Orleans Mutual Water Company Water Treatment System Upgrade

Public Review Draft

Initial Study/Mitigated Negative Declaration

July 2024

Prepared for:

State Water Resources Control Board
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ACRONYMS AND ABBREVIATIONS

APN	Assessor's Parcel Number
BACT	Best Available Control Technology
BMP	Best Management Practices
CAAQS	California ambient air quality standards
CalEEMod	California Emissions Estimator Model
CAL FIRE	California Department of Fire and Forestry
Caltrans	California Department of Transportation
Cal/OSHA	California Division of Occupational Safety and Health
Cal OES	California Governor's Office of Emergency Services
CARB	California Air Resources Board
CBC	California Building Code
CCAA	California Clean Air Act
CCR	California Code of Regulations
CDC	California Department of Conservation
CDFW	California Department of Fish and Wildlife
CESA	California Endangered Species Act
CEQA	California Environmental Quality Act
CF	Conservation Floodway
Cfs	cubic feet per second
CGS	California Geologic Survey
CH_4	methane
CIWMB	California Integrated Waste Management Board
CMU	concrete masonry unit
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalents
CRHR	California Register of Historical Resources
CWA	Clean Water Act
CWPP	Community Wildfire Protection Plan
dB	decibels
bcf/year	billion cubic feet per year
DDW	Division of Drinking water
District	Klamath-Trinity Joint Unified School District
DPM	diesel particulate matter
DTSC	Department of Toxic Substances Control
EIR	Environmental Impact Report

ACRONYMS AND ABBREVIATIONS (cont.)

EPA	Environmental Protection Agency
ESWTR	Enhanced Surface Water Treatment Rules
FAR	floor area ratio
FER	fault evaluation reports
FESA	Federal Endangered Species Act
FMMP	Farmland Mapping and Monitoring Program
Ft	foot
GHG	greenhouse gases
GLO	General Land Office
Gpm	gallons per minute
GWh	gigawatt hours
GWP	global warming potential
HFC	hydrofluorocarbons
IPCC	Intergovernmental Panel on Climate Change
ISMND	Initial Study Mitigated Negative Declaration
ISP	internet service provider
kVA	kilovolt-amps
kWh	kilowatt hour
Ldn	day-night average sound level
LRA	Local Responsibility Area
MBTA	Migratory Bird Treaty Act
MDD	maximum day demand
MLD	Most Likely Descendant
MMRP	Mitigation Monitoring and Reporting Program
MT	metric tons
NAAQS	national ambient air quality standards
NAGPRA	Native American Graves Protection and Repatriation Act
NAHC	Native American Heritage Commission
NCAB	North Coast Air Basin
NCUAQMD	North Coast Unified Air Quality Management District
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
NOx	nitrogen oxides
NO_2	nitrogen dioxide
NPDES	National Pollution Discharge Elimination System
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NSR	New Source Review

ACRONYMS AND ABBREVIATIONS (cont.)

NWI	National Wetland Inventory
NWIC	Northwest Information Center
O_3	ozone
OHP	Office of Historic Preservation
OMWC	Orleans Mutual Water Company
OSHA	Occupational Safety and Health Administration
PFC	perfluorocarbons
PG&E	Pacific Gas & Electric
PI	Plasticity Index
PM_{10}	coarse particulate matter
$PM_{2.5}$	fine particulate matter
PRC	Public Resources Code
PSD	Prevention of Significant Deterioration
RE 1-5	Residential Estates, 1-5 acre minimum
ROGs	reactive organic gases
RWQCB	Regional Water Quality Control Board
SAA	Streambed Alteration Agreement
SB	Senate Bill
Sf	square foot
SF_6	sulfur hexafluoride
SLF	Sacred Lands File
SMARA	State Surface Mining and Reclamation Act of 1975
SO_2	sulfur dioxide
SR	State Route
SRA	State Responsibility Area
SRF	State Revolving Fund
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC	Toxic Air Contaminant
TPZ	Timber Production Zone
U	Unclassified
USACE	United States Army Corps of Engineers
USCB	United States Census Bureau
USFWS	United States Fish and Wildlife Service
VFD	Variable Frequency Devices
VMT	Vehicles miles traveled
WTP	water treatment plant

INITIAL STUDY INFORMATION SHEET

1.	Project title:	Orleans Mutual Water Company Water Treatment System Upgrade Project
2.	Lead agency name and address:	State Water Resources Control Board 1001 I St, Sacramento, CA 95814
3.	Contact person and phone number:	Abbygayle Guevara, Environmental Scientist (916)319-0180
4.	Project location:	The project is located in the unincorporated community of Orleans in Humboldt County, CA, 95546.
5.	General plan designation:	Conservation Floodway (CF), Residential Estates, 1-5 acre minimum (RE1-5)
6.	Zoning:	Unclassified (U)

7. Description of project:

The Orleans Mutual Water Company Water Treatment System Upgrade Project (Project) is proposing to improve and replace an existing water distribution system that currently serves 34 residential connections in the unincorporated community of Orleans. The Project would demolish an existing in-line filtration plant and replace it with a new surface, direct-filtration water treatment plant (WTP). The Project would construct a new water treatment building with a backwash reclaim tank. A proposed generator and propane tank would be located adjacent to the water treatment building. The existing in-line filtration plant would be replaced due to age, deteriorating condition, outdated composition of the existing system, lack of system redundancy, and insufficient reserves to support fire response flows. The Project would also demolish an existing redwood raw water tank and replace it with a new bolted steel water storage tank.

8. Surrounding land uses and setting:

The Project site is located directly off Camp Creek Road in the unincorporated community of Orleans in Humboldt County. The Project site is located approximately 1.1 miles west of downtown Orleans, CA. The Project would be located on Assessor's Parcel Number (APN) 529-141-037, which is approximately 3.34-acres and owned by the Karuk Tribe. The proposed Project site would be located on the northern side of California State Route 96 (SR 96) and would be accessed via an existing path directly off Camp Creek Road. The Project site is bordered by Six Rivers National Forest, Crawford Creek, Camp Creek, Klamath River, SR 96, and single-family homes.

The Project site is generally flat, although there is a steep upwards slope to the north of the Project site. The elevation within the Project site ranges from 560 to 640-feet(ft) above mean sea level (amsl). Crawford Creek flows through a steeply walled ravine located west of the Project site. Two ponds,

totaling approximately 0.06-acre, are located in the Project area; however, they will not be impacted from the proposed Project.

1.0 INTRODUCTION

This Initial Study Mitigated Negative Declaration (ISMND) addresses the proposed upgrade to an existing water treatment system by the Project applicant, Orleans Mutual Water Company (OMWC). The property is located within the unincorporated area of Orleans in Humboldt County (County). The Initial Study has been prepared to satisfy the requirements of the California Environmental Quality Act (CEQA; Public Resources Code Section 21000 et seq.) and the CEQA Guidelines (14 California Code of Regulations [CCR] 15000 et seq.). CEQA requires that all State and local government agencies consider the environmental consequences of projects over which they have discretionary authority before they approve or implement those projects.

The Initial Study is a public document used by the decision-making Lead Agency to determine whether a project may have a significant effect on the environment. The Project is proposed by the OMWC and has applied for funding with the State Water Resources Control Board (SWRCB) under the State Revolving Fund (SRF) Program. In the case of the proposed Project, the SWRCB is the Lead Agency and will use the Initial Study to determine whether the proposed Project may have a significant effect on the environment.

This Initial Study relies on CEQA Guidelines Sections 15064 in its determination of the significance of the environmental impacts. Per Section 15064, the finding as to whether a project may have one or more significant impacts shall be based on substantial evidence in the record, and that controversy alone, without substantial evidence of a significant impact, does not trigger the need for an Environmental Impact Report (EIR).

2.0 PROJECT BACKGROUND

The OMWC owns and operates a surface water diversion off Crawford Creek, a redwood raw water storage tank, an in-line filtration plant, and a water distribution system, all within Humboldt County. The diversion from Crawford Creek is located on United States Forest Service (USFS) land and the redwood raw storage tank and water treatment plant are located on a parcel owned by the Karuk Tribe.

On November 15, 2013, the California Department of Public Health (now the SWRCB Division of Drinking Water, or DDW) issued a letter to OMWC noting that the State had adopted Environmental Protection Agency's (EPA) Enhanced Surface Water Treatment Rules (ESWTR). Under these new rules, in-line filtration is not an approved filtration technology and grandfathering in older in-line systems is no longer allowed. The DDW then required OMWC to either: (1) demonstrate that the existing filter system can comply with the new rules; (2) upgrade the filter system to direct filtration; or (3) replace the filter system with an approved filtration technology. On August 29, 2016, the DDW issued an inspection letter to OMWC noting several deficiencies that must be addressed, most notably for: (1) compliance with the ESWTR as described above; (2) implementation of operational measures or improvements to reduce filter loading rate during peak demands to three gallons per minute per square foot (gpm/sf) or less; and (3) inadequate disinfection.

Due to these operational deficiencies along with the advanced age, deteriorating condition, outdated composition, lack of system redundancy, and insufficient reserves to support fire response flows, a new water treatment system would be required to replace the existing system almost in its entirety. The proposed improvements to this Project would include a new surface, direct-filtration water treatment plant (WTP). The Project would construct a new water treatment building and would install a new backwash reclaim tank and a steel water storage tank. The goal of the proposed water treatment system is to reliably produce water with acceptable turbidity levels using SWRCB approved filtration and disinfection technologies. The goal of the new water storage tank is to provide water storage equal to the maximum daily demand (MDD) while providing system redundancy and calculated fire flow. The OMWC has applied for financial assistance for the Project, through the California SWRCB Drinking Water State Revolving Fund (DWSRF) and would include the planning and design for an upgraded surface, direct-filtration WTP to comply with current Federal and State requirements.

2.1. Water Rights

Water rights for the division off Crawford Creek were originally permitted in 1965 and held by the subdivision developer under Permit No. 14952. In 2015, the Karuk Tribe applied for and took ownership as the Primary Owner of the water right (effective 12/2/2015). The water right states that the amount of water diverted from the creek is limited to the amount beneficially used for the stated purposes and would not exceed:

> Eleven-hundredths (0.11) cubic foot per second, to be diverted from June 1 to October 31 of each year for irrigation and domestic purposes. So long as there is no interference with other water rights, junior, as well as senior, licensee may increase his rate of diversion to a maximum of 0.67 cubic foot per second; provided that the total quantity diverted in any 30-day period does not exceed seven acre-feet. The maximum amount diverted under this license shall not exceed 35 acre-feet per year.

Per the water right, the peak diversion rate is 0.11 cubic feet per second (cfs), or 49 gallons per minute (gpm), although the diversion rate may increase to as high as 0.67 cfs, or 300 gpm. According to water production records, and as noted in the letters from DDW, the peak diversion rate of 49 gpm has been exceeded several times in the past 10 years. Additionally, the maximum diversion of 35 acre-feet per year (11.4 million gallons per year) was exceeded in 2010, 2014, 2015 and 2017.

3.0 PROJECT SETTING

3.1. Project Location

The Project site is located directly off Camp Creek Road in the unincorporated community of Orleans in Humboldt County (County). The Project site is located approximately 1.1-miles west of downtown Orleans, CA. The Project would be located on Assessor's Parcel Number (APN) 529-141-037, which is approximately 3.34-acres and owned by the Karuk Tribe. The proposed Project site would be located on the northern side of California State Route 96 (SR 96) and would be accessed via an existing path directly off Camp Creek Road. The Project site is bordered by Six Rivers National Forest, Crawford Creek, Camp Creek, Klamath River, SR 96, Marble Mountain Wilderness Area, and single-family homes. Neighboring land uses are summarized in Table 1. The Project site is located within the U.S. Geological Survey 7.5-minute *Orleans*, CA topographic quadrangle Township 11 North, Range 5 East, Section 36. Refer to Figure 1 for a vicinity graphic of the Project site and Figure 2 for an aerial map of the Project site depicting existing infrastructure/proposed improvements. (Note: all Figures are located in Appendix A).

Table 1
NEIGHBORING LAND USES

DIRECTION	LAND USE
North	Six Rivers National Forest, densely wooded land
East	Single-family homes, Camp Creek, wooded land
South	Single-family homes, SR 96, Klamath River, wooded land
West	Crawford Creek, Six Rivers National Forest, densely wooded land

3.2. Environmental Setting

The Project site is generally flat, although there is a steep upwards slope to the north of the site. The elevation within the Project site ranges from 560 to 640 feet (ft) above mean sea level (amsl). Crawford Creek flows through a steeply walled ravine located west of the Project site. Two ponds, totaling 0.06-acre, are located in the Project area; however, they will not be impacted by the proposed Project. The ponds are remnant tailing ponds from historic hydraulic mining and are likely not hydrologically connected to the surrounding area. A drainage ditch containing seepage from the ponds is located approximately 40-ft east of the proposed steel water tank location. This ditch is also the result of historic hydrologic mining in the area and is not a natural feature. The ditch would not be impacted by the proposed Project.

The General Plan land use designations for the project are Conservation Floodway (CF), and Residential Estates, 1-5 acre minimum (RE1-5). The zoning code for the property is Unclassified (U) (Humboldt County 2017). Land uses surrounding the Project site include U.S. Forest Service Land and residential land.

4.0 PROJECT DESCRIPTION

The Project is proposing to improve and replace an existing water distribution system that currently serves 34 residential connections in the unincorporated area of Orleans. The Project would demolish an existing in-line filtration plant and replace it with a new surface, direct-filtration WTP. The Project would construct a new water treatment building with a backwash reclaim tank. A proposed generator and propane tank would be located adjacent to the water treatment building. The existing in-line filtration plant would be replaced due to age, deteriorating condition, outdated composition of the existing system, lack of system redundancy, and insufficient reserves to support fire response flows. The Project would also demolish an existing redwood raw water tank and replace it with a new bolted steel water storage tank. Implementation of the proposed Project would increase water storage capacity and/or operational capability of the overall system. The proposed improvements have been sized to provide for system redundancy and calculated fire flows without additional residential service connections that are non-growth inducing. All components of the Project are described in more detail below. Refer to Figure 3 for a Site Plan of the proposed Project.

4.1. Water Treatment Building

A new 468-square foot (sf) concrete masonry unit (CMU) block building would be constructed to house the booster pumps and raw meter pumps, coagulant pump, sodium hypochlorite pump, backwash reclaim pump, pressure tank, controls, and analyzers for the treatment system, which was mutually agreed upon by the Karuk Tribe and OMWC. The interior of the building would be separated into a treatment room and a chemical room. Two pressure filter tanks and an emergency eyewash and shower would be directly connected to the exterior of the water treatment building. Additionally, a proposed generator and propane tank would be located adjacent to the new water treatment building.

An emergency raw water bypass connection would be provided near the new water treatment building to allow the WTP to be bypassed in the event of an emergency. This connection would consist of a buried 6-inch gate valve on the raw water pipeline and two buried 6-inch gate valves on the potable water pipeline, with a removable section of exposed piping between the valves.

The new treatment system would comply with the EPA's Enhanced Surface Water Treatment Rules for treatment system design and operation and would include the following processes: coagulation, flocculation, pressure filtration, and disinfection (chlorination) as described below.

Coagulation

Two 5-gallon samples of the Crawford Creek source water were collected on November 7, 2020, by OMWC and sent to DDW for jar testing (Waterworks Engineers 2021). Jar tests were performed with each coagulant at different dosages, flash mixing times and flocculation times. Based on the results of the jar tests, both coagulants performed equally well, resulting in filtered turbidity down to 0.08 and ultraviolet absorption reduction as high as 62.5-percent.

The coagulation storage and feed system would be similar to the existing system and would include a metering pump drawing from a small batch tank that contains the coagulant. The coagulant would be stored in a 15-gallon container in the water treatment building to allow the coagulant and water to be routinely added for the correct dilution, if required. The metering pump would be mounted on or

adjacent to the tank and would be automatically controlled to flow paced directly from the plant's effluent flowmeter. An on-the-shelf metering pump would be provided for redundancy.

Flocculation

In-pipe flocculation allows the coagulated particles to come into contact with one another to form larger particles, or "floc," without any equipment with moving parts or controls. For this Project, a 6-inch pipeline flocculator would be installed 115-ft upstream of the water treatment building.

Pressure Filtration

Filtration would be accomplished with three new 3.5-ft diameter vertical multimedia pressure filters operated in parallel to replace the two existing 3-ft diameter filters. Each filter would have a surface area of 9.6-sf. The filters would be installed in the new water treatment building to protect against freezing and vandalism.

Disinfection (chlorination)

Disinfection would be accomplished by injecting sodium hypochlorite into the water following filtration and prior to booster pumping which would effectively mix the chemical with the filtered water. Chlorinated water would be conveyed by the booster pump to the new storage tank via a new 330-ft long PVC pipeline which would provide approximately 1 minute of effective contact time. The sodium hypochlorite storage and feed system would include a 15-gallon tank and solenoid operated diaphragm metering pump. The tank would be sealed and vented to the outside of the new water treatment building to minimize issues with off gassing of chlorine which would result in corrosion inside the building.

4.2. Backwash Reclaim Tank

Backwash waste flows from the filters would be conveyed to a new bolted steel backwash reclaim tank adjacent to the new water treatment building. The backwash reclaim tank would have a 14,312-gallon nominal capacity and 10,750-gallon usable capacity. Solids would settle to the bottom of the tank and, after a preset settling time, the clear water at the top of the tank would be pumped to the treatment system within the water treatment building. A floating suction strainer and flexible hose in the backwash tank would be used to draw water off the top of the water column and conveyed via a backwash recycle pump (located in the treatment building) back to the treatment process. The bottom 3-ft of the tank would be reserved for solids accumulation. A valve at the bottom of the tank would allow the tank to be periodically drained into a small catch basin with an air gap, from which a septic hauler can remove the solids and haul them away for disposal. Sample taps on the side of the tank would allow the operator to gauge the depth of solids in the tank and determine when solids removal is necessary. An on-the-shelf pump would be provided for redundancy.

4.3. Water Storage Tank

As mentioned above, the Project would demolish an existing redwood raw water tank and replace it with a new bolted steel water storage tank. The goal of the new storage system is to provide water storage equal to the MDD flow plus fire storage volume. With an MDD of 70,300 gallons and a fire storage volume of 60,000 gallons, the total proposed capacity of the new storage tank would be 130,300

gallons. The MDD storage would be reasonable as the OMWC reported maximum daily rates of 60,000-gallons in 2007 through 2012, and no significant increase in housing units has since occurred.

The tank would be supported by a reinforced concrete ring wall foundation and constructed in the same vicinity as the existing redwood water storage tank. The maximum operating water level in the tank would be similar to that of the existing redwood tank and would be able to serve the community water via gravity. The tank would have a top manway with an interior ladder for access and inspection. An exterior ladder would be provided with anti-climb features to prevent unauthorized access to the top of the tank. A side manway would be provided for access for maintenance.

4.4. Booster Pumping

Chlorinated water would be pumped to the new water storage tank via two new 1 horsepower (HP) booster pumps. The pumps would be controlled by Variable Frequency Devices (VFD) that would allow the speed to be adjusted to set the desired pumping rate. The pumps would be manually rotated at regular intervals to exercise the pumps and result in even runtimes on each pump. The booster pumps would be located within the water treatment building.

4.5. Instrumentation and Controls

An XIO web-based control system is recommended to monitor, control, and log the operation of the new water treatment system and provide remote access to the facility for monitoring purposes. The control system would have the ability to shut the treatment process down when raw water turbidity is high, to allow the system to use stored water, and to “ride out the storm” in order minimize the solids loading the filters and ensure turbidity requirements are met. Alarms would be sent out via the control system (by text, telephone, email, or a combination thereof).

4.6. Ancillary Systems

HVAC

A small electric heater would be installed in the water treatment building to keep the interior temperature above freezing. A small exhaust fan would be provided adjacent to the sodium hypochlorite system to vent any chlorine gases to the outside to prevent interior corrosion.

Communications

An internet connection would be provided at the new water treatment building for monitoring the new treatment equipment. It is anticipated that a local internet service provider (ISP) is available and capable of providing this service to the site.

Electrical Service

A new underground electrical service from Pacific Gas and Electric (PG&E) would be provided to the site, via the existing path off Camp Creek Road. A new pole or pad mount transformer would be provided to support the new water treatment system.

Generator and Propane Tank

A generator and propane tank would be located adjacent to the new water treatment building and backwash reclaim tank. The generator would run approximately five minutes per week for testing and maintenance purposes.

4.7. Fire Hydrant, Subsurface Piping, and Fencing

A new fire hydrant would be installed at the entrance of the existing path, directly off Camp Creek Road, which would lead to the proposed water treatment building.

Existing subsurface piping would be demolished and/or abandoned. New subsurface piping would tie into the existing distribution system piping located throughout the parcel in order to serve the new water treatment system.

