance of evidence indicates otherwise (State CEQA Guidelines Section 15064.5[a][2]). The eligibility criteria for listing in the CRHR are similar to those for the NRHP listing but focus on the importance of the resources to California history and heritage. A cultural resource may be eligible for listing in the CRHR if it:

1. is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

2. is associated with the lives of persons important in our past;
3. embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
4. has yielded, or may be likely to yield, information important in prehistory or history.

In accordance with the California Health and Safety Code, if human remains are uncovered during ground-disturbing activities, the contractor or the project applicant immediately must halt potentially damaging excavation in the area of the burial and notify the County Coroner to determine the nature of the remains. The coroner is required to examine all discoveries of human remains within 48 hours of receiving notice of a discovery on private or state lands (Health and Safety Code Section 7050.5[b]). If the coroner determines that the remains are those of a Native American, the coroner must contact the Native American Heritage Commission (NAHC) by phone within 24 hours of making that determination (Health and Safety Code Section 7050[c]). Following the coroner's findings, the property owner, contractor, or project applicant, and the NAHC-designated Most Likely Descendant (MLD) are to determine the ultimate treatment and disposition of the remains, and take appropriate steps to ensure that additional human interments are not disturbed. The responsibilities for acting on notification of a discovery of Native American human remains are identified in PRC Section 5097.9.

Assembly Bill 52

Assembly Bill (AB) 52, passed in 2014, amends sections of CEQA relating to Native Americans. AB 52 establishes a new category of cultural resources, named tribal cultural resource (TCRs), and states that a project that may cause a substantial adverse change in the significance of a TCR may have a significant effect on the environment. Section 21074 was added to the PRC to define TCRs, as follows:[TT1]

(a) "TCRs" are either of the following:

(1) Sites, features, places, cultural landscapes, 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.

(B) Included in a local register of historical resources as defined in subdivision (k) of Section 5020.1.

(2) 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.

(b) A cultural landscape that meets the criteria of subdivision (a) is a TCR to the extent that the landscape is geographically defined in terms of the size and scope of the landscape.

(c) A historical resource described in Section 21084.1, a unique archaeological resource as defined in subdivision (g) of Section 21083.2, or a "non-unique archaeological resource" as defined in subdivision (h) of Section 21083.2 may also be a tribal cultural resource if it conforms with the criteria of subdivision (a).

Per AB 52, the lead agency must begin consultation with any tribe that traditionally or culturally is affiliated with the geographic area. In addition, AB 52 includes time limits for certain responses regarding consultation, as follows:

- within 14 days of determining that an application for a project is complete or a decision by a public agency to undertake a project, the lead agency shall provide formal notification to the designated contact of, or a tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice;
- after provision of the formal notification by the public agency, the California Native American tribe has 30 days to request consultation; and
- the lead agency must begin consultation process within 30 days of receiving a California Native American tribe's request for consultation.

Personnel

The fieldwork, analysis, and reporting were performed by professionals qualified under the Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation (48 CFR 44716 [National Park Service 1983]). Procedures were also in compliance with Section 106 of the NHPA as set forth in 36 CFR 800.

Background

This section provides an overview of the prehistory, ethnography, and history of the WTP site and the surrounding area. The prehistoric and ethnographic contexts are summarized from the *Millerton Lake Final Resource Management Plan/General Plan, Environmental Impact Statement/Environmental Impact Report, p*repared by AECOM, formerly URS Corporation (U.S Bureau of Reclamation 2010).

Prehistoric Context

The earliest periods of known human habitation in this region are not well represented in the Millerton Lake area. The earliest human presence in the region was documented to be as early as 9,000 years ago at Clark's Flat along the Stanislaus River drainage, approximately 80 miles north of Millerton Lake (Moratto et al. 1988). While sites dating to this period have not been identified in the lower reaches of the San Joaquin River drainage, the bracketing of the Millerton Lake area by earlier sites suggests that such sites may be present.

The presence of sites dating to the mid-Holocene period (6,000 to 3,000 years ago) is well documented in the region. Pinto series projectile points (a type of dart point dating from this period) were found in the upper Kings River drainage. Other sites in Fresno County have also yielded Pinto series points. McGuire and Wohlgemuth (1992) note that the archaeological assemblages from this period appear associated with shaped milling slabs and handstones, but relative concentrations of flakestone tools suggest that hunting had greater emphasis during this period than in later periods.

Beginning approximately 3,000 years ago, the cultural chronology for the Millerton Lake area is tied to two projects of particular relevance owing to their proximity to the Millerton Lake area and similarity in cultural, historical, and environmental contexts: the Buchanan Reservoir and Hidden Reservoir investigations.

Surveys prior to the construction of Buchanan Reservoir (Eastman Lake) on the Chowchilla River (approximately 8.5 miles east of Merced and 24 miles northwest of Millerton Lake) yielded more than 60 prehistoric habitation sites and more than 3,000 bedrock mortars. This concentration of sites indicates intensive or long-use habitation of the area. King and Moratto excavated or tested at least 27 of these sites between 1967 and 1970. Altogether, some 20,000 artifacts, 140 burials, and 92 structural features were documented. From the data obtained, Moratto (1984) established a comprehensive three-phase chronological sequence for the prehistory of the central Sierra foothills.

The earliest sites examined at Buchanan Reservoir date from approximately 2,800 to 1,400 years ago. Known as the Chowchilla Phase, this was a time of cultural robustness as the assemblages yielded an array of tools such as fish spears, bone artifacts, shell ornaments, and beads. Trade also assumed greater importance at this time as shells from the Pacific coast and obsidian obtained from the east appear at these sites. The characteristic extended or semi-extended positions of the burials from this phase are often found with ritually broken artifacts and red ochre.

The next phase, known as the Raymond Phase, dates from approximately 1,650 to 450 years ago. According to Moratto (1984:319–320), the archaeological evidence indicates that this phase was a period of instability. Tools are dominated by small and medium projectile points, milling stones, bedrock mortars, and more informal tools derived from stone flakes. Moratto et al. (1988) assess the relative scarcity of shell ornaments as reflective of a possible breakdown in trade networks. The displays of wealth found in the grave goods from sites dating to the Chowchilla Phase also become less pronounced during the Raymond Phase. A cycle of village occupation and abandonment appears during the Raymond Phase, further emphasizing a time of instability. Moratto (1984) suggests that ancestral Yokuts groups may have congregated along more reliable waterways at higher elevations, possibly in response to environmental change causing "rapid desiccation" in lowland areas.

The last period of prehistoric occupation is termed the Madera Phase, dating from 450 to 150 years ago. McGuire and Wohlgemuth (1992) indicate that this is a time of cultural growth for the ancestral Miwoks and, quite likely, of the foothill Yokuts as well. They note that key assemblage characteristics of sites dating from this period include steatite (a soft carveable stone) discs and bowls, *Olivella* shell beads (derived from the Pacific coast), small arrow points, bedrock mortars, and cobble pestles. Most noteworthy during this period is an apparent shift in settlement patterns, with complex ceremonial and domestic structures and major village sites along major watercourses and ancillary settlements located along the larger tributaries. Typical of this phase are circular semi-subterranean structures with central hearths. A shift to flexed burial positions appeared along with the introduction of cremation.

Several other investigations have contributed to an understanding of the region. Two prehistoric archaeological sites located approximately 10 miles east of the Millerton Lake area were subject to excavations in the 1980s. Site CA-FRE-1671 is noteworthy because it has a 2,700-year span of occupation dating from the Chowchilla Phase into the Madera Phase. The second site is CA-FRE-64, which yielded a local steatite industry with adjacent steatite quarries. The site spans the latter part of the Raymond Phase into the early Madera Phase (from A.D. 900 to 1600). The intensity of occupation at this site was fairly pronounced based on the amount of accumulated midden, the presence of bedrock mortars, acorn leaching pits, a hearth, a burial, and the frequency of artifactual and dietary remains.

The Millerton Lake area has been subject to a number of archaeological surveys since 1939. Most of these have been reconnaissance-level surveys, although some systematic surveys have been conducted along the perimeter of the reservoir impoundment in recent years. The findings of these surveys suggest continuity with the general findings established at Buchanan Reservoir and Hidden Reservoir.

Ethnohistoric Context

Before historic contact with Euro-Americans, most of the San Joaquin Valley and the Sierra foothills were occupied by Yokutsan speakers. The Yokuts occupied a large geographic area in the San Joaquin Valley, from the mouth of the San Joaquin River to the Tehachapis, and in the Sierra foothills from the Fresno River to the Kern River. In 1995, as an appendix to an archaeological reconnaissance report of Millerton Lake, Betty Rivers wrote a specific ethnography devoted to this area (Steidl et al. 1995). The following discussion summarizes that report.

The region surrounding Friant Dam was occupied by two subgroups of the Yokuts: the Dumna and the Kechai, both part of the Foothill linguistic division. The Yokuts were unique in that they were divided into true tribal entities, each with distinct names and territories (Kroeber 1925:474–519). The Dumna and the Kechai each controlled stretches of major drainages.

As reported in Hines (1988), the Dumna were found mainly on the north bank of the San Joaquin River, in what is now Millerton Lake. On the south bank, one of their major villages was leveled during construction of Fort Miller. They may have also inhabited some of the area west of Table Mountain. The Kechai lived above Millerton on the south bank of the San Joaquin River, opposite the Dumna (Kroeber 1925:474–519; Gayton 1948; Latta 1976).

During the period of ethnographic occupation, the region was located near extensive wetland, grassland, riparian, and oak parkland environmental zones. These zones would have provided a rich resource base. Resources were controlled by each tribe but were shared through trade and special agreements (Hines 1988).

The Dumna and Kechai built a variety of structures including dwellings, granaries and storehouses, and sweathouses. Each family in the tribe lived in an oval or circular dwelling made of wood and a thatched roof (Kroeber, 1925:474–519).

Native lifestyles were greatly altered by Euro-American contact. The aboriginal cultural ways, such as housing and diet, became largely replaced by European-style structures, store-bought foods, and manufactured clothing. This influence resulted in the loss of the traditional social structure and cultural breakdown as colonization introduced debilitating disease to the native communities and modern reservoirs, such as Millerton Lake, have inundated areas of native inhabitation (Spier 1978).

Today, the Dumna and the Kechai are seeking federal recognition as a sovereign tribe of Foothill Yokuts on their ancestral lands. The Table Mountain Rancheria Band of Indians, located in Dumna territory in Friant, is a consortium of displaced Foothill Yokuts and Monache Indians from the region. The Rancheria owns a casino in Friant, approximately 5 miles east of the proposed project area.

Historic-era Context

Millerton Lake and Friant Dam

A more extensive history of Millerton Lake and Friant Dam was conducted by JRP Historical for the purposes of the *Millerton Lake Resource Management Plan/ General Plan, Cultural Resources Inventory and Evaluation* (URS Corporation 2007). The following discussion is derived from that report.

The area of northeastern Fresno County and southeastern Madera County where Friant Dam and Millerton Lake are located was briefly explored, but not settled, during the Spanish or Mexican periods. The discovery of gold in California in 1848 quickly altered the landscape and history of the Millerton Lake area. As the gold rush intensified, the San Joaquin River was tapped for its gold deposits, and the town of Rootville was established in 1851 to accommodate the miners. The Native Americans in the area opposed the influx of miners on their lands, and many accounts describe local Native American attacks on miners. A military post, Camp Barbour, was established on the east bank of the San Joaquin River in April 1851. The fort was strategically situated on one of the widest reaches of the San Joaquin River, above the danger of flood waters. The waters of the river were not navigable above this point, and the location was within easy reach of the foothills and close enough to the district of Cassady's Bar to afford adequate protection to the miners in that vicinity (Giffen 1939). The name of Camp Barbour was changed to Fort Miller in honor of Major Miller, a commanding officer at Camp Benicia, the military headquarters for California.