The new 468-sf water treatment building, backwash reclaim tank, generator and propane tank would be protected by a 6-ft tall chain link fence with barbed wire. A 12-ft wide chain link double leaf gate would be installed to allow limited personnel access to the water treatment building and backwash reclaim tank.

4.8. Access Roads

The existing, unimproved dirt road leading to the water treatment building would be widened to create a 12-ft wide road with a 14-ft wide unobstructed clearance (2-ft on each side of the driveway). The path leading to the water treatment building would begin on the edge of Camp Creek Road (a paved roadway). Additionally, the Project would recontour the existing unimproved dirt road from the new water treatment building to the new water storage tank site after installation of all buried utilities.

4.9. Construction Phasing

The existing in-line filtration plant would remain online and operational until the new surface, direct-filtration WTP is completed and fully tested. At that time, the redwood water storage tank would be demolished, and the new water storage tank constructed in its place. The new booster pumps would provide filtered, chlorinated water directly to the distribution system (similar to operation of the existing system). From the time the redwood tank is demolished to the time the new storage tank is brought online is estimated to be between 1 and 2 months. During this time, bottled water may be brought in for customers for potable purposes.

5.0 ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The Project could potentially result in one or more of the following significant environmental effects; however, proposed mitigation measures will reduce effects to less than significant:

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

6.0 DETERMINATION

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 I) 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

For

7.0 ENVIRONMENTAL INITIAL STUDY CHECKLIST

The lead agency has defined the column headings in the environmental checklist as follows:

A. "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.

B. "Less Than Significant with Mitigation Incorporated" applies where the inclusion of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." All mitigation measures are described, including a brief explanation of how the measures reduce the effect to a less than significant level. Mitigation measures from earlier analyses may be cross-referenced.

C. "Less Than Significant Impact" applies where the project does not create an impact that exceeds a stated significance threshold.

D. "No Impact" applies where a project does not create an impact in that category. "No Impact" answers do not require an explanation if they are adequately supported by the information sources cited by the lead agency which 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 would not expose sensitive receptors to pollutants, based on a project specific screening analysis).

The explanation of each issue identifies the significance criteria or threshold used to evaluate each question; and the mitigation measure identified, if any, to reduce the impact to less than significance. 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 [CEQA Guidelines Section 15063(c)(3)(D)]. Where appropriate, the discussion identifies the following:

a) Earlier Analyses Used. Identifies where earlier analyses are available for review.

b) Impacts Adequately Addressed. Identifies which effects from the checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and states 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 Incorporated," describes 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.

I. AESTHETICS

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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)	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?	☐	☐	☒	☐

Environmental Setting

Humboldt County is an area of diverse visual character, including timberland, range, mountains, rolling hills, and streams. The Project site is located in the unincorporated community of Orleans. The Project is located to the north of Klamath River, to the east of Crawford Creek, and to the west of Camp Creek. The Project site would be located along Camp Creek Road and would be accessed by SR 96. According to the California Department of Transportation (Caltrans), SR 96 is considered an eligible State Scenic Highway (Caltrans 2022). However, no officially designated State Scenic or County Scenic highways in Humboldt County exist near the Project site. Views along both sides of SR 96 include heavily forested hillsides, along with grass and brush closer to the highway.

Evaluation

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

Less than significant impact. A scenic vista is defined as a viewpoint that provides expansive views of a highly valued landscape (such as an area with remarkable scenery or a resource that is indigenous to the area) for the benefit of the general public. There are no officially designated scenic vistas in the Project area, and the Project site would not be visible from SR 96 due to heavily forested vegetation. As mentioned above, SR 96 is considered an eligible State Scenic Highway, although it is not officially designated. Given the lack of officially designated scenic vistas, and the lack of visibility of the Project from SR 96, impacts would be less than significant.

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

Less than significant impact. Though there are no currently designated scenic highways in the Project area, SR 96 is considered eligible, as described above. The proposed Project would not damage rock outcroppings, historic buildings, or other scenic resources in the Project area. However, some brush removal may be required along access roads and work areas to ensure access and safe working conditions. Such work would be isolated in nature and not visible from SR 96 given the topography of the area and the obscuring vegetation that generally exists along both highways. Therefore, any potential impacts would be less than significant.

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

Less than significant impact. Sensitive viewer groups typically include residents, recreationists, and motorists. The Project site is heavily forested; however, the proposed areas for development are cleared with minimal trees and vegetation from previous disturbance. The new water treatment building and backwash reclaim tank would be located on a relatively flat area that has been previously disturbed by past mining activities. The new water treatment building would be located southwest of the existing in-line filtration plant. The new storage tank would be located within the same vicinity as the existing redwood storage tank, which is within a previously excavated area for water storage tanks.

The existing, unimproved dirt road leading to the water treatment building would be widened to create a 12-ft wide road with a 14-ft wide unobstructed clearance (2-ft on each side of the driveway). The path leading to the water treatment building would begin on the edge of Camp Creek Road (a paved roadway). Additionally, the Project would recontour the existing unimproved dirt road from the new water treatment building to the new water storage tank site after installation of all buried utilities. Construction and operation of the proposed Project would be mainly obscured from public view by the topography and dense vegetation of the area. Therefore, any impacts would be less than significant.

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

Less than significant impact. The Project would demolish an existing in-line filtration plant and replace it with a new surface, direct-filtration WTP. The Project would construct a new water treatment building with a backwash reclaim tank. The Project would also demolish an existing redwood raw water tank and replace it with a new bolted steel water storage tank. Additionally, a new fire hydrant would be installed at the entrance of the path leading to the proposed water treatment building, directly off Camp Creek Road. Existing subsurface piping would be demolished and/or abandoned. New subsurface piping would tie into the existing distribution system piping located throughout the parcel in order to serve the new water treatment system. Lighting requirements are expected to remain remotely the same as the Project is upgrading an existing water distribution system. However, new exterior lighting would be located on the new water treatment building. The use of such lighting would be minimized to the extent possible and only the minimum lighting needed to provide security and occasional nighttime maintenance and service would be used. All lighting would be shielded and downward facing to reduce glare and light pollution to the extent practicable. Therefore, any impacts would be less than significant.

II. AGRICULTURE AND FORESTRY RESOURCES

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☐	☐	☒	☐

Environmental Setting

The Farmland Mapping and Monitoring Program (FMMP) of the California Department of Conservation (CDC) has not yet mapped farmland in Humboldt County (CDC 2022a). Accordingly, Humboldt County does not display data for the California Important Farmland Finder (CDC 2022b). However, it is noted on the Humboldt County Web GIS that the Project parcel is not located on Farmland of Statewide Importance or Prime Farmland if irrigated.

As a means of agricultural land preservation, the State Legislature enacted the California Land Conservation Act of 1965 commonly called the "Williamson Act." Under the Act, property owners may enter into contracts with their county to keep their lands in agricultural production for a minimum of 10 years in exchange for property tax relief. Lands covered by Williamson Act contracts are assessed based on their agricultural value instead of their potential market value under non-agricultural uses and are known as "Agricultural Preserves." According to Humboldt County Web GIS mapping there are no portions of the Project area that are under Williamson Act contract.

The Z'berg-Warren-Keene-Collier Forest Taxation Reform Action 1979 requires counties to provide for the zoning of land used for growing and harvesting timber as timberland preserve. No portion of the Project site is zoned Timber Production Zone, and no timber activities are currently taking place at the

site. Land uses surrounding the Project area are mainly residential and public land used for timber extraction, primarily the Six Rivers National Forest.

Evaluation

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?

Less than significant impact. As previously mentioned, Humboldt County is not included in the FMMP. However, based on the Humboldt County Web GIS, the parcel is not located on Farmland of Statewide Importance or Prime Farmland. Additionally, based on the Humboldt County Web GIS, the Project parcel is not under the Williamson Act Contract. As the Project would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to a non-agricultural use, impacts would be less than significant.

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

No impact. As stated above, no portions of the Project site are under a Williamson Act contract. The Project is zoned Unclassified (U) and would not conflict with any authorized use or current land use. Therefore, there would be no impact.

c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?

Less than significant impact. The Project parcel is not zoned as Timber Production Zone (TPZ). No aspect of the proposed Project would interfere with the required characteristics of TPZ nor with the ability to grow trees now or in the future. All proposed construction would occur within the existing water treatment plant footprint or within previously disturbed land and would not require any tree removal. The proposed Project does not require a rezone, and any impact would be less than significant.

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

No impact. No portion of the Project site is zoned TPZ, and no removal of trees is proposed. The new water treatment building would be located on a relatively flat area, southwest of the existing in-line filtration plant, which has been heavily disturbed by past mining activities. The new steel water storage tank would take the place of the existing redwood storage tank, which is within a previously excavated area for future tanks. Therefore, 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?

Less than significant impact. Improvements related to the proposed Project would take place within or adjacent to the existing footprint of disturbance or within previously disturbed areas. The new water treatment building would be located on a relatively flat area, southwest of the existing in-line filtration plant, which has been heavily disturbed by past mining activities. The new steel storage tank would take the place of the existing redwood storage tank, which is within a previously excavated area for future

tanks. The improvements would not conflict with any existing, planned, or ongoing agriculture, timber growing, or harvesting. Based on the Humboldt County Web GIS, the parcel is not located on Farmland of Statewide Importance or Prime Farmland. Therefore, the Project would not lead to the conversion of farmland to non-agricultural use or forest land to non-forest use in the surrounding Project area. Any impact would be less than significant.

III. AIR QUALITY

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon 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?	☐	☐	☒	☐

The California Emissions Estimator Model (CalEEMod) version 2022.1.0 was used to quantify Project-generated construction and operations emissions. The model output sheets are included in Appendix B to this Initial Study.

Environmental Setting

Criteria pollutants are defined and regulated by State and federal law as a risk to the health and welfare of the public and are categorized into primary and secondary pollutants. Primary air pollutants are those that are emitted directly from sources including: carbon monoxide (CO); reactive organic gases (ROGs); nitrogen oxides (NO_X); sulfur dioxide (SO_2); coarse particulate matter (PM_{10}); fine particulate matter ($PM_{2.5}$); and lead. Of these primary pollutants, CO, SO_2, PM_{10}, $PM_{2.5}$, and lead are criteria pollutants. ROGs and NO_X are criteria pollutant precursors and go on to form secondary criteria pollutants through chemical and photochemical reactions in the atmosphere. The principal secondary criteria pollutants are ozone (O_3) and nitrogen dioxide (NO_2).

Ambient air quality is described in terms of compliance with State and national standards, and the levels of air pollutant concentrations considered safe, to protect the public health and welfare. These standards are designed to protect people most sensitive to respiratory distress, such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and persons engaged in strenuous work or exercise. The USEPA has established national ambient air quality standards (NAAQS) for criteria pollutants. As permitted by the Clean Air Act, California has adopted the more stringent California ambient air quality standards (CAAQS) and expanded the number of regulated air pollutant constituents.

The Project site is in Humboldt County, which lies within the North Coast Air Basin (NCAB). The NCAB extends for 250 miles from Sonoma County in the south to the Oregon border. The climate of NCAB is

influenced by two major topographic units: the Klamath Mountains and the Coast Range provinces. The climate is moderate with the predominant weather factor being moist air masses from the ocean. Average annual rainfall in the area is approximately 50 to 60 inches with the majority falling between October and April. The predominant wind direction is from the northwest during summer months and from the southwest during winter storm events.

Project activities which result in air pollutant emissions are subject to the authority of the North Coast Unified Air Quality Management District (NCUAQMD) and the California Air Resources Board (CARB). Humboldt County is listed as "attainment" or "unclassified" for all the federal and State ambient air quality standards except for the State 24-hour PM_{10} standard.

In determining whether a project has potentially significant air quality impact on the environment, agencies often apply their local air district's thresholds of significance to project impacts in the review process. The NCUAQMD has not formally adopted thresholds for determining the significance of a project's emissions under CEQA. The Best Available Control Technology (BACT) emissions rate limits for stationary sources as defined and listed in the NCUAQMD Rule and Regulations, Rule 110 – New Source Review (NSR) and Prevention of Significant Deterioration (PSD), Section 5.1 – BACT (pages 8-9)[1], are informative as screening level thresholds. Project construction or operational emissions which do not exceed the NCUAQMD Rule 110 BACT maximum daily emissions limits, shown in Table 2, would not be expected to result in a new exceedance of air quality standards, or exacerbate an existing exceedance of air quality standards.

Table 2
SCREENING LEVEL THRESHOLDS FOR PROJECT EMISSIONS

Pollutant	Screening Threshold (pounds per day)
NO_X	50
ROG	50
PM_{10}	80
$PM_{2.5}$	50
CO	500
SO_X	80

Source: NCUAQMD Rule 110
NO_X = nitrogen oxides; ROG = reactive organic gases; PM_{10} = particulate matter 10 microns or less in diameter; $PM_{2.5}$ = particulate matter 2.5 microns or less in diameter; CO = carbon monoxide; SO_X = sulfur oxides

The nearest sensitive receptors to the proposed generator would be single-family residences approximately 350-ft to the southeast. The nearest sensitive receptors to the proposed new water storage tank would be single-family residences approximately 500-ft to the southeast.

[1] North Coast Unified Air Quality Management District. 2021. District Rules and Regulations. Available at: http://www.ncuaqmd.org/index.php?page=rules.regulations. Accessed 2/17/21.

Evaluation

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

Less than significant impact. A potentially significant impact to air quality would occur if the Project would conflict with or obstruct the implementation of the applicable air quality management or attainment plan.

The California Clean Air Act (CCAA) requires the NCUAQMD to achieve and maintain State ambient air quality standards for PM_{10} by the earliest practicable date. The NCUAQMD prepared the Particulate Matter Attainment Plan, Draft Report, in May 1995. This report includes a description of the planning area (North Coast Unified Air District), an emissions inventory, general attainment goals, and a listing of cost-effective control strategies. The NCUAQMD's attainment plan established goals to reduce PM_{10} emissions and eliminate the number of days in which standards are exceeded. The plan includes three areas of recommended control strategies to meet these goals: (1) transportation, (2) land use, and (3) burning. Control measures for these areas are included in the Attainment Plan. The Project design incorporates control measures identified in the PM_{10} Attainment Plan appropriate to this type of Project, such as:

1) The Project would be located on a site with an existing in-line filtration plant and water distribution system. As the Project would consist of updating existing infrastructure and maintaining current employment levels and hours, vehicle miles traveled are not anticipated to increase.

2) The Project would apply water in construction areas to control dust. Paved and gravel access roads would control dust.

3) The Project involves upgrading an existing water distribution system. The intensity of use, built footprint, and amount of water delivered would not change significantly from existing conditions. Land use would not change, and no other uses of the land would be impaired. Particulate emissions from the proposed Project would be appropriate for its General Plan Designations.

4) The proposed Project's operation does not include any burning and would not employ wood stoves for heat or burn piles to dispose of biomass.

Therefore, the proposed Project would not conflict with or obstruct implementation of the NCUAQMD Attainment Plan for PM_{10}, and the impact would be less than significant.

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?

Less than significant impact. Air quality standards within the NCUAQMD are set for emissions that may include, but are not limited to visible emissions, particulate matter, and fugitive dust. Pursuant to Air Quality Regulation 1, Chapter IV, Rule 400 – *General Limitations*, a person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance or annoyance to any considerable number of persons or to the public, endanger the comfort, repose, health or safety of any such persons or the public, or have a natural tendency to cause injury or damage to business or property. Visible emissions include emissions that are visible to the naked eye,

such as smoke from a fire. The proposed Project involves upgrading an existing water distribution system. No activities resulting in visible emissions, including intentional fire/burn, would be associated with the Project.

The CalEEMod version 2022.1.0 was used to quantify Project-generated construction and operations emissions. The model output sheets are included in Appendix B.

Construction

The proposed Project would demolish an existing in-line filtration plant and replace it with a new surface, direct-filtration WTP. The Project would construct a new water treatment building with a backwash reclaim tank and would construct a new steel water storage tank. Project construction emissions sources would include exhaust emissions from off-road equipment use, emissions related to on-road vehicles (e.g., construction worker vehicles, vendor delivery vehicles, and material haul trucks). Emissions from construction equipment would occur for a limited period, and the equipment would be maintained to meet current emissions standards as required by CARB and the NCUAQMD. Construction would include approximately 2 weeks of site preparation, approximately 2 weeks of demolition, approximately 2 weeks of grading, approximately 3 weeks of underground infrastructure and utilities, and approximately 6 months of physical building construction. The full buildout of the proposed Project would be completed in less than one year.

The Project has the potential to generate particulate matter (dust) during construction activities. All activities at the Project site are required to meet NCUAQMD Air Quality standards, including Regulation 1, which prohibits nuisance dust generation and is enforceable by the District.

The Project has the potential to generate particulate matter (dust) during construction activities. All activities at the Project site are required to meet NCUAQMD Air Quality standards, including Regulation 1, which prohibits nuisance dust generation and is enforceable by the NCUAQMD.[2] Rule 104 states that:

1. No person shall allow handling, transporting, or open storage of materials in such a manner which allows or may allow unnecessary amounts of particulate matter to become airborne

2. Reasonable precautions shall be taken to prevent particulate matter from becoming airborne, including, but not limited to, the following provisions:

    a. Covering open bodied trucks when used for transporting materials likely to give rise to airborne dust.

    b. Installation and use of hoods, fans, and fabric filters to enclose and vent the handling of dusty materials. Containment methods can be employed during sandblasting and other similar operations.

    c. Conduct agricultural practices in such a manner as to minimize the creation of airborne dust.

[2] North Coast Unified Air Quality Management District. 2015. 2015. General Provisions, Permits & Prohibitions. Adopted July 9, 2015.

d. The use of water or chemicals for control of dust in the demolition of existing buildings or structures, construction operations, the grading of roads or the clearing of land.

e. The application of asphalt, oil, water or suitable chemicals on dirt roads, materials stockpiles, and other surfaces which can give rise to airborne dusts.

f. The paving of roadways and their maintenance in a clean condition.

g. The prompt removal of earth or other track out material from paved streets onto which earth or other material has been transported by trucking or earth-moving equipment, erosion by water, or other means.

The Project would comply with NCUAQMD regulations, minimizing fugitive dust emissions.

The Project's estimated construction emissions of criteria pollutants are shown below in Table 3. As shown in Table 3, Project construction emissions would not exceed the NCUAQMD screening level thresholds.

Table 3
CONSTRUCTION CRITERIA POLLUTANT EMISSIONS (POUNDS PER DAY)

	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Maximum Daily Emissions	0.65	5.13	6.77	0.01	1.85	0.32
Screening Threshold	50	50	500	80	80	50
Exceed Threshold?	*No*	*No*	*No*	*No*	*No*	*No*

Source: CalEEMod Output (Appendix B); Thresholds: NCUAQMD Rule 110.
ROG = reactive organic gases; NO_X = nitrogen oxides; CO = carbon monoxide; SO_X = sulfur oxides; PM_{10} = particulate matter 10 microns or less in diameter; $PM_{2.5}$ = particulate matter 2.5 microns or less in diameter.

Operation

The current level of employment, trips, hours, and equipment use (i.e., those under existing conditions) would be maintained with existing conditions as the proposed Project would upgrade the existing water treatment system. The operation of the Project would include a new stationary source of emissions: a proposed backup generator located adjacent to the water treatment plant. Specific details of the generator were not available at the time of this analysis. A conservative (high) estimate of generator size would be an electrical rating in the 100 kilovolt-amps (kVA) to 150 kVA range with a 250-horsepower engine. The generator could be diesel powered or propane powered. A diesel-powered generator was assumed because diesel generators generally have higher emissions than similar sized propane generators. The generator would only operate for about 5 minutes per week for testing and maintenance purposes. As shown in Table 4, Project operational emissions would not exceed the screening level thresholds.

Table 4
OPERATION CRITERIA POLLUTANT EMISSIONS (POUNDS PER DAY)

	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Maximum Daily Emissions	0.08	0.11	0.10	<0.01	0.01	0.01
Screening Threshold	50	50	500	80	80	50
Exceed Threshold?	*No*	*No*	*No*	*No*	*No*	*No*

Source: CalEEMod Output (Appendix B); Thresholds: NCUAQMD Rule 110.

ROG = reactive organic gases; NO_X = nitrogen oxides; CO = carbon monoxide; SO_X = sulfur oxides; PM_{10} = particulate matter 10 microns or less in diameter; $PM_{2.5}$ = particulate matter 2.5 microns or less in diameter.

Therefore, the Project would not violate any air quality standard or contribute substantially to an existing or projected air quality violation. Additionally, the Project would not 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. Impacts would be less than significant, and no mitigation would be necessary.

c) Expose sensitive receptors to substantial pollutant concentrations?