In the 1930s, work began on the Central Valley Project (CVP) in the San Joaquin Valley. The CVP is the genesis of Friant Dam, Millerton Lake, and the Madera and Friant-Kern canals, which were completed in the 1940s. Friant Dam impounded the waters of the San Joaquin River, which inundated the former sites of Fort Miller and Millerton. Before the inundation, a local contractor disassembled the courthouse, and the building was reassembled in the 1970s in Millerton Lake SRA [State Recreation Area], about 2 miles from its original site.

Friant Dam was part of the initial construction of the CVP and was the first major structure to be completed in the project in the southern San Joaquin Valley. The federal project began its first appropriations to the CVP in 1935, but the first major planning and construction efforts at the Friant and Shasta Dam sites did not begin until 1937 when the United States Bureau of Reclamation (Reclamation) started acquiring water rights along the San Joaquin River for the construction of Friant Dam, built a warehouse at Friant, and began awarding contracts for construction. In 1939, Griffith Company and Bent Company of Los Angeles were awarded the contract for construction of the dam. Reclamation and contractors broke ground for Friant Dam on November 5, 1939, and the first bucket of concrete was poured on July 29, 1940. Construction on Shasta Dam began the same month. Reclamation began construction of the Madera Canal in 1940 and of the Friant-Kern Canal in 1945.

The 36-mile-long Madera Canal was to have a capacity of 1,000 cubic feet per second (cfs) from Friant Dam, which was gradually reduced to 625 cfs at its terminus at the Chowchilla River to account for diversions along the route. From Friant Dam, the first 8.5 miles of the canal, completed by 1942, are concrete lined; the remainder of the canal is earthen lined. As with many other units of the CVP, work was stopped on the Madera Canal in 1943 because of war shortages, but the canal was completed in May 1945 at a total cost of $35 million. With the war over and Friant Dam and Madera Canal completed,

Reclamation began construction of the 152-mile-long Friant-Kern Canal in 1945. Although water was diverted into the canal in 1949, it was not finally completed until 1951.

Friant

The town known as Friant went through a number of name changes before its current name was adopted nearly 100 years ago. Established by Charles Converse in 1852, the town was originally known as Converse Ferry; shortly thereafter, it became Jones Ferry when it was named after a local merchant. A post office was established in 1881, and the town became known as Hamptonville in honor of the first postmaster. Once a branch of the Southern Pacific Railroad was constructed from Fresno in 1891, the town was renamed Pollasky after a railroad agent. Friant adopted its current name in the early 1920s when it was renamed for Thomas Friant of the White-Friant Lumber Company (Gudde 1998).

Hidden Lake Estates

The existing and proposed WTP serves the Hidden Lakes Estates residential subdivision located within the south half of section 23, T10S, R21E, MDB&M in Friant, California, approximately 20 miles northeast of Fresno in rural Madera County. The approximately 154-acre residential subdivision is located on the north side of Millerton Lake along the west side of Fine Gold Creek. Millerton Lake was created with the construction of the Friant Dam in 1942 as part of the CVP to supply irrigation water to the San Joaquin Valley with a secondary use for flood control and recreation. The town site of Millerton, which was the Fresno County seat from 1856 to 1874, was inundated by the creation of the reservoir (Friant Water Authority 2019). This area was sparsely populated at the time of the creation of the lake, and a dirt road with a corral was the only built environment along what is now Hidden Lake Boulevard, the main road in the subdivision (USGS 1942; UCSB 1957).

The Hidden Lakes Estates residential development was initially subdivided in 1957 by the Madera Development Company headed by Freeman Ralston of Fresno. Freeman Ralston, a restaurant owner and home builder from Fresno, created the Madera Development Company to develop 3,000 lots on 5,000 acres on the only privately owned land in the Lake Millerton region. Roads were cut in the latter half of 1957 and water lines were laid in spring and summer of 1958 (*Madera Tribune* 1958). The Madera Development Company received authorization from the California Public Utility Commission in 1959 to construct and operate its own water system for Hidden Lake Estates and a temporary contract with Reclamation to provide water through a series of submerged pumps was in place until a long-term contract would be negotiated (*Madera Tribune* 1959).

Initially planned for 10,000 residents, the Madera Development Company sought to build the homes within the development or provide the option of owners to build their own, but were required for approval by an architecture review board (*Madera Tribune* 1958). The ultimate vision of the development company was to sell $8 million worth of homesites to fund the construction of the Hidden Lake Village, north of the Millerton Lake Shore, with two motels, an 18-hole golf course, tennis courts, clubhouse, three-story night club, riding stables, restaurant, grocery store, butcher, service station, drug store, and various clothing retail shops. Ralston described the village as one of a kind, architecturally similar to Carmel but "nicer," (*Madera Tribune* 1958).

Into the early 1960s, very little home building had occurred and none of the village development. In 1963, a county-wide building subdivisions stop order was set in place by the board of supervisors and turned away developers of the Hidden Lake Subdivision from forming an improvement district in a new section of homesites to construct water facilities. The maintenance district would operate both the new and existing water system in an adjacent development (*Madera Tribune* 1963). Around this time, the temporary contract with Reclamation to supply water from Millerton Lake expired. The long-term contract provided 200 acre-feet of water a year for each of the 218 lots in the subdivision (*Fresno Bee* 1965).

While the Hidden Lake Estates subdivision had 218 recorded lots, review of historic maps and aerial photography reveal that in 1965 only 10 houses were constructed (USGS 1965; UCSB 1965). In 1981, the number of houses had only increased by three to 13 (USGS 1981). According to Madera County assessor data, many of the existing homes built in the Hidden Lakes Estates were constructed in the mid to late 2000s and, as of 2012, there were a total of 49 developed lots. Houses along Hidden Lake Boulevard near the existing WTP, built in 1986, and the proposed WTP site, and on hilltops above were constructed in the mid to late 2000s (Madera County Assessor 2019). Circa 2009, Madera County placed another building moratorium on the Hidden Lakes Estate subdivision because the current WTP is insufficient to serve the entire subdivision (DGS 2012).

CEQA-Plus Evaluation

Section 106 of the NHPA

Based on the cultural resources study, which included a field visit and records search, there are no Section 106 historic properties within or near the project site. The potential for project construction to affect as yet unidentified historic properties is very low. Consultation with the State Historic Preservation Officer and interested Native American tribes and individuals may be required to comply with Section 106 of the NHPA.