Less than significant impact. Sensitive receptors (e.g., children, senior citizens, and acutely or chronically ill people) are more susceptible to the effect of air pollution than the general population. Land uses that are considered sensitive receptors typically include residences, schools, parks, childcare centers, hospitals, convalescent homes, and retirement homes. The closest sensitive receptors to the proposed generator are single-family residences located approximately 350-ft southeast.

The NCUAQMD currently enforces dust emissions according to the CA Health and Safety Code (Section 41701) which limits visible dust emissions that exceed 40 percent density to a maximum of three minutes in any one-hour period. NCUAQMD District Rule 104 states that "*reasonable precautions shall be taken to prevent particulate matter from becoming airborne*." As described in the impact b) discussion, above, the Project would incorporate fugitive best management practices in accordance with NCAUQMD Rule 110. Due to the limited activity that would occur, the rapid dissipation of the dust, and the distance to and low density of residences near the Project site, Project construction or operation would not result in substantial localized fugitive dust concentrations.

Diesel-powered construction equipment used on the Project site would result in emissions of the Toxic Air Contaminant (TAC) diesel particulate matter (DPM). The dose (of TAC) to which receptors are exposed is the primary factor used to determine health risk. Dose is a function of the concentration of a substance in the environment and the duration of exposure a person has with the substance; a longer exposure period to a fixed quantity of emissions would result in higher health risks. Construction equipment used for the proposed Project, excluding the steel water tank and WTP construction, would include: An excavator, a front loader, and a dump truck. The three pieces of construction equipment would only be used for 9 weeks, and the entire buildout of the Project would take less than one year. Due to the short and temporary nature of Project construction activity which would require heavy diesel-powered contract equipment use, and due to the limited number of diesel-power equipment anticipated to be use on the Project site, construction of the Project would not expose sensitive receptors to substantial DPM concentrations.

For operations, the Project proposes to install a backup generator that would only operate for about five minutes per week for testing and maintenance purposes. If the generator were to be diesel powered (as conservatively assumed in the modeling), the generator would be a source of DPM emissions. Based on the CalEEMod results (included in Appendix B) the generator would produce less than 1 pound per year of exhaust PM_{10} (exhaust PM_{10} is equivalent to DPM). Therefore, based on the small amount of DPM emissions and the limited generator operating hours, the operation of the Project would not expose sensitive receptors to substantial DPM concentrations.

Therefore, the construction or operation of the Project would not expose sensitive receptors to substantial pollutant concentrations. Impacts would be less than significant, and no mitigation would be necessary.

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

Less than significant impact. Odors during the construction phase would consist primarily of diesel truck fumes; however, these impacts would be temporary and less than significant. New sources of odors from operations would be limited to diesel fumes from the backup generator and would be limited to short periods of maintenance and testing. The nearest sensitive receptors to the backup generator are single-family residences located approximately 350-ft southeast. Therefore, the proposed Project would not result in other emissions (such as those leading to odors) affecting a substantial number of people. Impacts would be less than significant, and no mitigation would be necessary.

IV. BIOLOGICAL RESOURCES

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:					
a)	Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b)	Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or US 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?	☐	☐	☒	☐

A Biological Resources Evaluation was prepared for this Project by HELIX Environmental Planning, Inc. (HELIX 2021) and is included as Appendix C to this Initial Study. The discussion of biological resources in this section is based on the results of that evaluation.

Environmental Setting

Reconnaissance Survey

A biological reconnaissance survey was conducted on June 1, 2022, by HELIX Biologist Stephanie McLaughlin, M.S. between 1000 and 1330 hours. The Study Area was systematically surveyed on foot to ensure total search coverage. The Study Area is defined as the entire 3.34-acre parcel. All plant and animal species observed on-site during the surveys were recorded (Attachment E in Appendix C), and all biological communities occurring on-site were characterized. Following the field survey, the potential for each species identified in the database query to occur within the Study Area was determined based on

the site survey, soils, habitats present within the Study Area, and species-specific information (Attachment D in Appendix C).

Habitat Types/Vegetation Communities

There are four habitat types/vegetation communities on the site: developed, ruderal/disturbed, Douglas fir-tanoak forest, and pond.

Developed

Developed habitat covers 2.13-acres of the Study Area and includes existing facilities and access roads as well as the shoulders of Placer Drive. These areas are disturbed and are dominated by a mix of native and non-native species, with ornamental species frequently planted in the residential area. Species observed in this community include California poppy (*Eschscholzia californica*), English ivy (*Hedera helix*), cape dandelion (*Arctotheca calendula*), and greenleaf manzanita (*Arctostaphylos patula*).

Ruderal/Disturbed

Ruderal/disturbed habitat covers 0.98-acre of the Study Area and occurs along the dirt access road. This habitat type occurs in areas that are heavily disturbed by past or ongoing human activities but retain a soil substrate. Ruderal/disturbed areas may be sparsely to densely vegetated, but do not support a recognizable community or species assemblage. Vegetative cover is usually herbaceous and dominated by a wide variety of weedy non-native species or a few ruderal native species. Dominant shrubs species within this community include poison oak (*Toxicodendron diversilobum*), Himalayan blackberry (*Rubus armeniacus*), French broom (*Genista monspessulana*), and greenleaf manzanita. Herbaceous species consist of flat pea (*Lathyrus sylvestris*), medusahead grass (*Elymus caput-medusae*), wild oats (*Avena fatua*), and ripgut brome (*Bromus diandrus*).

Douglas Fir-Tanoak Forest

Douglas fir – tanoak forest habitat is found in the vicinity of the redwood water storage tank and covers 0.17-acre of the Study Area. This habitat is a tall intermittent to continuous, mixed needle-leaved evergreen forest in stands dominated by Douglas fir (*Pseudotsuga menziesii*) and tanoak (*Notholithocarpus densiflorus*), and interspersed with Pacific madrone (*Arbutus menziesii*), bigleaf maple (*Acer macrophyllum*), and black oak (*Quercus kelloggii*). This habitat type is frequently found on stream terraces, slopes, and ridges of all aspects. The understory ranges from sparse with dense leaf litter and small woody debris, to an intermittent shrub and herbaceous layer, which includes California huckleberry (*Vaccinium ovatum*), Etruscan honeysuckle (*Lonicera etrusca*), western sword fem (*Polystichum munitum*), and remote sedge (*Carex remota*). Due to the age of the redwood water storage tank, there is some seepage from the tank onto the soil surface, creating a moist environment without producing any aquatic features.

Ponds

Two ponds, totaling 0.06-acre, are located in the Study Area. The ponds are remnant tailing ponds from historic hydraulic mining and are likely not hydrologically connected to the surrounding area. Vegetation surrounding the ponds include white alder (*Alnus rhombifolia*), red willow (*Salix laevigata*), and Himalayan blackberry.

Special Status Species Evaluation

For the purposes of this report, special-status species are those that fall into one or more of the following categories, including those:

- listed as endangered or threatened under the Federal Endangered Species Act (FESA; including candidates and species proposed for listing);
- listed as endangered or threatened under the California Endangered Species Act (CESA; including candidates and species proposed for listing);
- designated as rare, protected, or fully protected pursuant to California Fish and Game Code;
- designated a Species of Special Concern (SSC) by the CDFW;
- considered by CDFW to be a Watch List species with potential to become an SSC;
- defined as rare or endangered under Section 15380 of the California Environmental Quality Act (CEQA); or,
- Having a California Rare Plant Rank (CRPR) of 1A, 1B, 2A, 2B, or 3.

In order to evaluate special-status species and/or their habitats with the potential to occur in the Study Area and/or be impacted by the proposed Project, HELIX obtained lists of special-status species known to occur and/or having the potential to occur in the Study Area and vicinity from the U.S. Fish and Wildlife Service (USFWS; USFWS 2022), the California Native Plant Society (CNPS; CNPS 2022), and the California Natural Diversity Database (CNDDB; CDFW 2022). Attachment C (Appendix C) includes these lists of special status plant and animal species occurring in the Project region. A total of 27 regionally occurring special-status plant species and 26 regionally occurring special-status wildlife species were identified during the database queries and desktop review and are evaluated in Attachment D (Appendix C).

Special Status Plant Species

A total of 27 regionally occurring special-status plant species were identified during the database searches and desktop review. The Study Area does not provide habitat for the majority of the regionally occurring special-status plant species, which are associated with aquatic habitats such as seeps, marsh, lakes, rivers, vernal pools, and freshwater wetlands which do not occur within the Study Area. The majority of the remaining species are associated with grasslands, dunes, prairie, old-growth forest, chaparral, montane forest, cismontane woodlands, scrub, and ridgeline habitat.

However, based on the results of the desktop review and biological reconnaissance survey, the site provides suitable habitat for three special-status plant species: coast fawn lily (*Erythronium revolutum*), white-flowered rein orchid (*Piperia candida*) and Marble Mountain campion (*Silene marmorensis*). These species are discussed below. Special-status species determined to have no potential to occur on the Study Area or that are not expected to occur in the Study Area and be impacted by the proposed Project (Attachment D) are not discussed further in this report.

<u>Coast Fawn Lily</u>
Federal status – none
State status – none
Other status – CRPR 2B.2 (rare, threatened, or endangered in California; more common elsewhere)

Species Description
Coast fawn lily is a perennial bulbiferous herb found on mesic soils and streambanks in bogs and fens, broadleaf upland forest, and North Coast coniferous forest from 0 - 1600 meters above mean sea level. Coast fawn lily blooms between March and July (occasionally August). Associated species include Douglas fir, tanoak, and Pacific madrone (CNPS 2022).

Survey History
Focused surveys were not conducted for coast fawn lily; however, the biological reconnaissance survey was conducted during the blooming period for this species and coast fawn lily was not observed in the Study Area. The nearest extant occurrence is 6.2-miles east of the Study Area along the Salmon River Trail in an area with Douglas fir and tanoak (CDFW 2022).

Habitat Suitability
Suitable habitat for coast fawn lily is present in the Douglas fir-tanoak forest habitat in the Study Area, especially in the areas surrounding the redwood water storage tank.

White-flowered Rein Orchid
Federal status – none
State status – none
Other status – CRPR 1B.2 (rare, threatened, or endangered in California and elsewhere)

Species Description
White-flowered rein orchid is a perennial herb that occurs in broadleaved upland forests, lower montane coniferous forests, and North Coast coniferous forests, sometimes on serpentinite. This species is found in forest duff, on mossy banks, rock outcrops, and muskeg at elevations ranging from 30 to 1,310-meters above mean sea level. White-flowered rein orchid blooms between May and September (sometimes March) (CNPS 2022).

Survey History
Focused surveys were not conducted for white-flowered rein orchid; however, the biological reconnaissance survey was conducted during the blooming period for this species and white-flowered rein orchid was not observed in the Study Area. The nearest extant occurrence is 6.5-miles west of the Study Area in Douglas fir forest (CDFW 2022).

Habitat Suitability
Suitable habitat for white-flowered rein orchid is present in the Douglas fir-tanoak forest habitat in the Study Area.

Marble Mountain Campion
Federal status – none
State status – none
Other status – CRPR 1B.2 (rare, threatened, or endangered in California and elsewhere)

Species Description
Marble Mountain campion is a perennial herb found in broadleaf upland forests, chaparral, cismontane woodlands, and lower montane coniferous forests from 170 to 1,250-meters elevation. Marble Mountain campion blooms between June and August (CNPS 2022).

Survey History
Focused surveys were not conducted for Marble Mountain campion; however, the biological reconnaissance survey was conducted during the blooming period for this species and Marble Mountain campion was not observed in the Study Area. The nearest extant occurrence is 6.2 miles east of the Study Area along the Salmon River Trail in an area with Douglas fir and tanoak (CDFW 2022).

Habitat Suitability
Suitable habitat for Marble Mountain campion is present in the Douglas fir-tanoak forest habitat in the Study Area.

Special Status Wildlife Species

A total of 26 regionally occurring special-status wildlife species were identified during the database searches and desktop review. The Study Area does not provide habitat for the majority of the regionally occurring special-status wildlife species, which are associated with aquatic habitats such as lakes, ponds, rivers, vernal pools, and freshwater wetlands which do not occur within the Study Area. The majority of the remaining species are associated with tree groves, old-growth forest, woodlands, riparian, beach, and cliff habitat, or have specific food species or elevation requirements that were not found in the Study Area.

The site provides suitable habitat for three special-status wildlife species: bald eagle (Haliaeetus leucocephalus), osprey (Pandion haliaetus), and northern spotted owl (Strix occidentalis caurina), as well as habitat for other migratory birds and raptors. These species are discussed briefly below. In addition, although there is no suitable habitat within the Study Area for marbled murrelet (Brachyramphus marmoratus) or Pacific marten (Martes caurina). However, these two species are discussed due to the presence of designated Critical Habitat for these species in the Study Area. The remaining special status species determined to have no potential to occur in the Study Area or that are not expected to occur in the Study Area and be impacted by the proposed Project (Attachment D) are not discussed further in this report.

<u>Bald Eagle</u>
Federal status –Delisted
State status – Endangered
Other – CDFW Fully Protected

Species Description
Bald eagles require large bodies of water with an abundant fish population. This species also feeds on fish, carrion, small mammals, and waterfowl. In California, the nests are usually located within one mile of permanent water. Nests are most often situated in large, old growth, or dominant live trees with open branchwork such as ponderosa pine. The nests are usually placed 16-61 meters (50 to 200 feet) above ground in trees with a commanding view of the area (Zeiner et al. 1990).

Survey History
The bald eagle was not observed in the Study Area during the biological survey. The nearest extant occurrence of bald eagle is 0.6-mile south of the Study Area along the Klamath River (CDFW 2022).

Habitat Suitability
Suitable nesting for bald eagle is present in the Study Area and suitable foraging habitat is present adjacent to the Study Area. The Klamath River, located 0.2-mile south of the Study Area, provides suitable foraging habitat for bald eagles and the species may nest within trees in the Study Area.

<u>Osprey</u>
Federal status – none
State status – None
Other – CDFW Watch List

Species Description
Osprey breed in Northern California from the Cascade Ranges southward to Lake Tahoe, and along the coast south to Marin County. They prey primarily on fish but also predate small mammals, birds, reptiles, and invertebrates. Foraging areas include open, clear waters of rivers, lakes, reservoirs, bays, estuaries, and surf zones. Nesting habitat for osprey include large trees, snags, and dead-topped trees in open forest habitats for cover and nesting (Zeiner et al. 1988-1990).

Survey History
Osprey was not observed in the Study Area during the biological survey. The nearest extant occurrence is 2.4-miles southwest of the Study Area along the Klamath River dominated by Douglas fir and tanoak (CDFW 2022).

Habitat Suitability
Suitable nesting habitat for osprey is present in the Study Area and suitable foraging habitat for osprey is present along the Klamath River, located 0.2-mile south of the Study Area. Therefore, the species could potentially nest within the Study Area.

<u>Northern Spotted Owl</u>
Federal status – Threatened
State status – Threatened
Other – CDFW Watch List

Species Description
Northern spotted owl is found from southwestern British Columbia down through the western half of Washington, Oregon and northern California south at least to Marin County. In California, it occurs in the Klamath Ranges, Cascade Range, and North Coast Ranges. Spotted owls have also been observed in the Santa Cruz Mountains in San Mateo and Santa Cruz counties, but the status of those populations is poorly known, and it is uncertain whether those birds are northern spotted owl or California spotted owl (*Strix occidentalis occidentalis*). Northern spotted owl prefers late-stage and old-growth forests characterized by a dense, multilayered, multi-species canopy with large overstory trees and varied understory. Forest types it has been observed in include Douglas-fir (*Pseudotsuga menziesii*), western hemlock (*Tsuga heterophylla*), grand fir (*Abies grandis*), white fir (*Abies concolor*), ponderosa pine (*Pinus ponderosa*), Shasta red fir (*Abies magnifica* var. *shastensis*), mixed evergreen, mixed conifer hardwood, redwood (*Sequoia sempervirens*), Bishop pine (*Pinus muricata*), and. mixed evergreen deciduous forest. These forests typically are characterized by a high incidence of large trees with various deformities (large cavities, broken tops, mistletoe infections, and other evidence of decadence); large snags; large accumulations of fallen trees and other woody debris on the ground; and sufficient open space below the canopy for spotted owls to fly.

Although it is dependent on old-growth and late-successional forests, there is research that suggests that a mosaic of late-successional forest habitat interspersed with other seral stages may be superior to large, homogeneous expanses of older forest as habitat for the species, at least in areas where woodrats are a major component of the species' diet. Low- to moderate-severity wildfire may enhance habitat for the species by increasing habitat heterogeneity. Diet is variable dependent upon prey availability, but northern flying squirrel (*Glaucomys sabrinus*) (mainly in in Washington and Oregon) and dusky-footed woodrat (*Neotoma fuscipes*) (mainly in the Oregon Klamath Ranges and California) dominate the diet both in terms of biomass and quantity. Spotted owl territories tend to be larger where flying squirrels are the primary prey and smaller where wood rats are the primary prey. Other prey occasionally taken

include deer mice, (*Peromyscus* spp.), tree voles (*Arborimus* spp.), red-backed voles (*Myodes* spp.), gophers (Geomyidae), snowshoe hare (*Lepus americanus*), bushy-tailed wood rats (*Neotoma cinerea*), birds, and insects. Prey is generally taken using a sit-and-wait technique from a single perch each night. Spotted owl pairs begin forming in February and are typically maintained until the death of one of the partners. Spotted owl uses existing nests, often of corvids, or platforms created by broken treetops or limbs. A clutch of three to four eggs is laid from late March (occasionally as early as mid-March) to mid-April and incubated by the female for approximately 30 days. Young are brooded by the female for eight to 10 days while the male provides food. The flightless young leave the nest at approximately 35 days after hatching, and receive decreasing parental care at least until September, or until they become independent around November.

Survey History
Northern spotted owl was not observed in the Study Area during the biological survey; however, this species is typically only detected during protocol call surveys. The nearest occurrence of Northern spotted owl is within 0.45-mile of the Study Area with a second occurrence within 0.9-mile. There are six occurrences of northern spotted owl within one mile of the Study Area and 424 occurrences of the species within 5-miles (CDFW 2022). At least five northern spotted owl activity centers are located within approximately 2-miles of the Study Area.

Habitat Suitability
Suitable nesting habitat for northern spotted owl is present adjacent to the Study Area but not within the Study Area boundary. The Klamath River located 0.2-mile south of the Study Area, provides suitable foraging and nesting habitat for northern spotted owl. Given the proximity of the Study area to suitable nesting habitat, the species may forage in the Study Area. The Study Area is surrounded by northern spotted owl Critical Habitat on all sides, although the Study Area itself is not within the Critical Habitat boundaries, it is within 1.1-mile of Critical Habitat at its nearest point.

<u>Marbled Murrelet</u>
Federal status – Threatened
State status – Endangered
Other status – None

Species Description
This species is pelagic, except during its nesting season where it will use old-growth, multi-layered canopied forests up to 50-miles inland from the coast. When nesting trees are not present, this species will nest on the ground or amongst rocks. In California, nesting typically occurs in coastal redwood forest or Douglas fir forests (USFWS 1997).

Survey History
No marbled murrelet or potential nest sites for this species were observed in the Study Area during the biological reconnaissance survey. The nearest reported occurrence of marbled murrelet in the CNDDB is approximately 22.4-miles southwest of the site along Redwood Creek within Redwood National Park.

Habitat Suitability
The Douglas fir-tanoak forest in the Study Area does not provide suitable nesting habitat for marbled murrelet. The Study Area lacks dense, mature, multi-layer old growth forest and is disturbed. The eastern portion of the Study Area, along Placer Drive, overlaps designated Critical Habitat for this species; however, the site lacks the primary constituent elements of critical habitat including old growth

trees with the presence of deformities and/or large branches to use as a nesting platform. This portion of the Study Area associated with the designated Critical Habitat consists of developed habitat.

Pacific Marten
Federal status – Threatened
State status – Endangered
Other status – CDFW Species of Special Concern

Species Description
Pacific marten are found in coniferous and mixed conifer forests with more than 40% canopy closure typically from 1,350 to 3,200-meters above mean sea level (amsl) and require old growth forests that consist primarily of fir and lodgepole pines with cavities for nesting and denning (Zielinski 2014). The species will also den under logs in the snow and form snow tunnels. Pacific marten are active year round, and typically avoid open areas with no canopy cover, but will forage in meadows, riparian areas and along streams (Zielinski 2014). When traveling, marten typically move along ridgetops and are capable of traveling up to 15-miles in a single night while foraging (Zeiner et al. 1990).

Survey History
No Pacific marten or potential den sites for this species were observed in the Study Area during the biological reconnaissance survey. The nearest reported occurrence of Pacific marten is approximately 1.4-miles north of the Study Area from 1972 from the vicinity of Slide Gulch (CDFW 2022).