Inventory Methods

In accordance with the Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation (48 CFR 44716 [National Park Service 1983]), the goals of this cultural resources inventory were to identify and completely document the location, qualities, and condition of any potential historic properties in the proposed project APE. Methods employed to achieve these goals are described below.

Native American Consultation

The NAHC was requested to conduct a sacred lands search on February 20, 2019. The purpose of the search was to ascertain whether additional resources or locations, including existing TCRs that may be of importance to Native Americans who traditionally have resided in the proposed project area. On February 27, 2019, the NAHC responded, stating that a review of its files yielded positive results. The NAHC indicated that the Dumna Wo-Wah Tribal Government should be contacted, and contact information was provided for the California Miwok Tribe; California Valley Miwok Tribe, AKA Sheep Rancheria of Me-Wuk Indians of California; Robert Ledger Sr., chairperson with the Dumma Wo-Wah Tribal Government; Ron Goode, chairperson with North Fork Mono Tribe; Gary Walker, chairperson, with the North Fork Rancheria of Mono Indians; Katherine Erolinda Perez, chairperson, with the North Valley Yokuts Tribe;

William Leonard, chairperson with the Southern Sierra Miwuk Nation, and Kenneth Woodrow, chairperson with the Wuksache Indian Tribe/Eshom Valley Band.

On behalf of Madera County AECOM contacted these tribes by letter on March 12, 2019. Copies of Native American consultation are provided in Appendix A. Followup phones calls were made to each group on March 28, 2019. Tiger Paulk with the California Valley Miwok Tribe asked that he be contacted if any cultural material was observed. Both Robert Ledger with the Dumma Wo Wah Tribal Government of Ron Goode with the North Fork Mono Tribe requested a digital copy of the NAHC response letter, which was sent on March 28th. Both individuals stated that he would respond after reading the letter. Voice messages were left for the remaining consultants. The consultation is summarized in Table 1.

TABLE 1. Native American Consultation

Organization/Tribe	Name of Contact	Letter Date	Telephone Follow-up Date	Comments
California Valley Miwok Tribe (Stockton)	Tiger Paulk	3-12-2019	March 28, 2019	Contact if any artifacts are observed; otherwise, proceed with the project.
California Valley Miwok Tribe, AKA Sheep Rancheria of Me-Wuk Indians of California	None	3-12-2019	3-28-2019	Left message with contact information 1:23 PM.
Dumna Wo-Wah Tribal Government	Robert Ledger Sr., chairperson	3-12-2019	3-28-2019	Spoke to Robert Ledger, who requested a digital copy of the original letter. He said he will respond after reading the letter. Sent letter by email at 1:43 PM.
North Fork Mono Tribe	Ron Goode, chairperson	3-12-2019	3-28-2019	Spoke to Ron Goode, who also requested a digital copy of the original letter. He will respond after reviewing the digital copy. Sent letter by email at 2:05 PM.
North Fork Rancheria of Mono Indians	Gary Walker, chairperson	3-12-2019	3-28-2019	Spoke to Katie Parra, who transferred my call to Christina McDonald with whom I left a message. She is on vacation until April 1, 2019.
North Valley Yokuts Tribe	Katherine Erolinda Perez, chairperson	3-12-2019	3-28-2019	Left a message at 2:16 PM with contact information and reason for call.
Southern Sierra Miwuk Nation	William Leonard, chairperson	3-12-2019	3-28-2019	Left a message at 2:28 PM with contact information and reason for call.
Wuksache Indian Tribe/Eshom Valley Band	Kenneth Woodrow, chairperson	3-12-2019	3-28-2019	Left a message at 2:31 PM with contact information and reason for call.

Literature Review

On February 20, 2019, an archival records search for this cultural resources assessment was conducted by staff of the Southern San Joaquin Information Center (SSJVIC), an affiliate of the California Office of Historic Preservation's California Historical Resources Information System. SSJVIC indicated that no archaeological investigations or documented cultural resources are located within the project site, including a 0.25-mile radius. Appendix B includes materials generated by the records search conducted by the SSJVIC.

Pedestrian Survey

A pedestrian survey of the APE was conducted on March 15, 2019, by AECOM archaeologist Diana Ewing. The site of the proposed WTP, septic tank, and leach field was delineated by stakes with pink tape tied at the top. The ground surface was covered with new growth grasses, wild flowers, shrubs, and some small oak trees.

Field investigation consisted of parallel transits spaced approximately 15 feet apart. Soil disturbance was present at the location for the new WTP, septic tank, and leach field. No cultural materials were observed in the disturbed soils indicating that subsurface archaeological deposits are most likely not present.

Management Recommendations

Although no cultural resources requiring further treatment were identified in the APE, previously undiscovered archaeological sites may be buried with no surface manifestation. If prehistoric- or historic-era materials are encountered, all work in the vicinity shall halt until a qualified archaeologist can evaluate the discovery and make recommendations pursuant to 36 CFR 800.13(b). Prehistoric materials most likely would include obsidian and chert flaked-stone tools (e.g., projectile points, knives, choppers), tool-making debris, or milling equipment, such as mortars and pestles. Historic materials may include remains of agricultural implements; stone or concrete footings and walls; and deposits of metal, glass, and/or ceramic refuse.

The possibility of encountering human remains cannot be discounted. Section 7050.5 of the California Health and Safety Code states that it is a misdemeanor to knowingly disturb a human burial. If human remains are encountered, work shall halt in the vicinity of the remains and, as required by law, the Fresno County Coroner must be notified immediately. An archaeologist must also be contacted to evaluate the find. If human remains are of Native American origin, the coroner must notify the NAHC within 24 hours of that determination. Pursuant to California PRC 5097.98, the NAHC, in turn, will immediately contact an individual who is most likely descended from the remains (an MLD). The MLD has 48 hours to inspect the site and recommend treatment of the remains. The landowner is obligated to work with the MLD in good faith to find a respectful resolution to the situation and entertain all reasonable options regarding the descendants' preferences for treatment.

References

Department of General Services (DGS). 2012. "Bid Opening, State of California." Available: https://web.archive.org/web/20170209053657/https://www.documents.dgs.ca.gov/resd/Surplus_Property/ForSale/HiddenLakeBidPackage.pdf. Accessed February 21, 2019.

Fresno Bee. 1965. "US Okays CVP Water Supply for Hidden Lake." 17 September.

Friant Water Authority. 2019. "History." Available: https://friantwater.org/history. Accessed February 21, 2019.

Gayton, A. H. 1948. Yokuts and Western Mono Ethnography. University of California Anthropological Records 10(1-2): 1–301.

Giffen, H.S. 1939. Fort Miller and Millerton: Memories of Southern Mines. Quarterly Publication of the Historical Society of Southern California: 3-15

Gudde, E. G. 1998. California Place Names. Revised and expanded by William Bright. University of California Press, Berkeley, California.

Hines, P. 1988. CA-MAD-98: Excavation of a Prehistoric Village Site at Millerton Lake State Recreation Area. Report on file, California Department of Parks and Recreation, Sacramento.

Kroeber, Alfred L. 1925. Handbook of the Indians of California. Bureau of American Ethnology Bulletin 78, Washington, D.C. [Reprinted, Dover Publications, New York, 1976.]

Latta, Frank F. 1976. Handbook of Yokuts Indians. Bear State Books, Santa Cruz, California.

Madera County Assessor. 2019. Parcel information. Available: https://www.maderacounty.com/government/assessor/parcel-search-information. Accessed February 21, 2019.

Madera Tribune

1958. "Whole Town Is Ultimate Goal of Huge Millerton Subdivision." 23 September.

1959. "Water System Approved by PUC." 21 October.

1963. "Board Sticks by Subdivision Ban." 18 April.

McGuire, K. R., and E. Wohlgemuth. 1992. Archaeological Survey Report for a Proposed Upgrade of Rural Route 180 Between Fowler and Cove Avenues, Fresno County, California. Report prepared for California Department of Transportation, District 6, Fresno.

Moratto, M. J. 1984. California Archaeology. Academic Press, New York.

Moratto, M. J, L. H. Shoup, and J. D. Tordoff. 1988. Culture Change in the Central Sierra Nevada, 8000 B.C. - A.D. 1950. Final Report of the New Melones Archeological Project, Volume IX. Report submitted to the National Park Service, Washington, D.C.

National Park Service. 1983. Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation. Available: http://www.cr.nps.gov/local-law/arch_stnds_0.htm. Accessed October 5, 2012.

Spier, Robert F. G. 1978. Foothill Yokuts. In California, edited by R. F. Heizer, pp. 471–484. Handbook of the Indians of North America, Vol. 8. Smithsonian Institution. Washington, D.C.

Steidl, L., B. Steidl, and K. Lindahl. 1995. An Archaeological Reconnaissance Survey at Millerton Lake. On file, Southern San Joaquin Valley Information Center, California State University, Bakersfield.

University of California, Santa Barbara (UCSB)

1957. Historic Aerial Photograph Collection, Flight ABI, frame 53T-95. 15 September. Available: http://mil.library.ucsb.edu/ap_indexes/FrameFinder/. Accessed February 21, 2019.

1965. Historic Aerial Photograph Collection, Flight FRE, frame 1-131. 25 June. Available: http://mil.library.ucsb.edu/ap_indexes/FrameFinder/. Accessed February 21, 2019.

United States Geological Survey (USGS)

1942. Millerton Lake, California. 1:62,500.

1965. Millerton Lake West, California. 1:24,000.

1981. Millerton Lake West, California. 1:24,000.

URS Corporation. 2007. Millerton Lake Recreation Area Management Plan/General Plan, Cultural Resources Inventory and Evaluation. On File at URS Oakland.

U.S. Bureau of Reclamation. 2010. Millerton Lake Final Resource Management Plan/General Plan, Environmental Impact Statement/Environmental Impact Report. Prepared by AECOM, formerly URS Corporation, Oakland.

Appendix A: Native American Consultation

Local Government Tribal Consultation List Request

Native American Heritage Commission
1550 Harbor Blvd, Suite 100
West Sacramento, CA 95691
916-373-3710
916-373-5471 – Fax
nahc@nahc.ca.gov

Type of List Requested

☑ **CEQA Tribal Consultation List (AB 52)** – *Per Public Resources Code § 21080.3.1, subs. (b), (d), (e) and 21080.3.2*

☑ **General Plan (SB 18)** - *Per Government Code § 65352.3.*

Local Action Type:

___ **General Plan** ___ **General Plan Element** ___ **General Plan Amendment**

___ **Specific Plan** ___ **Specific Plan Amendment** X **Pre-planning Outreach Activity**

Required Information

Project Title: Madera County WTP - Project Number 60428221.0005

Local Government/Lead Agency: County of Madera Public Works Department

Contact Person: Diana Ewing

Street Address: 2020 L Street, Suite 400

City: Sacramento, CA **Zip:** 95811

Phone: 916-361-6433 **Fax:** 916-414-5850

Email: diana.r.ewing@aecom.com

Specific Area Subject to Proposed Action

County: Madera **City/Community:** Friant, CA

Project Description:

The County has secured the purchase of property across Hidden Lakes Blvd. from the existing MD-1 water treatment plant to serve as the site for a new water treatment plant.

NAHC sacred sites check for one parcel in Madera County located at 20855 Hidden Lake Blvd. Friant, CA 93626.

Additional Request

☒ **Sacred Lands File Search** - *Required Information:*

USGS Quadrangle Name(s): Millerton Lake

Township: 10 S **Range:** 21 E **Section(s):** 23

STATE OF CALIFORNIA Gavin Newsom, Governor

NATIVE AMERICAN HERITAGE COMMISSION
Cultural and Environmental Department
1550 Harbor Blvd., Suite 100
West Sacramento, CA 95691
Phone: (916) 373-3710
Website: http://www.nahc.ca.gov

February 27, 2019

Diana Ewing
AECOM

Sent by Email: diana.r.ewing@aecom.com
Number of Pages: 2

RE: Madera County WTP (60428221.005), Millerton Lake West, Madera County

Dear Ms. Ewing:

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 positive**. Please contact the Dumna Wo-Wah Tribal Government on the attached Contact List directly for more information. 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 on the list; 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 the NAHC. 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: Sharaya.Souza@NAHC.ca.gov or directly at (916) 573-0168.