Habitat Suitability
The Douglas fir - tanoak forest in the Study Area does not provide suitable denning habitat for Pacific marten. The Study Area lacks dense, mature, multi-layer old growth forest and is disturbed. The very northwestern portion of the Study Area, encompassing much of the proposed water treatment and storage features of the Project, overlaps designated Critical Habitat for this species; however, the site lacks the primary constituent elements of critical habitat including old growth trees with the presence of cavities to use as a den site.

Migratory Birds and Raptors
Migratory and non-game birds are protected during the nesting season by the federal Migratory Bird Treaty Act (MBTA) and California Fish and Game Codes. The Study Area and immediate vicinity provides nesting and foraging habitat for a variety of native birds common to urbanized areas, such as mourning dove (*Zenaida macroura*), house finch (*Haemorhous mexicanus*), and California towhee (*Melozone crissalis*). Nests were not observed during surveys; however, a variety of migratory birds have the potential to nest in and adjacent to the site, in trees, shrubs and on the ground in vegetation.

Project activities such as clearing and grubbing during the avian breeding season (February 1 through August 31) could result in injury or mortality of eggs and chicks directly through destruction or indirectly through forced nest abandonment due to noise and other disturbance. Destruction of active nests, eggs, and/or chicks would be a violation of the MBTA and Fish and Game Codes and a significant impact.

Sensitive Natural Communities
Natural communities are defined by one or more characteristic plant species, and the species communities in the majority of the Study Area are not considered characteristic of a sensitive natural community. Due to the disturbed nature of the Study Area and vicinity, there are no terrestrial sensitive natural communities in the Study Area.

Aquatic Resources

The ponds and ditch are the only aquatic resources in the Study Area, they are remnants of historic hydraulic mining in the area and are likely not hydrologically connected to other aquatic resources in the area. The Project has been designed to avoid direct impacts to aquatic resources. The ponds and ditch will not be developed as part of the proposed Project and there will be no direct impacts to aquatic resources (i.e., no placement of temporary or permanent fill within aquatic resources).

Regulatory Setting

Policies, regulations, and plans pertaining to the protection of biological resources on the Project site are summarized in the following subsections.

Federal Requirements

Federal Endangered Species Act

The U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS) enforce the provisions stipulated within the Federal Endangered Species Act of 1973 (FESA; 16 USC 1531 et seq.). Species identified as federally threatened or endangered (50 CFR 17.11, and 17.12) are protected from take, defined as direct or indirect harm, unless a Section 10 permit is granted to an entity other than a federal agency or a Biological Opinion with incidental take provisions is rendered to a federal lead agency via a FESA Act Section 7 consultation. Pursuant to the requirements of FESA, an agency reviewing a proposed project within its jurisdiction must determine whether any federally listed species may be present in the study area and determine whether the proposed project will jeopardize the continued existence of or result in the destruction or adverse modification of critical habitat of such species (16 USC 1536 (a)[3], [4]). Other federal agencies designate species of concern (species that have the potential to become listed), which are evaluated during environmental review under the National Environmental Policy Act (NEPA) or CEQA although they are not otherwise protected under FESA.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) of 1918 established federal responsibilities for the protection of nearly all species of birds, their eggs, and nests. The Migratory Bird Treaty Reform Act of 2004 further defined species protected under the act and excluded all non-native species. Section 16 U.S.C. 703–712 of the Act states “unless and except as permitted by regulations, it shall be unlawful at any time, by any means or in any manner, to pursue, hunt, take, capture, kill, attempt to take, capture, or kill” a migratory bird. A migratory bird is any species or family of birds that live, reproduce, or migrate within or across international borders at some point during their annual life cycle. Currently, there are 836 migratory birds protected nationwide by the MBTA, of which 58 are legal to hunt. The US Court of Appeals for the 9th Circuit (with jurisdiction over California) has ruled that the MBTA does not prohibit incidental take (952 F 2d 297 – Court of Appeals, 9th Circuit 1991).

Clean Water Act

Any person, firm, or agency planning to alter or work in waters of the US, including the discharge of dredged or fill material, must first obtain authorization from the US Army Corps of Engineers (USACE) under the Clean Water Act (CWA; 33 USC 1344). Permits, licenses, variances, or similar authorization may also be required by other federal, State, and local statutes. Section 10 of the Rivers and Harbors Act prohibits the obstruction or alteration of navigable waters of the US without a permit from USACE (33 USC 403).

Waters of the U.S. include certain wetlands; wetlands are defined in 33 CFR Part 328 as:

those areas that are inundated or saturated by surface or ground water at a frequency and duration to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.

Section 401 of the CWA requires that an applicant for a federal license or permit that allows activities resulting in a discharge to waters of the US also obtain a State certification that the discharge complies with all applicable water quality standards, limitations, and restrictions. The Regional Water Quality Control Board (RWQCB) administers the certification program in California and no license or permit may be issued until certification has been granted.

Section 402 establishes a permitting system for the discharge of any pollutant (except dredged or fill material) into waters of the US.

Section 404 establishes a permit program administered by USACE that regulates the discharge of dredged or fill material into waters of the U.S. (including wetlands). Implementing regulations by USACE are found at 33 CFR Parts 320-332. The Section 404 (b)(1) Guidelines were developed by the USEPA in conjunction with USACE (40 CFR Part 230), allowing the discharge of dredged or fill material for non-water dependent uses into special aquatic sites only if there is no practicable alternative that would have less adverse impacts.

State Requirements

California Endangered Species Act

The California Endangered Species Act (CESA) (California Fish and Game Code Sections 2050 to 2097) is similar to the FESA. The California Fish and Game Commission is responsible for maintaining lists of threatened and endangered species under CESA. CESA prohibits the take of listed and candidate (petitioned to be listed) species. “Take” under California law means to hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill (California Fish and Game Code, Section 86). The California Department of Fish and Wildlife (CDFW) can authorize take of a State-listed species under Section 2081 of the California Fish and Game Code if the take is incidental to an otherwise lawful activity, the impacts are minimized and fully mitigated, funding is ensured to implement and monitor mitigation measures, and CDFW determines that issuance would not jeopardize the continued existence of the species. A CESA permit must be obtained if a project will result in the “take” of listed species, either during construction or over the life of the project. For species listed under both FESA and CESA requiring a Biological Opinion under Section 7 of the FESA, CDFW may also authorize impacts to CESA species by issuing a Consistency Determination under Section 2080.1 of the Fish and Game Code.

California Code of Regulations Title 14 and California Fish and Game Code

The official listing of endangered and threatened animals and plants is contained in the California Code of Regulations Title 14 §670.5. A State candidate species is one that the California Fish and Game Code has formally noticed as being under review by CDFW to include in the State list pursuant to Sections 2074.2 and 2075.5 of the California Fish and Game Code.

Legal protection is also provided for wildlife species in California that are identified as “fully protected animals.” These species are protected under Sections 3511 (birds), 4700 (mammals), 5050 (reptiles and amphibians), and 5515 (fish) of the California Fish and Game Code. These statutes prohibit take or possession of fully protected species at any time. CDFW is unable to authorize incidental take of fully protected species unless any such take authorization is issued in conjunction with the approval of a

Natural Community Conservation Plan that covers the fully protected species (California Fish and Game Code Section 2835).

California Environmental Quality Act

Under the California Environmental Quality Act of 1970 (CEQA; Public Resources Code Section 21000 et seq.), lead agencies analyze whether projects would have a substantial adverse effect on a candidate, sensitive, or special-status species (Public Resources Code Section 21001(c)). These "special-status" species generally include those listed under FESA and CESA, and species that are not currently protected by statute or regulation, but would be considered rare, threatened, or endangered under the criteria included CEQA Guidelines Section 15380. Therefore, species that are considered rare are addressed under CEQA regardless of whether they are afforded protection through any other statute or regulation. The California Native Plant Society (CNPS) inventories the native flora of California and ranks species according to rarity; plants ranked as 1A, 1B, 2A, 2B, and 3 are generally considered special-status species under CEQA. [3]

Although threatened and endangered species are protected by specific federal and State statutes, CEQA Guidelines Section 15380(d) provides that a species not listed on the federal or State list of protected species may be considered rare if it can be shown to meet certain specified criteria. These criteria have been modeled after the definition in FESA and the section of the California Fish and Game Code dealing with rare or endangered plants and animals. Section 15380(d) allows a public agency to undertake a review to determine if a significant effect on species that have not yet been listed by either the USFWS or CDFW (i.e., candidate species) would occur.

California Native Plant Protection Act

The California Native Plant Protection Act of 1977 (California Fish and Game Code Sections 1900-1913) empowers the Fish and Game Commission to list native plant species, subspecies, or varieties as endangered or rare following a public hearing. To the extent that the location of such plants is known, CDFW must notify property owners that a listed plant is known to occur on their property. Where a property owner has been so notified by CDFW, the owner must notify CDFW at least 10 days in advance of any change in land use (other than changing from one agricultural use to another), in order that CDFW may salvage listed plants that would otherwise be destroyed. Currently, 64 taxa of native plants have been listed as rare under the act.

Nesting Birds

California Fish and Game Code Subsections 3503 and 3800 prohibit the possession, take, or needless destruction of birds, their nests, and eggs, and the salvage of dead nongame birds. California Fish and Game Code Subsection 3503.5 protects all birds in the order of Accipitriformes, Falconiformes, and Strigiformes (birds of prey). Fish and Game Code Subsection 3513 states that it is unlawful to take or possess any migratory nongame bird as designated in the Migratory Bird Treaty Act or any part of such migratory nongame bird except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the MBTA. The Attorney General of California has released an opinion that the Fish and Game Code prohibits incidental take.

Porter Cologne Act

The Porter-Cologne Water Quality Control Act (Porter-Cologne Act, Water Code Section 13000 et seq.) is California's statutory authority for the protection of water quality in conjunction with the federal CWA. The Porter-Cologne Act requires the State Water Resources Control Board (SWRCB) and RWQCBs under

[3] The California Rare Plant Rank system can be found online at https://www.cnps.org/rare-plants

the CWA to adopt and periodically update water quality control plans, or basin plans. Basin plans are plans in which beneficial uses, water quality objectives, and implementation programs are established for each of the nine regions in California. The Porter-Cologne Act also requires dischargers of pollutants or dredged or fill material to notify the RWQCBs of such activities by filing Reports of Waste Discharge and authorizes the SWRCB and RWQCBs to issue and enforce waste discharge requirements, National Pollution Discharge Elimination System (NPDES) permits, Section 401 water quality certifications, or other approvals. The RWQCB will assert jurisdiction over any waters of the State, including wetlands, regardless of whether or not the feature qualifies as waters of the U.S.

California Fish and Game Code Section 1602 – Lake and Streambed Alteration Program
Diversions or obstructions of the natural flow of, or substantial changes or use of material from the bed, channel, or bank of any river, stream, or lake in California that supports wildlife resources are subject to regulation by CDFW, pursuant to Section 1602 of the California Fish and Game Code. The CDFW requires notification prior to commencement of any such activities, and a Streambed Alteration Agreement (SAA) pursuant to Fish and Game Code Sections 1601-1603, if the activity may substantially adversely affect an existing fish or wildlife resource. A lake under CDFW jurisdiction is defined as "a permanent natural body of water of any size or an artificially impounded body of water of at least one acre, isolated from the sea, and having an area of open water of sufficient depth and permanency to prevent complete coverage by rooted aquatic plants" (CCR Vol. 18 Title 14, Section 1562.1). Streambeds within CDFW jurisdiction are based on the definition of a stream as "a body of water that flows at least periodically or intermittently through a bed or channel having banks and supporting fish or other aquatic life" (CCR Vol. 18 Title 14, Section 1.72).

Evaluation

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

Less than significant impact with mitigation. Of the sensitive species known or thought to utilize the region around Orleans, the species determined to potentially utilize the site for suitable habitat include the coast fawn lily, white-flowered rein orchid, marble mountain campion, bald eagle, osprey, northern spotted owl, marbled murrelet, pacific marten, and other migratory birds and raptors. These organisms are discussed individually below.

Coast Fawn Lily

Although coast fawn lily is not known to occur in the Study Area there is a potential that it could occur due to the presence of suitable habitat. If this plant species were to occur in the Study Area, Project activities would have the potential to result in adverse impacts. Adverse impacts could occur if mechanical equipment or workers directly crushed, trampled, or uprooted sensitive plants and indirect impacts could occur through soil compaction, alteration of hydrology, and increased erosion and sedimentation resulting from ground disturbance. Implementation of Mitigation Measure BIO-01 would reduce potential impacts to this species to less than significant.

Mitigation Measure BIO-01: Avoid Impacts to Special Status Plants

Prior to any construction-related ground disturbance occurring in areas of suitable habitat for special status plants, focused surveys shall be completed to determine the presence or absence of these species in the Study Area. The surveys shall be floristic in nature and shall be seasonally timed to coincide with the blooming period of these species (March to July; coast fawn lily), (May to September; white flowered rein orchid) and (June and August; Marble Mountain campion). If special-status species are not found during the focused surveys, then no further action is required.

- If special-status plants are documented on the site, a report shall be submitted to CNDDB to document the status of the species on the site. If the Project is designed to avoid impacts to special-status plant individuals and habitat, no further mitigation for these species would be necessary.

- If special-status plants are documented on the site and Project impacts to these species are anticipated, consultation with CDFW shall be conducted to develop a mitigation strategy. The proponent shall notify CDFW, providing a complete description of the location, size, and condition of the occurrence, and the extent of proposed direct and indirect impacts to it. The Project proponent shall comply with any mitigation requirements imposed by CDFW. Mitigation requirements could include but are not limited to, development of a plan to relocate the special-status plants (seed) to a suitable location outside of the impact area and monitoring the relocated population to demonstrate transplant success or preservation of this species or its habitat at an on or off-site location.

White-flowered Rein Orchid

Although white-flowered rein orchid is not known to occur in the Study Area, there is a potential that it could occur due to the presence of suitable habitat. If this plant species were to occur in the Study Area, Project activities would have the potential to result in adverse impacts. Adverse impacts could occur if mechanical equipment or workers directly crushed, trampled, or uprooted sensitive plants and indirect impacts could occur through soil compaction, alteration of hydrology, and increased erosion and sedimentation resulting from ground disturbance. Implementation of Mitigation Measure BIO-01 would reduce potential impacts to this species to less than significant.

Marble Mountain Campion

Although Marble Mountain campion is not known to occur in the Study Area there is a potential that it could occur due to the presence of suitable habitat. If this plant species were to occur in the Study Area, Project activities would have the potential to result in adverse impacts. Adverse impacts could occur if mechanical equipment or workers directly crushed, trampled, or uprooted sensitive plants and indirect impacts could occur through soil compaction, alteration of hydrology, and increased erosion and sedimentation resulting from ground disturbance. Implementation of Mitigation Measure BIO-01 would reduce potential impacts to this species to less than significant.

Bald Eagle

If bald eagles were to nest within or adjacent to the site prior to construction, impacts to nesting could occur through noise, vibration, and the presence of construction equipment and personnel. Project

activities such as clearing and grubbing, grading or other earthwork, or tree removal during the breeding season (February 1 through August 31) could result in injury or mortality of eggs and chicks directly through nest destruction or indirectly through forced nest abandonment due to noise and other disturbance. This would be a potentially significant impact. Implementation of Mitigation Measure BIO-02 would reduce potential impacts to this species to less than significant.

Mitigation Measure BIO-02: Avoid Impacts to Nesting and Migratory Birds

If ground disturbance including vegetation clearing and grubbing activities commence during the avian breeding season (February 1 through August 31), a qualified biologist should conduct a pre-construction nesting bird survey no more than 14 days prior to initiation of Project activities and again immediately prior to construction. The survey area should include suitable raptor nesting habitat within 500 feet of the Project boundary (inaccessible areas outside of the survey area can be surveyed from the site or from public roads using binoculars or spotting scopes). Pre-construction surveys are not required in areas where Project activities have been continuous since prior to February 1, as determined by a qualified biologist. Areas that have been inactive for more than 14 days during the avian breeding season should be re-surveyed prior to resumption of Project activities. If no active nests are identified, no further mitigation is required. If active nests are identified, the following measure should be implemented:

- A suitable nest buffer depending on species and surrounding land uses shall be established by a qualified biologist around active nests and no construction activities within the buffer shall be allowed until a qualified biologist has determined that the nest is no longer active (i.e., the nestlings have fledged and are no longer reliant on the nest, or the nest has failed). Encroachment into the buffer may occur at the discretion of a qualified biologist. Any encroachment into the buffer shall be monitored by a qualified biologist to determine whether nesting birds are being impacted.

Specifically, surveys for bald and golden eagle nests shall be conducted within 2 miles of any construction areas supporting suitable nesting habitat and important eagle roost sites and foraging areas. Surveys shall be conducted in accordance with the USFWS Interim Golden Eagle Inventory and Monitoring Protocols, and CDFW's Bald Eagle Breeding Survey Instructions, or current guidance.

If an active eagle's nest is found, project disturbance shall not occur within 0.5 mile of the active nest site during the breeding season (December 30 through July 1) or any disturbance if that action is shown to disturb the nesting birds. The 0.5 mile no disturbance buffer shall be maintained throughout the breeding season or until the young have fledged and are no longer dependent upon the nest or parental care for survival.

Osprey

If osprey were to nest within or adjacent to the site prior to construction, impacts to nesting could occur through noise, vibration, and the presence of construction equipment and personnel. Project activities such as clearing and grubbing, grading or other earthwork, or tree removal during the breeding season (February 1 through August 31) could result in injury or mortality of eggs and chicks directly through destruction or indirectly through forced nest abandonment due to noise and other disturbance. This would be a potentially significant impact. Implementation of Mitigation Measure BIO-02 would reduce potential impacts to this species to less than significant.

Northern Spotted Owl

If a northern spotted owl were to nest adjacent to the site prior to construction, impacts to nesting could occur through noise, vibration, and the presence of construction equipment and personnel. Project activities such as clearing and grubbing, grading or other earthwork, or tree removal during the breeding season (February 1 through August 31) could result in forced nest abandonment due to noise and other disturbance to adjacent nesting habitat. This would be a potentially significant impact. Implementation of Mitigation Measure BIO-02 would reduce potential impacts to this species to less than significant.

Marbled Murrelet

No impacts to marbled murrelet or suitable habitat for this species are anticipated as a result of the proposed Project. Suitable nesting habitat is not present in or adjacent to the Study Area. Preconstruction surveys will be conducted for migratory birds and raptors. If marbled murrelet is observed, coordination will be conducted with USFWS and CDFW to determine the appropriate nest buffer based on the location of the nest and the type of construction activity occurring within proximity to the nest. Implementation of Mitigation Measure BIO-02 would reduce potential impacts to this species to less than significant.

Pacific Marten

No impacts to Pacific marten or suitable habitat for this species are anticipated as a result of the proposed Project. Suitable denning habitat is not present in or adjacent to the Study Area. No direct impacts to Pacific marten or potential habitat in the Study Area would be anticipated as a result of the proposed Project as Pacific marten would not be expected to be present within the Project footprint and there is no suitable habitat for this species in the Project footprint.

Migratory Birds and Raptors

Project activities such as clearing and grubbing during the avian breeding season (February 1 through August 31) could result in injury or mortality of eggs and chicks directly through destruction or indirectly through forced nest abandonment due to noise and other disturbance. Destruction of active nests, eggs, and/or chicks would be a violation of the MBTA and Fish and Game Codes and a significant impact. Implementation of Mitigation Measure BIO-02 would reduce potential impacts to this species to less than significant.

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 Wildlife or U.S. Fish and Wildlife Service?

No impact. No riparian habitat or other sensitive natural communities were identified during the biological reconnaissance survey. There would be no impact on riparian habitat or other sensitive natural communities.

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 impact. The ponds and ditch are the only aquatic resources in the Project area and would not be developed as part of the proposed Project. Therefore, there would be no direct impact to aquatic resources.

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?

Less than significant impact. The proposed Project would replace an existing in-line filtration plant with a new surface, direct-filtration WTP. The Project would construct a new water treatment building and a backwash reclaim tank. A proposed generator and propane tank would be located adjacent to the water treatment building. The Project would also demolish an existing redwood storage tank and construct a new steel water storage tank. The Project would install a new fire hydrant at the entrance of the path leading to the proposed water treatment building, directly off Camp Creek Road. New fencing around the water treatment building, backwash reclaim tank, generator, and propane tank would be installed. Existing subsurface piping would be demolished and/or abandoned. New subsurface piping would tie into the existing distribution system piping located throughout the parcel in order to serve the new water treatment system.

The number of disturbed areas would not substantially increase, and new infrastructure would not differ substantially from that which currently exists. The new water treatment building would be located in a previously disturbed area and the new water storage tank would be located within the same vicinity as the existing redwood tank. Though construction activities may temporarily increase the amount of noise, movement, and other disturbance within portions of the Project site, these impacts would be short term and temporary, and would abate once construction is completed. Thus, wildlife use of, and movement through, the site would not be substantially changed, and any impacts would be less than significant.