Sincerely,

Sharaya Souza
Associate Governmental Program Analyst

Attachment

Native American Heritage Commission
Native American Contacts List
2/27/2019

California Valley Miwok Tribe
4620 Shippee Lane
Stockton ,CA 95212
(209) 931-4567 Office
(209) 931-4333 Fax
Miwok

California Valley Miwok Tribe
AKA Sheep Rancheria of Me-Wuk Indians of Ca
P.O. Box 395
West Point ,CA 95255
Lewilson@yahoo.com
(209) 293-4179 Office
Miwok

Dumna Wo-Wah Tribal Goverment
Robert Ledger Sr., Chairperson
2191 West Pico Ave.
Fresno ,CA 93705
dgerrobert@ymail.com
(559) 540-6346
Dumna/Foothill Yokuts
Mono

North Fork Mono Tribe
Ron Goode, Chairperson
3396 Tollhouse Road
Clovis ,CA 93619
vgoode911@hotmail.com
(559) 299-3729 Home
(559) 355-1774 - cell
Mono

North Fork Rancheria of Mono Indians
Gary Walker, Chairperson
P.O .Box 929
North Fork ,CA 93643
gwalker@nfr-nsn.gov
(559) 877-5532
(559) 877-2467 Fax
Mono

North Valley Yokuts Tribe
Katherine Erolinda Perez, Chairperson
P.O. Box 717
Linden ,CA 95236
canutes@verizon.net
(209) 887-3415
Ohlone/Costanoan
Northern Valley Yokuts
Bay Miwok

Southern Sierra Miwuk Nation
William Leonard, Chairperson
P.O. Box 186
Mariposa ,CA 95338
(209) 628-8603 Office
Miwok
Pauite
Northern Valley Yokut

Wuksache Indian Tribe/Eshom Valley Band
Kenneth Woodrow, Chairperson
1179 Rock Haven Ct.
Salinas ,CA 93906
kwood8934@aol.com
(831) 443-9702
Foothill Yokuts
Mono
Wuksache

This list is current as of the date of this document and is based on the information available to the Commission on the date it was produced.

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 Resources Code, or Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native American Tribes for the proposed:
Madera County WTP (60428221.005), Millerton Lake West, Madera County.

AECOM

March 12, 2019

California Valley Miwok Tribe AKA Sheep Rancheria of Me-Wuk Indians of California
P.O. Box 395
West Point, CA 95255
l.ewilson@yahoo.com
(209) 293-4179 Office

Subject: Notification of the Madera County WTP Project

Dear California Valley Miwok Tribe AKA Sheep Rancheria of Me-Wuk Indians of California,

In accordance with California Public Resources Code Section 21080.3.1 (AB 52) letter serves as a formal notification of and requests information regarding the County of Madera's proposed water treatment plant. The County of Madera, the lead agency under the California Environmental Quality Act, has deferred AB52 consultation to AECOM and we are therefore consulting on their behalf. The Native American Heritage Commission conducted a review of the Sacred Lands Files, and indicated we contact the California Valley Miwok Tribe AKA Sheep Rancheria of Me-Wuk Indians of California for more information regarding known and recorded cultural sites including Tribal Cultural Resources. The California Historical Resources Information System Southern San Joaquin Valley Information Center returned a positive records result for the project area.

The County of Madera has secured the purchase of property across Hidden Lakes Blvd. from the existing MD-1 water treatment plant to serve as the site for a new water treatment plant located at 20855 Hidden Lake Blvd. Friant, CA 93626. This property is located on the Millerton Lake West United States Geological Survey Quadrangle, Township 10 South, Range 21 East, Section 23.

As part of the cultural resources review of the proposed project under CEQA, we are requesting any information that you are willing to share about cultural resources that may be present in the proposed project area. If you would like to consult on this project, please notify us in writing within 30 calendar days (April 12, 2019), as detailed in AB 52. If you would like more information about the project to help you determine whether to engage in consultation, please feel free to contact me personally. Please respond to:

Diana R. Ewing M.A.
Archaeologist
AECOM Environment
D 1+916-361-6448 Cisco 264-6448
Diana.r.ewing@aecom.com

AECOM
2020 L Street
Suite 400
Sacramento, CA 95811
USA
T +1 916.414-5800
www.aecom.com

AECOM

March 12, 2019

California Valley Miwok Tribe
4620 Shippee Lane
Stockton, CA 95212
(209) 931-4567 Office
(209) 931-4333 Fax

Subject: Notification of the Madera County WTP Project

Dear California Valley Miwok Tribe,

In accordance with California Public Resources Code Section 21080.3.1 (AB 52) letter serves as a formal notification of and requests information regarding the County of Madera's proposed water treatment plant. The County of Madera, the lead agency under the California Environmental Quality Act, has deferred AB52 consultation to AECOM and we are therefore consulting on their behalf. The Native American Heritage Commission conducted a review of the Sacred Lands Files, and indicated we contact the California Valley Miwok Tribe for more information regarding known and recorded cultural sites including Tribal Cultural Resources. The California Historical Resources Information System Southern San Joaquin Valley Information Center returned a positive records result for the project area.

The County of Madera has secured the purchase of property across Hidden Lakes Blvd. from the existing MD-1 water treatment plant to serve as the site for a new water treatment plant located at 20855 Hidden Lake Blvd. Friant, CA 93626. This property is located on the Millerton Lake West United States Geological Survey Quadrangle, Township 10 South, Range 21 East, Section 23.

As part of the cultural resources review of the proposed project under CEQA, we are requesting any information that you are willing to share about cultural resources that may be present in the proposed project area. If you would like to consult on this project, please notify us in writing within 30 calendar days (April 12, 2019), as detailed in AB 52. If you would like more information about the project to help you determine whether to engage in consultation, please feel free to contact me personally. Please respond to:

Diana R. Ewing M.A.
Archaeologist
AECOM Environment
D 1+916-361-6448 Cisco 264-6448
Diana.r.ewing@aecom.com

AECOM
2020 L Street
Suite 400
Sacramento, CA 95811
USA
T +1 916.414-5800
www.aecom.com

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March 12, 2019

Dumna Wo-Wah Tribal Goverment
Robert Ledger Sr., Chairperson
2191 West Pico Ave.
Fresno, CA 93705
ledgerrobert@ymail.com
(559) 540-6346

Subject: Notification of the Madera County WTP Project

Dear Chairperson Robert Ledger Sr.,

In accordance with California Public Resources Code Section 21080.3.1 (AB 52) letter serves as a formal notification of and requests information regarding the County of Madera's proposed water treatment plant. The County of Madera, the lead agency under the California Environmental Quality Act, has deferred AB52 consultation to AECOM and we are therefore consulting on their behalf. The Native American Heritage Commission conducted a review of the Sacred Lands Files, and indicated we contact the Dumna Wo-Wah Tribal Government directly for more information regarding known and recorded cultural sites including Tribal Cultural Resources. The California Historical Resources Information System Southern San Joaquin Valley Information Center returned a positive records result for the project area.

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AECOM
2020 L Street
Suite 400
Sacramento, CA 95811
USA
T +1 916.414-5800
www.aecom.com

AECOM

March 12, 2019

North Fork Mono Tribe
Ron Goode, Chairperson
13396 Tollhouse Road
Clovis, CA 93619
rwgoode911@hotmail.com
(559) 299-3729 Home
(559) 355-1774 - cell

Subject: Notification of the Madera County WTP Project

Dear Ron Goode, Chairperson,

In accordance with California Public Resources Code Section 21080.3.1 (AB 52) letter serves as a formal notification of and requests information regarding the County of Madera's proposed water treatment plant. The County of Madera, the lead agency under the California Environmental Quality Act, has deferred AB52 consultation to AECOM and we are therefore consulting on their behalf. The Native American Heritage Commission conducted a review of the Sacred Lands Files, and indicated we contact the North Fork Mono Tribe directly for more information regarding known and recorded cultural sites including Tribal Cultural Resources. The California Historical Resources Information System Southern San Joaquin Valley Information Center returned a negative records result for the project area.

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AECOM
2020 L Street
Suite 400
Sacramento, CA 95811
USA
T +1 916.414-5800
www.aecom.com

AECOM

March 12, 2019

North Fork Rancheria of Mono Indians
Gary Walker, Chairperson
P.O .Box 929
North Fork, CA 93643
gwalker@nfr-nsn.gov
(559) 877-5532
(559) 877-2467 Fax

Subject: Notification of the Madera County WTP Project

Dear Chairperson Gary Walker,

In accordance with California Public Resources Code Section 21080.3.1 (AB 52) letter serves as a formal notification of and requests information regarding the County of Madera's proposed water treatment plant. The County of Madera, the lead agency under the California Environmental Quality Act, has deferred AB52 consultation to AECOM and we are therefore consulting on their behalf. The Native American Heritage Commission conducted a review of the Sacred Lands Files, and indicated we contact the North Fork Rancheria of Mono Indians for more information regarding known and recorded cultural sites including Tribal Cultural Resources. The California Historical Resources Information System Southern San Joaquin Valley Information Center returned a positive records result for the project area.

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D 1+916-361-6448 Cisco 264-6448
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AECOM
2020 L Street
Suite 400
Sacramento, CA 95811
USA
T +1 916.414-5800
www.aecom.com

AECOM

March 12, 2019

North Valley Yokuts Tribe
Katherine Erolinda Perez, Chairperson
P.O. Box 717
Linden, CA 95236
canutes@verizon.net
(209) 887-3415

Subject: Notification of the Madera County WTP Project

Dear Chairperson Katherine Erolinda Perez,

In accordance with California Public Resources Code Section 21080.3.1 (AB 52) letter serves as a formal notification of and requests information regarding the County of Madera's proposed water treatment plant. The County of Madera, the lead agency under the California Environmental Quality Act, has deferred AB52 consultation to AECOM and we are therefore consulting on their behalf. The Native American Heritage Commission conducted a review of the Sacred Lands Files, and indicated we contact the North Valley Yokuts Tribe for more information regarding known and recorded cultural sites including Tribal Cultural Resources. The California Historical Resources Information System Southern San Joaquin Valley Information Center returned a positive records result for the project area.

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D 1+916-361-6448 Cisco 264-6448
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AECOM
2020 L Street
Suite 400
Sacramento, CA 95811
USA
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www.aecom.com

AECOM

March 12, 2019

Southern Sierra Miwuk Nation
William Leonard, Chairperson
P.O. Box 186
Mariposa, CA 95338
(209) 628-8603 Office

Subject: Notification of the Madera County WTP Project

Dear Chairperson William Leonard,

In accordance with California Public Resources Code Section 21080.3.1 (AB 52) letter serves as a formal notification of and requests information regarding the County of Madera's proposed water treatment plant. The County of Madera, the lead agency under the California Environmental Quality Act, has deferred AB52 consultation to AECOM and we are therefore consulting on their behalf. The Native American Heritage Commission conducted a review of the Sacred Lands Files, and indicated we contact the Southern Sierra Miwuk Nation for more information regarding known and recorded cultural sites including Tribal Cultural Resources. The California Historical Resources Information System Southern San Joaquin Valley Information Center returned a positive records result for the project area.