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

Less than significant impact. No removal of live trees is proposed as part of this Project. The Project would include upgrading existing infrastructure and would remain largely within or adjacent to the existing footprint of disturbance. The Project would not conflict with any local policies or ordinances protecting biological resources, and any impacts would be less than significant.

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?

Less than significant impact. The proposed Project would not alter or disturb a significant amount of habitat and would focus disturbance mostly on existing footprints. Intensity of use would be maintained around current levels. The Project would not conflict with an adopted local, regional, or State habitat conservation plan, and any impact would be less than significant.

V. CULTURAL RESOURCES

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

A Cultural Resource Assessment Letter was prepared for this Project by HELIX Environmental Planning, Inc. (HELIX 2024). The cultural report is not appended to this document due to its confidential nature. This assessment, which addresses both archaeological and architectural resources, is based on the results of an archival records search, Native American coordination, and a pedestrian survey of the Project site.

Environmental Setting

Archival Records Search

On June 27, 2022, HELIX conducted an archival records search in support of the proposed Project at the Northwest Information Center (NWIC) located at Sonoma State University. The records search addressed all portions of the Area of Potential Effects (APE) and a 0.25-mile radius around the APE (hereafter referred to as the study area). Sources of information examined through this records search included previous survey and cultural resources files; the National Register of Historic Places (NRHP); the California Register of Historical Resources (CRHR); the Office of Historic Preservation (OHP) Archaeological Determinations of Eligibility; the OHP Directory of Properties in the Historic Property Data File; historical topographic maps; and historical aerial photographs.

Regulatory Setting

Relevant Federal Regulations

National Register of Historic Places

The NRHP was established by the NHPA as "an authoritative guide to be used by federal, state, and local governments, private groups, and citizens to identify the Nation's cultural resources and to indicate what properties should be considered for protection from destruction or impairment" (36 CFR 60.2).

The NRHP recognizes properties that are significant at the national, state, and local levels. To be eligible for listing in the NRHP, a resource must be significant in American history, architecture, archaeology, engineering, or culture. Districts, sites, buildings, structures, and objects of potential significance must also possess integrity of location, design, setting, materials, workmanship, feeling, and association. A property is eligible for the NRHP if it is significant under one or more of the following criteria:

- Criterion A: It is associated with events that have made a significant contribution to the broad patterns of our history.

- Criterion B: It is associated with the lives of persons who are significant in our past.

- Criterion C: It embodies the distinctive characteristics of a type, period, or method of construction; represents the work of a master; possesses high artistic values; or represents a significant and distinguishable entity whose components may lack individual distinction.

- Criterion D: It has yielded, or may be likely to yield, information important in prehistory or history (36 CFR 60.4).

Cemeteries, birthplaces, graves of historic figures, properties owned by religious institutions or used for religious purposes, structures that have been moved from their original locations, reconstructed historic buildings, and properties that are primarily commemorative in nature are not considered eligible for the NRHP unless they satisfy certain conditions. In general, a resource must be at least 50 years old to be considered for the NRHP, unless it satisfies a standard of exceptional importance.

State Regulations

California Environmental Quality Act

Pursuant to CEQA, a historical resource is a resource listed in, or eligible for listing in, the NRHP or the California Register of Historical Resources (CRHR). In addition, resources included in a local register of historic resources, or identified as significant in a local survey conducted in accordance with state guidelines, are also considered historic resources under CEQA, unless a preponderance of the facts demonstrates otherwise. According to CEQA, the fact that a resource is not listed in, or determined eligible for listing in, the CRHR, or is not included in a local register or survey, shall not preclude a Lead Agency, as defined by CEQA, from determining that the resource may be a historic resource as defined in California Public Resources Code (PRC) Section 5024.1.7.

CEQA applies to archaeological resources when (1) the historic or prehistoric archaeological resource satisfies the definition of a historical resource, or (2) the historic or prehistoric archaeological resource satisfies the definition of a "unique archaeological resource." A unique archaeological resource is an archaeological artifact, object, or site that has a high probability of meeting any of the following criteria (PRC § 21083.2(g)):

1. The archaeological resource contains information needed to answer important scientific research questions and there is a demonstrable public interest in that information.
2. The archaeological resource has a special and particular quality such as being the oldest of its type or the best available example of its type.
3. The archaeological resource is directly associated with a scientifically recognized important prehistoric or historic event or person.

California Register of Historical Resources

The CRHR is "an authoritative guide in California to be used by state and local agencies, private groups, and citizens to identify the state's historical resources and to indicate what properties are to be protected, to the extent prudent and feasible, from substantial adverse change" (PRC § 5024.1(a)). Certain properties, including those listed in or formally determined eligible for listing in the NRHP and

California Historical Landmarks (CHL) numbered 770 and higher, are automatically included in the CRHR. Other properties recognized under the California Points of Historical Interest program, identified as significant in historic resources surveys, or designated by local landmarks programs may be nominated for inclusion in the CRHR.

A resource, either an individual property or a contributor to a historic district, may be listed in the CRHR if the State Historical Resources Commission determines that it meets one or more of the following criteria, which are modeled on NRHP criteria (PRC § 5024.1(c)):

- Criterion 1: It is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.
- Criterion 2: It is associated with the lives of persons important in our past.
- Criterion 3: It embodies the distinctive characteristics of a type, period, region, or method of construction; represents the work of an important creative individual; or possesses high artistic values.
- Criterion 4: It has yielded, or may be likely to yield, information important in history or prehistory.

Resources nominated to the CRHR must retain enough of their historic character or appearance to be recognizable as historic resources and to convey the reasons for their significance. It is possible that a resource whose integrity does not satisfy NRHP criteria may still be eligible for listing in the CRHR. A resource that has lost its historic character or appearance may still have sufficient integrity for the CRHR if, under Criterion 4, it maintains the potential to yield significant scientific or historical information or specific data. Resources that have achieved significance within the past 50 years also may be eligible for inclusion in the CRHR, provided that enough time has lapsed to obtain a scholarly perspective on the events or individuals associated with the resource.

Native American Heritage Commission

Section 5097.91 of the PRC established the Native American Heritage Commission (NAHC), whose duties include the inventory of places of religious or social significance to Native Americans and the identification of known graves and cemeteries of Native Americans on private lands. Under Section 5097.9 of the PRC, a State policy of noninterference with the free expression or exercise of Native American religion was articulated along with a prohibition of severe or irreparable damage to Native American sanctified cemeteries, places of worship, religious or ceremonial sites, or sacred shrines located on public property. Section 5097.98 of the PRC specifies a protocol to be followed when the NAHC receives notification of a discovery of Native American human remains from a county coroner.

Government Code Sections 6254(r) and 6254.10

These sections of the California Public Records Act were enacted to protect archaeological sites from unauthorized excavation, looting, or vandalism. Section 6254(r) explicitly authorizes public agencies to withhold information from the public relating to "Native American graves, cemeteries, and sacred places maintained by the Native American Heritage Commission." Section 6254.10 specifically exempts from disclosure requests for "records that relate to archaeological site information and reports, maintained by, or in the possession of the Department of Parks and Recreation, the State Historical Resources Commission, the State Lands Commission, the Native

American Heritage Commission, another state agency, or a local agency, including the records that the agency obtains through a consultation process between a Native American tribe and a state or local agency."

Health and Safety Code, Sections 7050 and 7052
Health and Safety Code, Section 7050.5 declares that, in the event of the discovery of human remains outside of a dedicated cemetery, all ground disturbance must cease and the county coroner must be notified. Section 7052 establishes a felony penalty for mutilating, disinterring, or otherwise disturbing human remains, except by relatives.

Penal Code, Section 622.5
Section 622.5 of the Penal Code provides misdemeanor penalties for injuring or destroying objects of historic or archaeological interest located on public or private lands, but specifically excludes the landowner.

Previous Studies

The records search revealed that five cultural resource studies have been previously conducted within the Project's APE.

Table 5
PREVIOUS STUDIES CONDUCTED WITHIN THE APE

Report	Year	Author(s)	Title	Affiliation
S-000193	1975	Roop, William G	Orleans-Red Cap Bridge Project	Archaeological Resource Service
S-015886	1994	Roscoe, James	Cultural Resource Inventory for the Proposed Fish Rehabilitation Project on Camp Creek, Orleans, California	N/A
S-024552	2000	Vaughan, Trudy	Confidential Archaeological Addendum for Timer Operations on Non-Federal Lands in California, Camp Creek THP, 1-00-406 HUM (California Department of Forestry)	Coyote & Fox Enterprises
S-038865	2011	Leach-Palm, Laura, Pat Mikkelsen, Libby Seil, Darla Rice, Bryan Larson, Joseph Freeman, and Julia Costello	Cultural Resources Inventory of Caltrans District 1 Rural Conventional Highways in Del Norte, Humboldt, Mendocino and Lake Counties, Contract NO. 01A1056, Expenditure Authorization No. 01-453608	Far Western Anthropological Research Group, JRP Historical Consulting LLC, and Foothill Resources Ltd.
S-053155	2019	Cardiff, Darrell	Historic Property Survey Report, Three Humboldt Bridges Seismic Retrofit Project, Camp Creek Bridge (04-0066), HUM-96, PM 37.25, Willow Creek Bridge (04-01235), HUM-96, PM 0.24, G Street Overcrossing (04-0243) HUM-101, PM 86.77, EA 01-0A120, E-FIS Project Number 0113000109	California Department of Transportation

Previously Recorded Cultural Resources

The records search also determined that there are three previously recorded cultural resources located within the APE (Table 6).

Table 6
PREVIOUSLY DOCUMENTED RESOURCES WITHIN THE APE

Primary	Trinomial	Year	Author(s)	Description
P-12-001386	CA-HUM-001042H	1997	Vaughan, T.	Historic Era – Oak Ridge & Salstrom Placers, also known as Delaney #1, includes privies, dumps, trash scatters, water conveyances including flume, ditches, and sluiceway cuts, and machinery
P-12-003123	N/A	1978	Burke, R. E.	Prehistoric/Protohistoric Era – Karuk Panamenik World Renewal Ceremony District
P-12-003719	N/A	1978	Burke, R.E.	Prehistoric/Protohistoric Era – Kusnachanimnam, a sacred/medicine place which is a contributing feature of the Karuk Panmenik World Renewal Ceremony District

- **P-12-001386** (CA-HUM-001042H): First recorded in 1997 by T. Vaughan during a cultural resource study associated with the Camp Creek Timber Harvest Plan, this resource, known as the Oak Ridge & Salstrom Placers and or as Delaney #1, is comprised of the remains of a series of water ditches, a wooden flume, and mining tailings, from the region's historic mining period (spanning from the 1840s through the mid-20th century). These remains are associated with the Salstrom family and the mining operations in the area. Jonas Salstrom acquired land in the area in 1876 and developed a mining and sawmilling operation in the vicinity. Hydraulic operations of the Salstrom Mine are thought to have taken place between 1908 and 1910. While this archaeological site has not been formally evaluated for eligibility for inclusion into the NRHP or CRHR, the official site record on file with the NWIC suggests that the site has the potential to reveal additional data regarding mining practices of the late 19th and early 20th centuries. This resource will be treated as a historical resource for the purposes of this Project.

  P-12-003123: First recorded in 1978 by R. E. Burke, this resource is the Karuk Panamenik World Renewal Ceremony District. Within this district Karuk Native Americans performed the sacred White Deerskin Dance or World Renewal Ceremony, which was the most important event of the community's late 19th and early 20th century religious system. Many Karuk are reported to have considered the World Renewal Ceremony as the focal point for the entire culture, and absolutely essential for the well-being of the universe. The religious leaders who performed the Ceremony were the most wealthy and influential men and women in the Karuk culture. Often these were upper class men, who were generally *Yash-arara* (rich men), whose names, exploits and families have been remembered for generations. There were also fatawenan (priests) who know the sacred rites for the ceremonies. The study of this site has revealed important information regarding Karuk culture and history. As a result of this district's association with events that have made a significant pattern of our history, its association with the lives of persons significant to our past, and the fact that it has yielded information important in American prehistory, this district was determined eligible for listing in the NRHP under Criteria A, B, and D on April 3, 1978.

- **P-12-003719:** First recorded in 1978 by R. E. Burke, this resource is a sacred medicine place, known as Kusnachanimnam. Within this location priests are thought to have made fire and smoked tobacco as an offering for the World Renewal Ceremony. As a result, this site is understood to be a contributing element to the NRHP listed Karuk Panamenik World Renewal Ceremony District (P-12-003123).

Additional Sources of Information

Historic maps covering the Project vicinity including a 1914 Map of Humboldt County by J. N. Lentell, an Atlas of Humboldt County California from 1921, and General Land Office (GLO) Maps from 1883, 1936, and 1982 were examined to find information on prehistoric and historic uses of the Project area. GLO maps from 1936 show the Project vicinity as divided into several mining plots including the "Oak Ridge Placer," the "Salstrom and Co's Placer," the "Graham & Co. Placer," the Haines Placer," and the "Petersen Placer" but no other details regarding the placement of structures, water conveyances, or mines is apparent on either of these maps. Historic aerial photographs (1947, 1973, 1983, 2005, 2009, 2010, 2012, 2014, 2016, and 2018) were examined to provide an understanding of the APE's historic land use (NETR Online 2022). Historic aerials of the study area revealed that sometime between 1947 and 1973 the Project vicinity was cleared and made ready for the development of houses in between and along the loop formed by Placer Drive and Camp Creek Road. By 1983, there are several residences adjacent to these roads and development of the area appears to have continued until 1998, when the Project vicinity appears to have taken on its current character as a moderately populated residential neighborhood. No evidence of prehistoric activity or occupation, or historic period activity or occupation (beyond the fact that the Project vicinity was divided in placer mining areas during the early to mid-20th century, and that residences adjacent to the APE, which are not anticipated to be impacted by Project activities, were built between 1973 and 1983 was revealed through HELIX's historic map and aerial photograph analysis.

Native American Outreach

On June 9, 2022, HELIX requested that the NAHC conduct a search of their Sacred Lands File (SLF) for the presence of Native American sacred sites or human remains in the vicinity of the proposed Project area. HELIX received a response from NAHC on August 30, 2022 which reported that the SLF search results were negative. The NAHC recommended that HELIX contact representative from 20 Native American Tribes who may have knowledge of cultural resources within the Project vicinity. The recommended points of contact are as follows:

- Erika Cooper, Tribal Historic Preservation Officer, Bear River Band of Rohnerville Rancheria
- Edward "Gusto" Bowie, Cultural Liaison, Bear River Band of Rohnerville Rancheria
- Josefina Cortez, Chairwoman, Bear River Band of Rohnerville Rancheria
- Virgil Moorehead, Chairperson, Big Lagoon Rancheria
- Claudia Brundin, Chairperson, Blue Lake Rancheria
- Janet Eidsness, Tribal Historic Preservation Officer, Blue Lake Rancheria
- Jacob Pounds, Assistant Tribal Historic Preservation Officer, Blue Lake Rancheria
- Garth Sundberg, Chairperson, Cher-Ae Heights Indian Community of the Trinidad Rancheria
- Keduescha Lara-Colegrove, Tribal Historic Preservation Officer, Hoopa Valley Tribe
- Byron Nelson, Chairperson, Hoopa Valley Tribe
- Alex Watts-Tobin, Tribal Historic Preservation Officer, Karuk Tribe
- Russell Attebery, Chairperson, Karuk Tribe
- James Russ, President, Round Valley Reservation/Covelo Indian Community

- Sami Jo Difuntorum, Cultural Resource Coordinator, Shasta Indian Nation
- Roy Hall, Chairperson, Shasta Nation
- Paul Ammon, Chairperson, Tsnungwe Council
- Ted Hernandez, Chairperson, Wiyot Tribe
- Rosie Clayburn, Tribal Historic Preservation Officer, Yurok Tribe
- Joe James, Chairperson, Yurok Tribe
- NAGPRA Office of the Yurok Tribe

On September 19, 2022, HELIX sent a letter to each of the tribal representatives listed above to request any information they may possess regarding cultural resources in the vicinity of the APE. No responses were received to HELIX's initial outreach. Consultation between the SWRCB and the Karuk Tribe is discussed further in in Section 7.XVIII. *Tribal Cultural Resources* of this Initial Study.

Fieldwork

Intensive Pedestrian Survey

On June 1, 2022, HELIX Staff Archaeologist Jentin Joe conducted a pedestrian survey of the proposed Project area to characterize any prehistoric or historic-era archaeological resources located on the surface of the APE. During the survey the ground surface of the APE was examined for the presence of historic-era artifacts (e.g., metal, glass, ceramics), prehistoric artifacts (e.g., flaked stone tools, tool-making debris), and other features that might represent human activity that took place more than 50 years ago. Representative photographs were taken during the survey.

During the survey HELIX staff encountered a sloped topography in the south and east portions of the APE, which follow Camp Creek Road and Placer Drive through residential neighborhoods. While the APE itself proved to be relatively clear and maintained, vegetation just outside the bounds of the APE proved to be dense, including tall grasses, manzanita, and blackberry bushes.

In the northwest portion of the APE the surveying archaeologist encountered a steep incline up to an older redwood water tank which appears to be more than 45 years old. The redwood water tank sits on top of a concrete pad. According to the Project engineer, there is also a buried concrete pad adjacent to the one visible underneath the water tank, though the past purpose of this pad is unclear, and the currently proposed undertaking is not anticipated to make use of this second pad. As a result of its age, additional efforts were made to record features from the redwood water tank on the appropriate California State Parks DPR forms.

Soils visible within the northwestern portion of the survey area consist of a gravelly sandy loam, with occasional exposed bedrock outcrops. It is clear that previous hydraulic mining and excavation during the early 1900s has greatly changed the native soils in the area, as there is now back fill and installed gravel/cement roads within the APE. HELIX's survey also encountered a drainage to the northwest of the Project area which runs down to the nearby Crawford Creek. According to the Project engineer, this drainage was partially created by the runoff of hydraulic mining in the Project vicinity.

NRHP/CRHR Evaluation of the OMWC Redwood Tank

The results of this Cultural Resources Assessment resulted in the identification of one new cultural resource within the Project's APE, a redwood water tank, given the temporary field name "OMWC Redwood Tank," located within the northwest portion of the APE. To determine if this resource should be identified as a historical resource, HELIX evaluated the OMWC Redwood Tank against the criteria of

eligibility for listing in the NRHP or CRHR which are described in the Regulatory Framework sections above. Each NRHP/CRHR criterion is addressed individually below.

Criterion A/1. The Redwood Tank does not qualify as a historic property or historical resource under Criterion A/1 (association with events that have made a significant contribution to the broad patterns of our history). The redwood tank was built circa 1965 to support the development of a residential subdivision on Camp Creek Road and Placer Drive. Although one home existed prior to the subdivision, the majority of homes on these roads were built in 1965 according to real estate listings. The developer, Delaney, had obtained water rights through a permit in 1965. The Orleans Mutual Water Company was incorporated later in 1981. The redwood tank serves 34 residential connections. Neither the subdivision nor the redwood tank have played any major role in the overall development history of the area, and did not substantially shape local, state, or national history. Likewise, there is no evidence to suggest that the redwood tank is associated with events that have made a significant contribution to the broad patterns of our history.

Criterion B/2. The redwood tank does not qualify as a historic property or historical resource under Criterion B/2 (association with the lives of significant persons in our past). Research did not identify the engineering firm or builder used by Delaney for the design and development of the water conveyance system. No information about the developer was found in the historical record. Therefore, there is no evidence to suggest that construction or operation of the redwood tank is associated with any person considered important in history.

Criterion C/3. The redwood tank does not qualify as a historic property or historical resource under Criterion C/3 (embodiment of the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction). The OMWC Redwood Tank was built circa 1965 as part of a small residential subdivision developed by Delaney. Pressure for the hasty development of settlements began with the California Gold Rush in 1849. Water was needed to support those settlements. The most readily available and significant source of material for building both shelter and water storage was the massive and numerous redwood trees. Through the end of the 1800s and early 1900s, redwood water tanks were built throughout the state and are ubiquitous in Northern California. The generic materials used in their construction have no unique or distinguishing characteristics or features. Furthermore, by the 1960s and 1970s, many water storage facilities were being built of metal rather than the outdated and less efficient wood planks. No evidence of the engineering firm or builder has been identified, so there is no indication that the redwood tank is associated with a master. Therefore, the redwood tank does not embody distinctive characteristics of a type, period, or method of construction, does not possess significant and distinguishable design elements or high artistic values, and does not represent the work of a master.

Criterion D/4. The redwood tank does not qualify as a historic property or historical resource under Criterion D/4 (has yielded or may be likely to yield, information important in history or prehistory). Generic in materials and construction, the redwood tank does not have the potential to add to our understanding of local, state, or national history.