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AECOM
2020 L Street
Suite 400
Sacramento, CA 95811
USA
T +1 916.414-5800
www.aecom.com

AECOM

March 12, 2019

Wuksache Indian Tribe/Eshom Valley Band
Kenneth Woodrow, Chairperson
1179 Rock Haven Ct.
Salinas, CA 93906
kwood8934@aol.com
(831) 443-9702

Subject: Notification of the Madera County WTP Project

Dear Chairperson Kenneth Woodrow,

In accordance with California Public Resources Code Section 21080.3.1 (AB 52) letter serves as a formal notification of and requests information regarding the County of Madera's proposed water treatment plant. The County of Madera, the lead agency under the California Environmental Quality Act, has deferred AB52 consultation to AECOM and we are therefore consulting on their behalf. The Native American Heritage Commission conducted a review of the Sacred Lands Files, and indicated we contact the Wuksache Indian Tribe/Eshom Valley Band for more information regarding known and recorded cultural sites including Tribal Cultural Resources. The California Historical Resources Information System Southern San Joaquin Valley Information Center returned a positive records result for the project area.

The County of Madera has secured the purchase of property across Hidden Lakes Blvd. from the existing MD-1 water treatment plant to serve as the site for a new water treatment plant located at 20855 Hidden Lake Blvd. Friant, CA 93626. This property is located on the Millerton Lake West United States Geological Survey Quadrangle, Township 10 South, Range 21 East, Section 23.

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AECOM
2020 L Street
Suite 400
Sacramento, CA 95811
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60428224 Project Number
Follow Up Contact to Madera County WWTP Sacred Lands Letters
March 28, 2019

California Valley Miwok Tribe
Called Office 1 PM call ended 1:19 PM
Spoke to: Tiger Paulk
Notify if any artifacts are found.

California Valley Miwok Tribe AKA Sheep Rancheria Me-Wuk Indians of California
Called 1:20 pm call ended 1:23 PM
Left Message with contact information

Dumna Wo-Wah Tribal Government
Called 1:23 PM call ended 1:27 PM
Spoke to: Robert Ledger requested the original letter be emailed.
Sent letter by email 1:43 PM

North Fork Mono Tribe
Called 1:47 PM call ended 1:58 PM
Spoke to: Ron Goode requested original letter be emailed.
Sent letter by email 2:05 PM

North Fork Rancheria of Mono Indians
Called 2:08 PM
Left Message with phone number and email
Sent letter by email 2:13 PM 2:16 message: "delivery failed"
Called different number for office found on tribe's website 2:21 PM
Left message with: Christina McDonald who is out of office until April 1

North Valley Yokuts Tribe
Called 2:16 PM
Left Message with contact information

Southern Sierra Miwuk Nation
Called 2:28 PM
Left Message with contact information

Wuksache Indian Tribe/Eshom Valley Band
Called 2:31 PM
Left Message with contact information

Appendix B: Cultural Records Search Results

California Historical Resources Information System

Fresno
Kern
Kings
Madera
Tulare

Southern San Joaquin Valley Information Center
California State University, Bakersfield
Mail Stop: 72 DOB
9001 Stockdale Highway
Bakersfield, California 93311-1022
(661) 654-2289
E-mail: ssjvic@csub.edu
Website: www.csub.edu/ssjvic

3/4/2019

Diana Ewing
AECOM
2020 L Street, Suite 400
Sacramento, CA 95811

Re: Madera County WTP – Project Number 60428221.0005
Records Search File No.: 19-063

The Southern San Joaquin Valley Information Center received your record search request for the project area referenced above, located on the Millerton Lake West USGS 7.5' quad. The following reflects the results of the records search for the project area and the 0.25 mile radius:

As indicated on the data request form, the locations of resources and reports are provided in the following format: ☐ custom GIS maps ☐ shapefiles

Resources within project area:	None
Resources within 0.25 mile radius:	None
Reports within project area:	None
Reports within 0.25 mile radius:	None

Resource Database Printout (list):	☐ enclosed	☐ not requested	☒ nothing listed
Resource Database Printout (details):	☐ enclosed	☒ not requested	☐ nothing listed
Resource Digital Database Records:	☐ enclosed	☒ not requested	☐ nothing listed
Report Database Printout (list):	☐ enclosed	☐ not requested	☒ nothing listed
Report Database Printout (details):	☐ enclosed	☒ not requested	☐ nothing listed
Report Digital Database Records:	☐ enclosed	☒ not requested	☐ nothing listed
Resource Record Copies:	☐ enclosed	☒ not requested	☐ nothing listed
Report Copies:	☐ enclosed	☒ not requested	☐ nothing listed
OHP Historic Properties Directory:	☐ enclosed	☒ not requested	☐ nothing listed
Archaeological Determinations of Eligibility:	☐ enclosed	☒ not requested	☐ nothing listed
CA Inventory of Historic Resources (1976):	☐ enclosed	☒ not requested	☐ nothing listed

Caltrans Bridge Survey: Not available at SSJVIC; please see http://www.dot.ca.gov/hq/structur/strmaint/historic.htm

Ethnographic Information: Not available at SSJVIC

Historical Literature: Not available at SSJVIC

Historical Maps: Not available at SSJVIC; please see http://historicalmaps.arcgis.com/usgs/

Local Inventories: Not available at SSJVIC

GLO and/or Rancho Plat Maps: Not available at SSJVIC; please see http://www.glorecords.blm.gov/search/default.aspx#searchTabIndex=0&searchByTypeIndex=1 and/or http://www.oac.cdlib.org/view?docId=hb8489p15p;developer=local;style=oac4;doc.view=items

Shipwreck Inventory: Not available at SSJVIC; please see http://www.slc.ca.gov/Info/Shipwrecks.html

Soil Survey Maps: Not available at SSJVIC; please see http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx

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 the report is for public distribution. If you have any questions regarding the results presented herein, please contact the office at the phone number listed above.

The provision of 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 archeological 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, or the State Historical Resources Commission.

Due to processing delays and other factors, not all of the historical resource reports and resource records that have been submitted to the Office of Historic Preservation are available via this records search. Additional information may be available through the federal, state, and local agencies that produced or paid for historical resource management work in the search area. Additionally, Native American tribes have historical resource information not in the CHRIS Inventory, and you should contact the California Native American Heritage Commission for information on local/regional tribal contacts.

Should you require any additional information for the above referenced project, reference the record search number listed above when making inquiries. Invoices for Information Center services will be sent under separate cover from the California State University, Bakersfield Accounting Office.

Thank you for using the California Historical Resources Information System (CHRIS).

Sincerely,

Celeste M. Thomson
Coordinator