Therefore, the SWRCB finds that the redwood tank is not a historical resource.

Evaluation

Three historical resources were identified within the APE: the NRHP listed Karuk Panamenik World Renewal Ceremony District (P-12-003123), Kusnachanimnam a sacred medicine place and contributor to the aforementioned district (P-12-003719), and the remains of the Oak Ridge and Salstrom Placer mining site and water conveyances (Site P-12-001386, CA-HUM-001042H, also known as Delany #1). The study found that:

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

Less than significant impact with mitigation. Although there are three known resources within the APE, none of these resources would be adversely impacted by the proposed Project. Mitigation Measures CUL-01 through CUL-04 described below would further ensure that significant impacts would be avoided. With implementation of Mitigation Measure CUL-01 through CUL-04, the impact would be less than significant.

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

Less than significant impact with mitigation. Although there are three known resources within the APE, none of these resources would be adversely impacted by the proposed Project. Mitigation Measures CUL-01 through CUL-04 described below would further ensure that significant impacts would be avoided. With implementation of Mitigation Measure CUL-01 through CUL-04, the impact would be less than significant.

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

Less than significant impact with mitigation. Although there is no evidence to suggest the presence of human remains, their discovery is a possibility during the Project. Mitigation Measures CUL-01 through CUL-04 described below would ensure that significant impacts would be avoided. With implementation of Mitigation Measure CUL-01 through CUL-04, the impact would be less than significant.

Mitigation Measure CUL-01: Cultural Resource Monitoring During Ground Disturbing Activities

Due to the presence of numerous prehistoric and historic-era cultural resources h within the APE, a qualified archaeologist that meets the Secretary of the Interior's Professional Qualification Standards for prehistoric and historical archaeology shall be retained to conduct Cultural Resource Monitoring during initial ground disturbing activities associated with the Project (including but not limited to grubbing, grading, shearing, and excavation). The on-site archaeologist shall then be able to examine newly exposed soils for cultural remains and or changes in colors in exposed soils that might indicate the presence of archaeological materials. The Cultural Resource Monitor will also ensure that construction activities will not adversely impact any known features of the three historical resources described above. This Cultural Resource Monitor shall have "stop work" authority in the event that they believe they have encountered cultural materials or if the Project has impacted archaeological features associated with the three historical resources described above. The SWRCB will be notified and consulted immediately if cultural materials are encountered or if impacts to archaeological features occur. The Cultural Resource Monitor shall take daily notes and photographs documenting the construction activities observed and any cultural resources that are encountered. At the conclusion of the Project, the Cultural Resource Monitor shall also provide a final monitoring report which summarizes

the construction activities observed and any cultural concerns that were noted during the construction effort.

Mitigation Measure CUL-02: Native American Monitoring During Ground Disturbing Activities

Due to the presence of the NRHP listed Karuk Panamenik Ceremonial District and the contributing element of this district within the APE, , a qualified Native American Monitor from the Karuk Tribe shall be retained to conduct monitoring during initial ground disturbing activities associated with the Project (including but not limited to grubbing, grading, shearing, and excavation). This Native American Monitor would then be able to examine newly exposed soils for cultural remains and or changes in colors in exposed soils that might indicate the presence of archaeological materials or other culturally sensitive materials. This Monitor shall have "stop work" authority in the event that they believe they have encountered cultural or otherwise sensitive materials and shall take daily notes and photographs documenting the construction activities observed and any cultural resources that are encountered. At the conclusion of the Project, this Monitor shall also provide a final monitoring report which summarizes the construction activities observed and any cultural concerns that were noted during the construction effort.

Mitigation Measure CUL-03: Unanticipated Discoveries

In the event that cultural resources are exposed during any future ground-disturbing activities, construction activities shall be halted in the immediate vicinity of the discovery. If the site cannot be avoided during the remainder of construction, an archaeologist who meets the Secretary of the Interior's Professional Qualifications Standards shall then be retained to evaluate the find's significance under CRHR criteria. The SWRCB will be consulted regarding the evaluation. If the discovery proves to be significant, additional work, such as data recovery excavation, may be warranted and shall be discussed in consultation with the SWRCB.

Mitigation Measure CUL-04: Treatment of Human Remains

If human remains are identified, the specific procedures outlined by the NAHC, in accordance with Section 7050.5 of the California Health and Safety Code and Section 5097.98 of the Public Resources Code would be followed.

1. All excavation activities within 60-feet of the remains shall immediately stop, and the area shall be protected with flagging or by posting a monitor or construction worker to ensure that no additional disturbance occurs.

2. The construction manager or their authorized representative shall contact the County Coroner and the State Water Resources Control Board.

3. The coroner shall have two working days to examine the remains after being notified in accordance with HSC 7050.5. If the coroner determines that the remains are Native American and are not subject to the coroner's authority, the coroner shall notify NAHC of the discovery within 24 hours.

4. NAHC shall immediately notify the Most Likely Descendant (MLD), who shall have 48 hours after being granted access to the location of the remains to inspect them and make recommendations for treatment of them. Work shall be suspended in the area of the find until

the landowner, in consultation with the MLD and the State Water Resources Control Board, approve the proposed treatment of human remains.

5. If the coroner determines that the human remains are neither subject to the coroner's authority nor of Native American origin, then the Cultural Resource Monitor, in consultation with the landowner and the State Water Resources Control Board, shall determine mitigation measures appropriate to the discovery.

VI. ENERGY

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☐	☐	☒	☐

Environmental Setting

California's electricity needs are satisfied by a variety of entities, including investor-owned utilities, publicly owned utilities, electric service providers and community choice aggregators. In 2020, the California power mix totaled 272,576 gigawatt hours (GWh). In-State generation accounted for 51 percent of the State's power mix. The remaining electricity came from out-of-State imports (CEC 2021a). Table 7 provides a summary of California's electricity sources as of 2020.

Table 7
CALIFORNIA ELECTRICITY SOURCES 2020

Fuel Type	Percent of California Power
Coal	2.74
Large Hydro	12.21
Natural Gas	37.06
Nuclear	9.33
Oil	0.01
Other (Petroleum Coke/Waste Heat)	0.19
Renewables	33.09

Source: CEC 2021a.

Natural gas provides the largest portion of the total in-State capacity and electricity generation in California, with nearly 45 percent of the natural gas burned in California used for electricity generation in a typical year. Much of the remainder is consumed in the residential, industrial, and commercial sectors for uses such as cooking, space heating, and as an alternative transportation fuel. In 2012, total natural gas demand in California for industrial, residential, commercial, and electric power generation was 2,313 billion cubic feet per year (bcf/year), up from 2,196 bcf/year in 2010 (CEC 2021b).

Transportation accounts for a major portion of California's energy budget. Automobiles and trucks consume gasoline and diesel fuel, which are nonrenewable energy products derived from crude oil. Gasoline is the most used transportation fuel in California, with 97 percent of all gasoline being

consumed by light-duty cars, pickup trucks, and sport utility vehicles (SUV). In 2015, 15.1 billion gallons of gasoline were sold in California (CEC 2021c). Diesel fuel is the second most consumed fuel in California, used by heavy-duty trucks, delivery vehicles, buses, trains, ships, boats, and farm and construction equipment. In 2015, 4.2 billion gallons of diesel were sold in California (CEC 2021d).

Evaluation

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?

Less than significant impact. As discussed above, electricity used during normal operations is provided mainly by connections with PG&E. A backup generator would be installed adjacent to the new water treatment building. Specific details of the generator were not available at the time of this analysis. A conservative (high) estimate of generator size would be an electrical rating in the 100 kilovolt-amps (kVA) to 150 kVA range with a 250-horsepower engine. The generator could be diesel powered or propane powered. A diesel-powered generator was assumed because diesel generators generally have higher emissions than similar sized propane generators. The use of one backup generator would be limited to times of power outages and would run for about 5 minutes per week for testing and maintenance purposes. The only regular increase in power consumption would be a 3,300-kilowatt hour (kWh) net increase of electricity from 5 hours of annual use of the generator. There are no State or local plans for renewable energy or energy efficiency that apply to the proposed Project. Impacts would be less than significant for a) and b).

VII. GEOLOGY AND SOILS

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

A Preliminary Geotechnical Report was prepared by Bajada Geosciences, Inc. on September 2, 2022, and is included as Appendix D to this Initial Study.

Environmental Setting

Regional Geology

The Project site is located in the Klamath Mountains geomorphic/geologic province of California (Bajada Geosciences, Inc. 2022). The Klamath Mountains province extends from the northern end of the California Coast Ranges north into Oregon. It is bounded to the east by the Cascade Range province, to

the south by the Coast Ranges and Great Valley provinces, to the west by the Pacific Ocean, and to the north by the Coast Ranges of Oregon.

The Klamath Mountains province is predominately composed of pre-Paleozoic and Paleozoic sedimentary, volcanic, intrusive, and metamorphic rocks that have been locally intruded by Mesozoic-age rocks (Bajada Geosciences, Inc. 2022). Rock materials within this province have been accreted during tectonic processes into differing terrains or differing ages. Five terrains of subjacent rock materials have been identified within the Klamath Mountains province: Western Jurassic belt, Western Paleozoic and Triassic belt, Central Metamorphic belt, Eastern Klamath belt, and Granitic rocks (Bajada Geosciences, Inc. 2022). The Project site is located within the Western Jurassic belt.

Site History

The topography of the Project area has been altered by historic placer mining of older alluvial deposits. Those materials were mined from where the existing and proposed WTPs are located, and south of where the proposed tank is located. In addition, the site was previously developed with the existing in-line filtration plant and water storage tank, and underground pipelines. Prior to construction of the existing tank, an older tank was present upslope and east of the existing tank.

Surface Conditions

The proposed water treatment building is located on a relative flat to a slightly undulatory area that has previously been graded during historical placer mining. The proposed water treatment building is located southwest of the existing in-line filtration plant. The site is covered with seasonal grasses, shrubs, and local trees. Elevations at the proposed Project site range from about 560 to 640-ft. Drainage occurs as sheet flow into the adjacent drainage, which discharges into the Klamath River.

The proposed water storage tank site is located in the mid-slope on a ridge that descends to the west and south of the proposed site. An unpaved access road ascends from the area where the proposed water treatment building is to be located. The area is covered by shrubs and surrounded by mature trees. The slope located south of the proposed tank is about 40 feet tall and inclined at about a 1:1 (horizontal to vertical) angle. The slope located west of the proposed water storage tank is about 55-ft tall and inclined at about a 1.1:1 angle. Drainage at the site occurs as sheet flows west into Crawford Creek, which discharges into the Klamath River.

Subsurface Conditions

Subsurface conditions were explored at selected locations at the site during the Geotechnical Report study. Metamorphic rock consisting of phyllite was encountered beneath the proposed water treatment building. Phyllite is anticipated to be present in the lower terrace area surrounding the proposed water treatment building. It consisted of dry, moderately to slightly weathered, weak, poorly indurated, slightly to moderately fractured rock with a platy, fissile texture.

Artificial fill and older alluvium were encountered beneath the proposed water storage tank site. These materials predominantly consist of sandy gravel with cobbles and boulders. The materials were moist to wet, dense to very dense, slightly cemented, fine to coarse grained, with abundant fine to coarse subrounded to rounded gravels and cobbles, and boulders up to at least 18 inches in largest dimension. In addition, an approximately 15- to 16-inch-thick concrete slab was encountered within the artificial fill materials underlying the proposed water storage tank site.

Soils

Based on the NRCS Web Soil Survey (NRCS 2022), the following soil map units are present on the site:

- Typic Xerofluvents-Riverwash association, 2 to 10 percent slopes
- Pits and Dumps

Typic Xerofluvents-Riverwash association, 2 to 10 percent slopes soils occur on base slopes, alluvial fans, and toeslopes and consists of sandy and gravelly alluvium. A typical profile for Typic Xerofluvents-Riverwash association is gravelly sandy loam from 0 to 10-inches and stratified extremely gravelly loamy sand to silt loam from 1 to 60 inches. The depth to water table Typic Xerofluvents-Riverwash association soils is greater than 80 inches. Typic Xerofluvents-Riverwash association soils are not the National Hydric Soils List for Humboldt County (NRCS 2015).

Pit and Dump soils occur on terraces, foot slopes and risers and consists of gravelly alluvium. A typical profile for Pit and Dump soil is very bouldery from 0 to 4-inches. The depth to water table for Pit and Dump soil is greater than 80-inches. Pit and Dump soils are not the National Hydric Soils List for Humboldt County (NRCS 2015).

Evaluation

a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

   i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42?

Less than significant impact with mitigation. Seismically induced ground rupture is defined as the physical displacement of surface deposits in response to an earthquake's seismic waves. The magnitude and nature of fault rupture can vary for different faults or even along different strands of the same fault. Surface rupture can damage or collapse buildings, cause severe damage to roads and pavement structures, and cause failure of overhead and underground utilities.

There are no Alquist-Priolo Fault Zones within the Project area. For purposes of the Alquist-Priolo Act, an active fault is one that has ruptured in the last 11,000 years. The impact of surface rupture or other seismic-related movement at the Project site would be reduced as new construction Projects must comply with the California Building Code (CBC) requirements and have geotechnical reports prepared prior to obtaining grading or building permits from the Humboldt County Building Division. Although no Alquist Priolo Fault Zones are within the Project area, the Project would still comply with all recommendations outlined in the Geotechnical Report, as described in Mitigation Measure GEO-01. With implementation of Mitigation Measure GEO-01 and compliance with the CBC, impacts would be less than significant.

Mitigation Measure GEO-01: Recommendations in the Geotechnical Report

Prior to construction, the applicant shall implement all recommendations regarding geotechnical aspects of Project design and construction presented in the Geotechnical Report prepared by Bajada Geosciences, Inc. (Bajada Geosciences, Inc. 2022).

ii. Strong seismic ground shaking?

Less than significant impact. The State of California designates faults as Holocene-age or Pre-Holocene-age depending on the recency of movement that can be substantiated for a fault. The California Geologic Survey (CGS) evaluates the activity rating of a fault in fault evaluation reports (FER). FERs compile available geologic and seismologic data and evaluate if a fault should be zoned as Holocene-active, pre-Holocene, or age undetermined. If an FER evaluates a fault as Holocene-active, then it is typically incorporated into a Special Studies Zone in accordance with the Alquist-Priolo Earthquake Fault Zoning Act. Alquist-Priolo Special Studies Zones require site-specific evaluation of fault location for structures for human occupancy and require a habitable structure setback if the fault is found traversing a Project site.

No known faults have been mapped projecting through the Project site. The closest Holocene-active fault to the site is the Trinidad fault, located about 32 miles southwest of the Project. The proposed Project would be designed and constructed under the CBC criteria and would be designed in accordance with the seismic design criteria. As the Project is not located near known faults and would comply with CBC criteria, impacts related to seismic ground shaking are less than significant.

iii. Seismic-related ground failure, including liquefaction?

Less than significant impact. Liquefaction is a phenomenon whereby unconsolidated and/or near-saturated soils lose cohesion and are converted to a fluid state as a result of severe vibratory motion. The relatively rapid loss of soil shear strength during strong earthquake shaking results in temporary, fluid-like behavior of the soil. Soil liquefaction causes ground failure that can damage roads, pipelines, underground cables, and buildings with shallow foundations.

Lateral spreading is defined as lateral earth movement of liquefied soils, or soil riding on a liquefied soil layer, down slope toward an unsupported slope face, such as a creek bank, or an inclined slope face. In general, lateral spreading has been observed on low to moderate gradient slopes but has been noted on slopes inclined as flat as one degree. According to Bajada Geosciences (2022), dense to very dense sediments and cemented rock underlie the Project site and groundwater is not anticipated to be present within the upper 50-feet of the soil/rock column. Based on those two conditions, the potential for liquefaction to adversely impact the site is very low. As liquefaction and lateral spreading pose a very low risk of adversely affecting the Project site or proposed improvements, impacts are less than significant.

iv. Landslides?

Less than significant impact. The proposed water treatment building and backwash reclaim tank would be located in a relatively flat area but would be located adjacent to an incised drainage. No landslides, older, active, or incipient were observed in the vicinity of the proposed site. Therefore, natural landslides pose a low risk to the new surface, direct-filtration WTP site.

The proposed water storage tank would be located in mountainous terrain with descending slopes to the west and south and ascending slopes to the north and east. No landslides, older, active, or incipient were observed in the vicinity of the proposed site. Slope stability analyses were performed to evaluate the risks of slope instabilities. Results of the analyses indicated the existing slopes beneath the proposed water treatment building, backwash reclaim tank, and water storage tank were stable. As the

proposed water treatment building, backwash reclaim tank, and water storage tank are located on stables slopes with low risks to natural landslides, impacts would be less than significant.

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

Less than significant impact. The proposed Project would replace an existing in-line filtration plant with a new surface, direct-filtration WTP. The Project would construct a new water treatment building and a backwash reclaim tank. The Project would also demolish an existing redwood storage tank and construct a new steel water storage tank. The new water treatment building would be located on a relatively flat area, southwest of the existing in-line filtration plant, which has been heavily disturbed by past mining activities. The new storage tank would take the place of the existing redwood storage tank, which is within a previously excavated area for future tanks. Soil disturbance would be limited to small areas for a short duration during construction.

Projects resulting in one or more acre of ground disturbance require a General Construction Activity Stormwater Permit and a NPDES permit from the SWRCB. Use of the permit requires the preparation of a Stormwater Pollution Prevention Plan (SWPPP) for approval by the SWRCB. The SWPPP would contain BMPs to control construction-related erosion and sedimentation and prevent damage to streams, watercourses, and aquatic habitat and reduce potential impacts to water quality during construction of the Project. With implementation of BMPs, impacts relating to soil erosion would be less than significant, and 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?

Less than significant impact with mitigation. See a)iii for a discussion of liquefaction potential, and a)iv for a discussion of landslide potential. The proposed construction of the Project would comply with the CBC requirements and would comply with all recommendations outlined in the Geotechnical Report prepared by Bajada Geosciences, Inc, as outlined in Mitigation Measure GEO-01.

Three samples of near-surface soils were subjected to chemical analysis for assessment of corrosion and reactivity with concrete. The samples were tested for soluble sulfates and chlorides. The results indicated that where the proposed water treatment building would be located, the soils are estimated to be corrosive to severely corrosive to ferrous metals. Where the proposed tank and pipelines would be located, the soil is estimated to be mildly to moderately corrosive. With implementation of Mitigation Measure GEO-02, impacts to corrosivity would be less than significant.

Mitigation Measure GEO-02: Consult of Corrosion Expert

Prior to construction, the applicant shall consult a corrosion specialist to assess the soil at the proposed water treatment building and backwash reclaim tank and the soil at the proposed water storage tank. After the assessment of the soil on the Project site, corrosion protection measures prepared by the corrosion specialist shall be implemented to mitigate potential soil instability due to corrosion.

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

Less than significant impact. There is a direct relationship between plasticity of a soil and the potential for expansive behavior, with expansive soil generally having a high plasticity. Thus, granular soils typically have a low potential to be expansive, whereas clay-rich soils can have a low to high potential to be expansive.

Atterberg limit testing was performed on two selected samples to estimate the plasticity of foundation soils (Bajada Geosciences, Inc. 2022). The results of that testing found that on-site soils have a Plasticity Index's (PI's) ranging from non-plastic to 4. PI's of less than 10 are correlated to soils having a very low potential for expansion (Bajada Geosciences, Inc. 2022). Based on the PI data obtained during the study, the existing site would have a very low expansion potential. As expansion potential is low, impacts would be less than significant.

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

No impact. The Project would not include the construction of any septic tanks or alternative wastewater disposal systems, the proposed Project deals only with water supply. Therefore, there would be no impact.

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

Less than significant impact with mitigation. No previous surveys conducted in the Project area have identified the Project site as sensitive for paleontological resources or other geologically sensitive resources, nor have testing or ground disturbing activities performed to date uncovered any paleontological resources or geologically sensitive resources. While the likelihood encountering paleontological resources and other geologically sensitive resources is considered low, Project-related ground disturbing activities could affect the integrity of a previously unknown paleontological or other geologically sensitive resource, resulting in a substantial change in the significance of the resource. Therefore, the proposed Project could result in potentially significant impacts to paleontological resources. Implementation of Mitigation Measure GEO-03 would reduce potentially significant impacts to a less than significant level.

Mitigation Measure GEO-03: Identification of Paleontological Resource During Project Construction

In the event a paleontological or other geologically sensitive resources (such as fossils or fossil formations) are identified during any phase of Project construction, all excavations within 100-ft of the find shall be temporarily halted until the find is examined by a qualified paleontologist, in accordance with Society of Vertebrate Paleontology standards. The paleontologist shall notify the appropriate representative at Humboldt County who shall coordinate with the paleontologist as to any necessary investigation of the find. If the find is determined to be significant under CEQA, the County shall implement those measures which may include avoidance, preservation in place, or other appropriate measures, as outlined in Public Resources Code Section 21083.2.

VIII. GREENHOUSE GAS EMISSIONS

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☐	☐	☒	☐

Environmental Setting

Global climate change refers to changes in average climatic conditions on Earth including temperature, wind patterns, precipitation, and storms. Global temperatures are moderated by atmospheric gases. These gases are commonly referred to as greenhouse gases (GHG) because they function like a greenhouse by letting sunlight in but preventing heat from escaping, thus warming the Earth's atmosphere.

GHGs are emitted by natural processes and human (anthropogenic) activities. Anthropogenic GHG emissions are primarily associated with the burning of fossil fuels during motorized transport; electricity generation; natural gas consumption; industrial activity; manufacturing; and other activities such as deforestation, agricultural activity, and solid waste decomposition.

The GHGs defined under California's AB 32, described below, include carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFC), perfluorocarbons (PFC), and sulfur hexafluoride (SF_6). Each GHG differs in its ability to absorb heat in the atmosphere based on the lifetime, or persistence, of the gas molecule in the atmosphere. Estimates of GHG emissions are commonly presented in carbon dioxide equivalents (CO_2e), which weigh each gas by its global warming potential (GWP). Expressing GHG emissions in CO_2e takes the contribution of all GHG emissions to the greenhouse effect and converts them to a single unit equivalent to the effect that would occur if only CO_2 were being emitted. GHG emissions quantities in this analysis are presented in metric tons (MT) of CO_2e. For consistency with United Nations Standards, modeling and reporting of GHGs in California and the US use the GWPs defined in the Intergovernmental Panel on Climate Change's (IPCC) Fourth Assessment Report.

GHG Reduction Regulations and Plans

Assembly Bill 32 – Global Warming Solution Act of 2006: The California Global Warming Solutions Act of 2006, widely known as AB 32, requires that CARB develop and enforce regulations for the reporting and verification of Statewide GHG emissions. CARB is directed by AB 32 to set a GHG emission limit, based on 1990 levels, to be achieved by 2020. The bill requires CARB to adopt rules and regulations in an open public process to achieve the maximum technologically feasible and cost-effective GHG emission reductions.

Senate Bill 32: Signed into law by Governor Brown on September 8, 2016, Senate Bill (SB) 32 (Amendments to the California Global Warming Solutions Action of 2006) extends California's GHG reduction programs beyond 2020. SB 32 amended the Health and Safety Code to include Section 38566, which contains language to authorize CARB to achieve a Statewide GHG emission reduction of at least 40 percent below 1990 levels by no later than December 31, 2030. SB 32 codified the targets established by EO 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 EO B-30-15 of 80 percent below 1990 emissions levels by 2050.

Assembly Bill 1279: Approved by Governor Newsom on September 16, 2022, AB 1279, The California Climate Crisis Act, declares the policy of the State to achieve net zero GHG emissions as soon as possible, but no later than 2045, and achieve and maintain net negative GHG emissions thereafter, and to ensure that by 2045, Statewide anthropogenic GHG emissions are reduced to at least 85 percent below the 1990 levels. AB 1279 anticipates achieving these policies through direct GHG emissions reductions, removal of CO2 from the atmosphere (carbon capture), and almost complete transition away from fossil fuels.

California Air Resources Board: The Scoping Plan is a strategy CARB develops and updates at least one every five years, as required by AB 32. It lays out the transformations needed across our society and economy to reduce emissions and reach our climate targets. The current 2022 Scoping Plan is the third update to the original plan that was adopted in 2008. The initial 2008 Scoping Plan laid out a path to achieve the AB 32 mandate of returning to 1990 levels of GHG emissions by 2020, a reduction of approximately 15 percent below business as usual. The 2008 Scoping Plan included a mix of incentives, regulations, and carbon pricing, laying out the portfolio approach to addressing climate change and clearly making the case for using multiple tools to meet California's GHG targets. The 2013 Scoping Plan assessed progress toward achieving the 2020 mandate and made the case for addressing short-lived climate pollutants (SLCPs). The 2017 Scoping Plan also assessed the progress toward achieving the 2020 limit and provided a technologically feasible and cost-effective path to achieving the SB 32 mandate of reducing GHGs by at least 40 percent below 1990 levels by 2030. On December 15, 2022, CARB approved the 2022 Scoping Plan for Achieving Carbon Neutrality (2022 Scoping Plan). The 2022 Scoping Plan lays out a path to achieve targets for carbon neutrality and reduce anthropogenic GHG emissions by 85 percent below 1990 levels no later than 2045, as directed by Assembly Bill 1279. The actions and outcomes in the plan will achieve significant reductions in fossil fuel combustion by deploying clean technologies and fuels; further reductions in SLCPs; support for sustainable development; increased action on natural and working lands to reduce emissions and sequester carbon; and the capture and storage of carbon (CARB 2022).

Humboldt County: The County of Humboldt completed a draft Climate Action Plan for their General Plan Update in January 2012 (Humboldt County 2012). The plan contained GHG reduction strategies designed to achieve the goal of limiting greenhouse gas emissions to 1990 emissions levels by 2020. The NCUAQMD and Humboldt County have not adopted any thresholds of significance for measuring the impact of GHG emissions generated by a proposed project.

Evaluation

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

Less than significant impact. The NCUAQMD and Humboldt County have not adopted any thresholds of significance for evaluating the impact of GHG emissions generated by a proposed Project. This section includes a discussion of potential GHG emissions impacts with an emphasis on Project features which would reduce GHG emissions.

Construction

Construction GHG emissions are generated by vehicle engine exhaust from construction equipment, on-road hauling trucks, vendor trips, and worker commuting trips. The proposed Project is relatively small, and construction would be short term (less than one year). All construction equipment and commercial trucks would be maintained to meet current emissions standards as required by CARB. As reported in the CalEEMod output (see Appendix B), construction of the proposed Project would produce 57.8 MT of CO_2e. Based on the small size of the Project and the short duration of construction activities (less than 1 year), impacts associated with GHG emissions generated from construction would be less than significant.

Operation

GHG emissions sources during operation would include vehicle use from workers, deliveries, and maintenance; solid waste generation; electricity use; and operation of the backup generator for maintenance and testing. Because the Project would upgrade an existing water distribution system, the current level of vehicle use and solid waste generation (i.e., those levels under existing conditions), and the GHG emission associated with those sources, would not increase with implementation of the Project.

The only new sources of GHG emissions for operation of the Project would be from the proposed generator, which would only operate for about 5 minutes per week for testing and maintenance purposes (about 5 hours per year), and from an increase in electrical power consumption of about 3,300-kWh per year. Power for the proposed Project would be provided mainly by existing PG&E connections. As reported in the CalEEMod output (seen Appendix B), operation of the proposed Project would produce 0.8 MT of CO_2e per year. To place this minimal amount of GHG emissions in context, the Sacramento Metropolitan Air Quality Management District has adopted a screening level of 1,100 MT CO_2e per year to determine the significance of land use development Project GHG emissions. Therefore, due to the minimal potential increase in GHG emissions, the proposed Project would not 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?

Less than significant impact. The proposed Project was evaluated against the following applicable plans, policies, and regulations:

Humboldt County Draft Climate Action Plan: The County's 2012 Draft Climate Action Plan contains strategies for reducing greenhouse gas emissions. This Project, as proposed, is consistent with the following GHG reduction strategies listed in the County of Humboldt Climate Action Plan:

a) *Foster land use intensity near, along with connectivity to, retail and employment centers and services to reduce vehicle miles traveled and increase the efficiency of delivery services through adoption and implementation of focused growth principles and policies.*

   The Project setting consists of a small rural community. The Project would help maintain community integrity and maintain the community as a desirable place to live by ensuring reliable access to clean and safe water and by providing additional protection from fire hazards. The workforce during construction is anticipated to live locally in southern Humboldt County and commute to and from the site. During operation, the same level of employment currently utilized to maintain the existing infrastructure would be required. Vehicle miles traveled would slightly increase during construction and return to baseline conditions following construction.

b) *Conserve natural lands for carbon sequestration.*

   The proposed improvements would be within or immediately adjacent to the existing footprint of the water distribution system or would be located within previously disturbed areas. No removal of live trees is proposed, and no conversion of timberland would occur. Installation of water supplies for firefighting would help to protect adjacent forested lands from wildfire threat.

c) *Reduce length and frequency of vehicle trips.*

   See response to strategy a), above.

d) *Promote the revitalization of communities in transition due to the decline of resource-based industries.*

   The Project would remediate existing issues with water quality and reliability and would provide additional fire protection in a wildland urban interface area. These improvements would enhance the quality of life and safety in the community of Orleans.

e) *Ensure that land use decisions conserve, enhance, and manage water resources on a sustainable basis to assure sufficient clean water for beneficial uses and future generations.*

The proposed Project would enhance the existing water treatment system. It would be sufficient to maintain existing demand sustainably and would improve the reliability and safety of the system.

Therefore, the proposed Project would not conflict with the Humboldt County Draft Climate Action Plan.

CARB Scoping Plan: As described above, the 2022 CARB Scoping Plan contains plans, policies, and measures to achieve State mandated targets to achieve carbon neutrality and reduce anthropogenic GHG emissions by 85 percent below 1990 levels no later than 2045. The Project would not result in long-term increases in vehicle miles traveled (VMT). The Project would result in a 3,300 kWh per year increase in electricity use. As required by Senate Bill 100, the 2022 Scoping Plan accounts for all retail electricity sold in California to be provided by zero-carbon sources. accordingly, the Project's electricity

use would not result in GHG emissions after 2045. Therefore, the proposed Project would not conflict with the 2022 CARB Scoping Plan.

Therefore, the proposed Project would not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases, and impacts would be less than significant.

IX. HAZARDS AND HAZARDOUS MATERIALS

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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 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?	☐	☐	☒	☐

Environmental Setting

Hazardous materials and hazardous wastes are subject to extensive federal, State, and local regulations to protect public health and the environment. These regulations provide definitions of hazardous materials; establish reporting requirements; set guidelines for handling, storage, transport, and disposal of hazardous wastes; and require health and safety provisions for workers and the public. The major federal, State, and regional agencies enforcing these regulations are USEPA and the Occupational Safety and Health Administration (OSHA); California Department of Toxic Substances Control (DTSC); California Department of Industrial Relations, California Division of Occupational Safety and Health (Cal/OSHA); California Governor's Office of Emergency Services (Cal OES); and North Coast Unified Air Quality Management District (NCUAQMD).

The site is not shown as containing hazardous materials or being involved in any cleanup or monitoring programs. The DTSC EnviroStor mapper indicated no cleanup or monitoring programs on the site or in the area (DTSC 2022). The State Water Resource Control Board Geotracker did not indicate the presence of a site in the vicinity of the Project (SWRCB 2022).

The nearest school in the District to the Project site is Orleans Elementary School, located at 38016 California 96, Orleans, CA 95556, approximately 1.4-miles east of the Project site. The next closest schools in the District are Captain John Continuation High School, located at 101 Loop Avenue, Hoopa, CA 95546, and Hoopa Valley High School, located at 11400 State Route 96, Hoopa, CA 95546, both approximately 25-miles southwest from the Project site.

The nearest airport to the site is the Hoopa Airport, located approximately 27-miles to the south. According to Humboldt County Web GIS data, the Project site is within a wildland Fire Hazard Severity Zones of "Very High" within a State Responsibility Area (SRA) (Humboldt County 2020).

Evaluation

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

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

Less than significant impact. The proposed Project would replace an existing in-line filtration plant with a new surface, direct-filtration WTP. The Project would construct a new water treatment building and a backwash reclaim tank. The Project would also replace an existing redwood tank with a new steel water storage tank. Hazardous materials associated with construction include fuels, lubricants, and paint. Hazardous materials associated with the proposed operation include propane, diesel, lubricants, paint, solvents, and sodium hypochlorite. Disinfection would be accomplished by injecting sodium hypochlorite into the water following filtration prior to booster pumping, which would effectively mix the chemical with the filtered water. The sodium hypochlorite storage and feed system would include a 15-gallon tank and solenoid operated diaphragm metering pump. The tank would be sealed and vented to the outside to minimize issues with off gassing of chlorine which would result in corrosion inside the water treatment building.

A small electric heater would be installed in the water treatment building to keep the interior temperature above freezing. Additionally, a small exhaust fan would be provided adjacent to the sodium hypochlorite system to vent any chlorine gases to the outside to prevent interior corrosion. An emergency eyewash and shower would be connected to the exterior of the water treatment building, as well. A generator and propane tank would be located adjacent to the new water treatment building and backwash reclaim tank. However, the generator would only run 5 minutes per week for testing and maintenance purposes.

All other potentially hazardous materials would be used occasionally and in small amounts as required for routine maintenance and cleaning. Employees responsible for the application of these products would be trained to handle, mix, apply and dispose of the products with the proper safety equipment in accordance with the manufacturer's recommendations. Material Safety Data Sheets for any hazardous materials used onsite would be available for review by employees, visitors, and first responders.

Hazardous chemicals would be purchased from licensed vendors and transported/shipped to the Project site in accordance with all federal, State, and local regulations for the transport of hazardous materials.

With appropriate storage, handling, and application practices that comply with the requirements of Humboldt County, it is not anticipated that the use of these materials at the facility would not pose a significant hazard. Use of hazardous materials is not expected to change significantly relative to existing conditions. The proposed Project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials, or through reasonably foreseeable accidental releases, and impacts would be less than significant for a) and b).

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

No impact. There are no schools located within one-quarter mile of the Project site. The nearest school in the District to the Project site is Orleans Elementary School, located at 38016 California 96, Orleans, CA 95556, approximately 1.4-miles east of the Project site. The next closest schools in the District are Captain John Continuation High School, located at 101 Loop Avenue, Hoopa, CA 95546, and Hoopa Valley High School, located at 11400 State Route 96, Hoopa, CA 95546, both approximately 25-miles southwest from the Project site. The proposed Project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25-mile of an existing or proposed school. 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 Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

No impact. The Project site is not included on a list of hazardous materials sites reporting to the DTSC or SWRCB. Because there are no hazardous materials concerns currently at the Project site, implementation of the proposed Project would not create a significant hazard to the public or the environment as a result. 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?

No impact. The Project site is not located within an airport land use plan area. The site is approximately 27.0 miles north of Hoopa Airport. Therefore, no impact would occur.

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

Less than significant impact. The Project would comply with the requirements of the CBC and California Department of Fire and Forestry (CAL FIRE) regulations including those regarding emergency vehicle access, turnarounds, and defensible space. The Project site is located within the Mid-Klamath Wildfire Planning Unit. Evacuation routes would depend on the location of the community at risk and law enforcement recommendations based on fire behavior, wind patterns, traffic, and ingress of emergency vehicles. The determination for the locations of these sites is normally made by the Humboldt County Emergency Operations Center Incident Commander in cooperation with an incident Management Team (Humboldt County 2019). SR 96 would, in most cases, serve as the primary evacuation route. The

proposed Project is accessed via Camp Creek Road, which is directly connected to the main primary evacuation route, SR 96. The Project would construct a new water treatment building, backwash reclaim tank, and water storage tank on the northern side of Camp Creek Road and would not limit ingress or egress of the Project area. The existing, unimproved dirt road leading to the water treatment building would be widened to create a 12-ft wide road with a 14-ft wide unobstructed clearance (2-ft on each side of the driveway). The path leading to the water treatment building would begin on the edge of Camp Creek Road (a paved roadway). Additionally, the Project would recontour the existing unimproved dirt road from the new water treatment building to the new water storage tank site after installation of all buried utilities. Therefore, the proposed Project would not substantially impair an adopted emergency response plan or emergency evacuation plan and impacts would be less than significant.

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

Less than significant impact. According to Humboldt County GIS data, the Project site is in a Fire Hazard Severity Zone of "Very High" and is located within the SRA. The proposed Project would comply with all CAL FIRE SRA requirements including those for emergency vehicle access, turnarounds, and defensible space. By adding a fire hydrant for fire suppression in an area where no hydrants currently exist, the Project would enhance the protection of existing residences, infrastructure, and wildlands. All proposed structure modifications would comply with County fire code requirements and access would follow requirements by CAL FIRE. The Project would maintain current levels of service, would not be growth inducing, and would not create any new residences or occupied structures in an area susceptible to wildfire. Impacts would be less than significant. See also the discussion of wildfire in Section 7.XXI. *Wildfire* of this Initial Study.

X. HYDROLOGY AND WATER QUALITY

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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 the project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐
c)	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
	i. Result in substantial erosion or siltation on- or off-site?	☐	☐	☒	☐
	ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off- site?	☐	☐	☒	☐
	iii. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional resources of polluted runoff?	☐	☐	☒	☐
	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?	☐	☐	☒	☐

A Preliminary Engineering Report was prepared by Waterworks Engineers on January 14, 2021. The Preliminary Engineering Report is included as Appendix E to this Initial Study.

Environmental Setting

The proposed Project is located within the Camp Creek hydrologic unit (Hydrologic Unity Code (HUC)12: 180102090801). Waterways in the region of the Project area, including Crawford Creek and Camp Creek, flow into the Klamath River and eventually the Pacific Ocean. The Project site is bordered to the north and west by densely wooded land and the Six Rivers National Forest and Crawford Creek, to the south by SR 96, wooded land, and Klamath River, and to the east by wooded land and residential homes. National Wetland Inventory (NWI) mapping shows Crawford Creek and a tributary, classified as Riverine, run along the western boundary of the Project area. The proposed Project improvements would be

located approximately 260-ft east of Crawford Creek, approximately 950-ft west of Camp Creek, and approximately 1,500- ft north of the Klamath River.

An existing small pond is located near the proposed water treatment building and backwash recycling tank. The pond is a result of historic hydrologic mining in the area and would not be impacted by the proposed Project. Additionally, a drainage ditch containing seepage from the pond is located approximately 40-ft to the east of the proposed tank location. The ditch is the result of historic hydrologic mining in the area and is not a natural ditch. The ditch would not be impacted by the proposed Project.

FEMA flood insurance rate maps were reviewed for the Project's proximity to a 100-year floodplain (FEMA 2022). The proposed Project is on FEMA panel #06023C0275F, effective 11/4/2016. The Project site is located in Zone D, which is an area where no analysis of flood hazards has been conducted. Zone D is used for areas where there are possible but undetermined flood hazards.

The Project is not located in an area with a sustainable groundwater management plan in place, as the Sustainable Groundwater Management Act only applies to groundwater basins designated as medium or high priority. Currently there is one medium-priority basin, the Eel River Valley groundwater basin, within Humboldt County (Humboldt County 2021). That basin is located over 40 air miles southwest of the Project site. Stormwater and wastewater drainage systems are not within the scope of this Project.

Evaluation

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

Less than significant impact. The Project would be limited to upgrading an existing water treatment system with a new surface, direct-filtration WTP. The Project would construct a new water treatment building, backwash reclaim tank and water storage tank within its existing footprint or within previously disturbed areas. A small pond is located near the new water treatment building and backwash reclaim tank. The pond is the result of historic hydrologic mining in the area and will not be impacted by the proposed Project. Currently, water from the storage tanks runs downhill to the in-line filtration plant through a pipeline. As part of the proposed Project, this pipeline would be abandoned and left in place. A drainage ditch containing seepage from the pond is located approximately 40-ft to the east of the proposed water storage tank location. This ditch is the result of historic hydrologic mining in the area and is not a natural feature. The ditch would not be impacted by the proposed Project.

The only grading proposed as part of the Project would include any minor alterations necessary to accommodate new or upgraded features. However, the proposed Project has the potential to temporarily degrade water quality due to increased erosion during Project construction as the proposed Project would require over one acre of grading on the Project site. Projects resulting in one or more acre of ground disturbance require a General Construction Activity Stormwater Permit and a NPDES permit from the SWRCB. Use of the permit requires the preparation of a SWPPP for approval by the SWRCB. The SWPPP would contain BMPs to control construction-related erosion and sedimentation and prevent damage to streams, watercourses, and aquatic habitat and reduce potential impacts to water quality during construction of the Project. The SWPPP submitted to the SWRCB with the NOI for the proposed Project must include a description of all post-construction stormwater management measures and a plan for long-term maintenance. The maintenance plan must be designed for a minimum of five years

and must describe the procedures to ensure that the post-construction stormwater management measures are adequately maintained.

Post-construction measures are defined as structural and non-structural controls that detain, retain, or filter the release of pollutants to receiving water after final stabilization is attained. Non-structural controls are required unless the discharger demonstrates that non-structural controls are infeasible or that structural controls will produce greater reduction in water quality impacts. Nonstructural controls may include vegetated swales, soil quality enhancement, setbacks, buffers and/or rooftop and impervious surface disconnection. Nonstructural controls can be included as a landscape amenity.

Compliance with SWRCB permit conditions ensures that the Project would violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality, and impacts would be less than significant.

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

Less than significant impact. The proposed Project would not require groundwater supplies for construction or operation. The proposed Project would replace an existing in-line filtration plant with a new surface, direct-filtration WTP. The Project would construct a new water treatment building and a backwash reclaim tank. A proposed generator and propane tank would be located adjacent to the water treatment building. The Project would also demolish an existing redwood storage tank and construct a new steel water storage tank.

Bajada Geosciences, Inc conducted test pits to determine if groundwater was encountered (Bajada Geosciences Inc., 2022). A search of regional groundwater data did not identify any wells within 2,000-ft of the Project site. In addition, a search of the Geotracker database did not indicate the presence of subsurface exploration or data close to the Project site. Springs have not been mapped on U.S Geologic topographic maps in the Project region. Groundwater elevations at Project improvement locations will fluctuate over time. The depth to groundwater can vary throughout the year and from year to year. Intense and long duration precipitation or drought, modification of topography, and cultural land use changes can contribute to fluctuations in groundwater levels. Localized saturated conditions or perched groundwater conditions near the ground surface could be present during and following periods of heavy precipitation or if on-site sources contribute water. If groundwater is encountered during construction, it is the Contractor's responsibility to install mitigation measures for adverse impacts caused by groundwater encountered in excavations.

The new water treatment building would be located on a relatively flat area, southwest of the existing in-line filtration plant, which is heavily disturbed by past mining activities. The new storage tank would take the place of the existing redwood storage tank, which is within a previously excavated area for future tanks. Soil disturbance would be limited to small areas for a short duration during construction. The Project would not include substantial increases in impervious surfaces that would limit natural groundwater recharge. The proposed Project would have a less than significant impact on groundwater supplies or groundwater recharge.

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

i. Result in substantial erosion or siltation on- or off-site?

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

iii. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional resources of polluted runoff?

Less than significant impact. The Project would be limited to upgrading infrastructure within its existing footprint or within previously disturbed areas. Soil disturbance would be limited to minimal areas for a short duration during construction. However, the Project would disturb over one acre of soil, so a SWPPP would be required. The SWPPP would contain BMPs to control construction-related erosion and sedimentation and prevent damage to streams, watercourses, and aquatic habitat and reduce potential impacts to water quality during construction of the Project. As the Project is upgrading existing infrastructure, the Project would not significantly increase impervious surfaces more than what currently exists.

The only grading proposed as part of the Project would include any minor alterations necessary to accommodate new or upgraded features, including the new water treatment building, backwash reclaim tank, and new storage tank. The proposed Project would not significantly alter drainage patterns and would not impede or redirect flood flows. It would not block or reroute any existing drainage or stream. Additionally, the Project would comply with post-construction measures in accordance with NPDES Construction General Permit to ensure the Project would not result in an increase in polluted runoff. Any impacts for points c) i. through c) iii. would be less than significant.

iv. Impede or redirect flood flows?

Less than significant impact. The proposed Project improvements would be located approximately 260-ft east of Crawford Creek, approximately 950-ft west of Camp Creek, and approximately 1,500- ft north of the Klamath River. As there are no water courses near the proposed Project improvements and as the Project would implement the SWPPP and associated BMPs required under the Statewide Construction General Permit, the Project would not impede or redirect flood flows. Impacts would be less than significant.

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

Less than significant impact. The Project is not in an area that is at risk from seiche or tsunamis. The Project is not located near a large body of water capable of producing a seiche or tsunami. The proposed Project is on FEMA panel #06023C0275F, effective 11/4/2016. The Project site is located in Zone D, which is an area where no analysis of flood hazards has been conducted. Zone D is used for areas where there are possible but undetermined flood hazards. In advance of a potential flood, staff would take steps necessary to protect the new water treatment building, but not limited to, placing sandbags, and removing chemicals from the area that may pose a risk if contacted by flood waters. Therefore, the proposed Project would not risk release of pollutants due to Project inundation from seiche, tsunami, or flood. Any impact would be less than significant.

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

Less than significant impact. The Project is located within the area covered by the North Coast Regional Water Quality Basin Plan and would not conflict with or obstruct its implementation (NCRWQCB 2023). Construction activities would feature standard BMPs, including temporary erosion and runoff control measures that minimize the potential for erosion and storm water runoff.

The Project is not located in an area with a sustainable groundwater management plan in place, as the Sustainable Groundwater Management Act only applies to groundwater basins designated as medium or high priority. Currently there is one medium-priority basin, the Eel River Valley groundwater basin, within Humboldt County (Humboldt County 2021). That basin is located over 40 air miles southwest of the Project site.

Bajada Geosciences, Inc. conducted test pits to determine if groundwater was encountered. A search of regional groundwater data did not identify any wells within 2,000-ft of the Project site. In addition, a search of the Geotracker database did not indicate the presence of subsurface exploration or data close to the Project site. Springs have not been mapped on U.S Geologic topographic maps in the Project region. Therefore, any impacts would be less than significant.

XI. LAND USE AND PLANNING

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:					
a)	Physically divide an established community?	☐	☐	☐	☒
b)	Cause 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?	☐	☐	☒	☐

Environmental Setting

The General Plan land use designations for the Project area are Conservation Floodway (CF), and Residential Estates, 1 to 5-acre minimum (RE 1-5).

The General Plan (Humboldt County 2017) designation of CF applies to the channels of river and streams, including the areas which carry normal flood waters or the area between existing or planned levees, dikes or other such flood control features, and in which agricultural and limited recreational uses may be desirable or permissible. The RE designation is used for lands adjacent to urban areas or rural communities with limited public services but suitable for single-family residential use. It is also intended as a transition from urban development to rural lands. This designation is commonly used in water-only service areas. The RE designation has a density range of 1 to 5-acres per unit with a maximum floor area ratio (FAR) or 0.20.

The Project area has a zoning designation of Unclassified (U). Land uses surrounding the Project site include U.S Forest Service Lands and residential land.

Section 314-8.1 states that all of the unincorporated areas of the County not otherwise zoned are designated as the Unclassified Zone. This area has not been sufficiently studied to justify precise zoning classifications. Principal permitted uses include one-family dwelling, general agriculture, rooming, and boarding of not more than two persons, and manufactured homes. All other uses not specified in the subsection, Principal Permitted Uses, may be permitted upon the granting of a Use Permit.

Evaluation

a) Physically divide an established community?

No impact. The proposed Project would replace an existing in-line filtration plant with a new surface, direct-filtration WTP. The Project would construct a new water treatment building with a backwash reclaim tank. A proposed generator and propane tank would be located adjacent to the water treatment building. The Project would demolish an existing redwood storage tank and construct a new water storage tank. Additionally, the Project would install a new fire hydrant at the entrance of the path leading to the proposed water treatment building, directly off Camp Creek Road. New fencing around the water treatment building, generator, propane tank, backwash reclaim tank would be installed.

Existing subsurface piping would be demolished and/or abandoned. New subsurface piping would tie into the existing distribution system piping located throughout the parcel in order to serve the new water treatment system.

The proposed Project would not divide the established community that is located within the vicinity of the Project along Camp Creek Road and Placer Drive. The water treatment system currently exists, and the proposed Project would include upgrades to the existing system. During temporary construction of the water storage tank, bottled water may be brought in for potable services. Property owners would be notified in advance of the shutdown. The proposed Project would not significantly expand the built footprint of the existing system, and therefore would not physically divide an established community. No impact would occur.

b) Cause 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?

Less than significant impact. The proposed Project would include updates to an existing water treatment system. The nature or intensity of use on any parcel would not change and built footprints would not significantly expand. Type and intensity of use would continue without significant change relative to existing conditions. Vegetation clearing would be limited to the minimum extent necessary to ensure site access and safety, and no removal of trees is proposed. Potential impacts would be less than significant, and no mitigation would be necessary.

XII. MINERAL RESOURCES

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☐	☐	☐	☒

Environmental Setting

Current mineral resource production in the County is primarily limited to sand, gravel, and rock extraction. The State Surface Mining and Reclamation Act of 1975 (SMARA) brought about a State policy for the reclamation of mined lands. According to the CA Department of Conservation's Mines Online, there are no SMARA parcels located in the Project area (CDC 2022c).

Evaluation

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?

No Impact. According to SMARA Mines Online, the Project site is not located on a SMARA parcel. Therefore, the Project would not result in a loss of availability of mineral resources or recovery site delineated on a local general plan, specific plan, or any land use plan. There would be no impact.

XIII. NOISE

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☐	☐	☒	☐

Environmental Setting

The Project is located in unincorporated Orleans area in Humboldt County, approximately 1.1 miles west of downtown Orleans. The proposed Project site would sit on the northern side of SR 96 and would be accessed via an existing path directly off Camp Creek Road. The Project site is bordered to the north and west by densely wooded land, the Six Rivers National Forest, to the south by SR 96, wooded land, and Klamath River, and to the east by wooded land and residential homes.

OMWC currently owns and operates a surface water diversion off Crawford Creek, a redwood raw storage tank, an in-line infiltration plant, and a water distribution system. Two booster pumps run continuously to supply water to the distribution system and two pressure regulators are located in the distribution system. A small 12-volt battery backup system with inverter provides standby power for the plant controls and chemical pumps. No standby power is available for the booster pumps.

The predominant existing noise sources in the vicinity of the proposed Project site are vehicles on adjacent streets. Sensitive receptors, including residences, border the Project site to the southeast. The nearest sensitive receptors to the water treatment building and generator would be single-family residences approximately 350-ft to the southeast. The nearest sensitive receptors to the proposed new water storage tank would be single-family residences approximately 500-ft to the southeast.

Evaluation

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?

Less than significant impact with mitigation. The noise standards in the Humboldt County General Plan are based on EPA recommendations. Section 3240 of the 2017 General Plan states: "The Environmental Protection Agency identifies 45 Day-Night average sound level (Ldn) indoors and 55 Ldn outdoors as the maximum level below which no effects on public health and welfare occur. Ldn is the Day-Night Noise Level. Ldn is the average sound level in decibels, excluding frequencies beyond the range of the human ear, during a 24-hour period with a 10 decibels (dB) weighting applied to nighttime sound levels. A standard construction wood frame house reduces noise transmission by 15dB. Since interior noise levels for residences are not to exceed 45dB, the maximum acceptable exterior noise level for residences is 60dB without any additional insulation being required. Of course, this would vary depending on the land use designation, adjacent uses, distance to noise source, and intervening topography, vegetation, and other buffers." Since Ldn is a daily average, allowable noise levels can increase in relation to shorter periods of time. As stated in Section 3240, "Fences, landscaping, and noise insulation can be used to mitigate the hazards of excessive noise levels."

The existing County noise standard utilizes an averaging mechanism (dBA Ldn) applicable to activities that generate sound sources averaged over a 24-hour period of time. This type of measurement is commonly used for measuring highway noise or industrial operations. A ten-decibel addition is added to noise levels occurring at nighttime – between 10:00 p.m. and 7:00 a.m. Utilizing a typical standard of 45 dBA Ldn interior noise level allows for a maximum of 60 dBA Ldn for 'normally acceptable' exterior levels.

Construction

Construction activities would result in a temporary increase in noise levels in the area. This noise increase would be short-term and would occur during daytime hours. The nearest sensitive receptors to any of the proposed Project improvements are single-family residences approximately 350-feet southeast from the new water treatment building. Mitigation Measure NOI-01 would be implemented during Project construction to reduce potential impacts from construction noise to a less than significant level. The proposed mitigation would limit construction hours and days and would require standard maintenance of tools and equipment to reduce noise levels. With implementation of the proposed mitigation, potentially significant impacts would be reduced to a level of less than significant.

Operation

The long-term operation of the Project is not expected to generate significant noise levels that would exceed the Humboldt County General Plan Noise Element standards. Operations would be consistent with the sorts of activities that occur under existing conditions, including deliveries, maintenance vehicle travel, routine maintenance, generator usage during power outages, and pump operation.

The proposed operation would include a small electric heater and a small exhaust fan located within the 468-sf water treatment building. The building would be supported by a reinforced slab foundation and the walls would be made of CMU block, supporting open web steel trusses with a metal roof to

safeguard against wildfires. As the electric heater and exhaust fan would be located within the CMU block building, potential noise levels would be reduced.

A generator and propane tank would be located adjacent to the new water treatment building and backwash reclaim tank. However, the generator would only operate for about five minutes per week for testing and maintenance purposes. The nearest sensitive receptor to the generator would be single-family residences located approximately 350-ft to the southeast. As operation would be consistent with existing operations, impacts would be less than significant.

Therefore, with implementation of Mitigation Measure NOI-01, construction or operation of the proposed Project would not expose persons to or result in the generation of temporary or permanent noise levels in excess of standards established in the local general plan, noise ordinance, or applicable standard of other agencies. Impacts would be less than significant with mitigation.

Mitigation Measure NOI-01: Construction Related Noise

The following shall be implemented during construction activities:

- The operation of tools or equipment used in construction, drilling, repair, alternation, or demolition shall occur between the hours of 8 a.m. and 5 p.m. Monday through Friday, and between 9 a.m. and 5 p.m. on Saturdays.
- No heavy equipment related to construction activities shall be allowed on Sundays or holidays.
- All stationery and construction equipment shall be maintained in good working order and fitted with factor approved muffler systems.

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

Less than significant impact. Generally, construction activities within 200-feet and pile driving within 468-feet of vibration sensitive use would be potentially disruptive to vibration-sensitive operations (Caltrans 2013). Land uses in which groundborne vibration could potentially interfere with operations or equipment, such as research, manufacturing, hospitals, and university research operations are considered “vibration sensitive” (Caltrans 2013).

All construction activities would be temporary and would not create long-term ground disturbing activities. Construction would include approximately two weeks of site preparation, approximately two weeks of demolition, approximately two weeks of grading, approximately three weeks of underground infrastructure and utilities, and approximately six months of physical building construction. The full buildout of the proposed Project would be completed in less than one year. There are no vibration sensitive land uses within 200-feet of the proposed Project. The nearest sensitive land use is single-family residences located approximately 350-ft southeast from the water treatment building. The operation of the Project would not involve the use of heavy machinery or ground disturbing activities that would result in excessive groundborne vibration or groundborne noise levels. A generator and propane tank would be located adjacent to the new water treatment building and backwash reclaim tank. However, the generator would only operate for about 5 minutes per week for testing and maintenance purposes. Therefore, the proposed Project would not expose persons to or generate excessive groundborne vibration or groundborne noise levels, and impacts would be less than significant.

c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

Less than significant impact. The nearest airport to the Project site is Hoopa Airport, located approximately 26-miles to the south. At this distance, there would be no excessive noise levels related to the airport. As there are no private airstrips in the vicinity of the Project site, the proposed Project would not expose people working in the Project area to excessive noise levels. There would be no impact.

XIV. POPULATION AND HOUSING

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☐	☐	☐	☒

Environmental Setting

Humboldt County is a rural county with a large land area and low population density. The US Census Bureau (USCB) estimates that the County's population was 136,373 in 2018, up from 134,794 in 2010 (USCB 2022). Orleans is not a Census Designated Place within Humboldt County.

Evaluation

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)?

Less than significant impact. Growth inducing impacts are generally caused by Projects that have a direct or indirect effect on economic growth, population growth, or when the Project taxes community service facilities which require upgrades beyond the existing remaining capacity. The proposed Project would upgrade the existing system by replacing an in-line filtration plant with a new surface, direct-filtration WTP. It is anticipated that the workforce for construction of the proposed Project would be drawn from the existing population in northern Humboldt County and that they would maintain in their current residences and commute to work. No long-term jobs are expected to be created as a result of this Project. The Project would not create new water service for a level of development beyond that which currently exists. Impacts would be less than significant.

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

No impact. The proposed Project would upgrade an existing water treatment system. The Project would not induce any population growth, raise rents or property values significantly, or otherwise make housing prohibitive for current residents. During construction of the new storage tank, bottled water may be brought for potable purposes. Therefore, replacement housing would not be required. There would be no impact.

XV. PUBLIC SERVICES

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

Environmental Setting

The Orleans Volunteer Fire Department is the nearest fire department (Humboldt County 2019). Their station is located at 38162 California 96, Orleans, CA 95556, located approximately 1.5-miles east of the Project site. The Project site is in an SRA served by CAL FIRE. The nearest CAL FIRE station is the CAL FIRE Elk Camp Forest Fire Station, located at Bald Hills at Johnson Road, Orick, CA, 95555, approximately 38-miles east via SR 96.

The nearest police station is the Humboldt County Sheriff Office, Willow Creek Station located approximately 36-miles to the south by California 96 at 80 Country Club Drive, Willow Creek, CA 95573. Deputies assigned to the Willow Creek Station provide law enforcement services to northeastern part of Humboldt County including Willow creek, Hoopa, Orleans, Redwood Valley and other surrounding communities and work in cooperation with the Hoopa Valley Tribal Police Department and California Highway Patrol. The Hoopa Valley Tribal Police Station is located at 12637 California 96, Hoopa, CA 95546, approximately 23-miles southwest of the Project site.

The Project site is in the Klamath-Trinity Joint Unified School District (District). The nearest school in the District to the Project site is Orleans Elementary School, located at 38016 California 96, Orleans, CA 95556, approximately 1.4-miles east of the Project site. The next closest schools in the District are Captain John Continuation High School, located at 101 Loop Avenue, Hoopa, CA 95546, and Hoopa Valley High School, located at 11400 State Route 96, Hoopa, CA 95546, both approximately 25-miles southwest from the Project site.

The Six Rivers National Forest surrounds the Project site and borders the Project parcel to the west and north. Project work would occur within the Project parcel and would not take place on State Park land.

The next nearest small park, Three Dollar Bar, is located approximately 9-miles northeast of the Project site. No other parks or recreational facilities are in the immediate vicinity of the Project.

Evaluation

a) Fire protection?

Less than significant impact. The proposed Project would replace an existing in-line filtration plant with a new surface, direct-filtration WTP. The Project would construct a new water treatment building, a backwash reclaim tank, and a new steel water storage tank. A generator and propane tank would be located adjacent to the water treatment building. A new fire hydrant would be installed at the entrance of the path leading to the proposed water treatment building, directly off Camp Creek Road. Existing subsurface piping would be demolished and/or abandoned. New subsurface piping would tie into the existing distribution system piping located throughout the parcel in order to serve the new water treatment system.

Though the risk of ignition may be slightly increased during construction, such elevated risk would be temporary and of short duration. No change in fire risk is projected post-construction relative to existing conditions. The site is located within an SRA served by CAL FIRE, with additional protection provided by the Orleans Volunteer Fire Department. Additionally, by adding a fire hydrant in an area where no hydrants currently exist, the Project would improve the capacity of existing agencies to fight fires in the Project site. All proposed structure modifications would comply with County fire code requirements and access would follow requirements by CAL FIRE. The Project would not create any long-term jobs and would not construct any large new facilities. Correspondingly, the Project would not result in the need for new or physically altered fire protection facilities. Impacts to fire protection services from the proposed Project would be less than significant, and no mitigation would be necessary.

b) Police protection?

No impact. The proposed Project would replace an existing in-line filtration plant with a new surface, direct-filtration WTP. The Project would construct a new water treatment building and a backwash reclaim tank. A generator and propane tank would be located adjacent to the water treatment building. Additionally, the Project would demolish an existing redwood storage tank and construct a new steel water storage tank. A new fire hydrant would be installed at the entrance of the path leading to the proposed water treatment building, directly off Camp Creek Road. Fencing would be installed around the new water treatment building, generator, propane tank, and backwash reclaim tank. Existing subsurface piping would be demolished and/or abandoned. New subsurface piping would tie into the existing distribution system piping located throughout the parcel in order to serve the new water treatment system. The Project would not result in an increase in population, criminal activity, or assets requiring any protection beyond existing levels. No impact would occur.

c) Schools?

No impact. The proposed Project is not expected to have any growth-inducing effects and would have no impact on schools within the District or with enrollment. The Project includes upgrading an existing water treatment system by replacing an in-line filtration plant with a new surface, direct-filtration WTP. No impact on schools would occur.

d) Parks?

No impact. As previously mentioned, the proposed Project would not directly or indirectly induce population growth and would not result in the need for new or expanded park and recreational facilities. Project work would occur within the Project parcel and would not take place on State Park land. The next nearest small park, Three Dollar Bar, is located approximately 9-miles northeast of the Project site. The proposed action would not negatively affect any existing recreation opportunities. No impact on park or recreational facilities would occur. See also the discussion on recreation in Section 7. XVII. *Recreation* of this Initial Study.

e) Other public facilities?

No impact. As previously mentioned, the proposed Project would not directly or indirectly induce population growth and would not result in an increased demand for other public facilities. No impact on demand for other public facilities would occur.

XVI. RECREATION

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

Environmental Setting

Recreational resources are addressed in the Humboldt County General Plan. Approximately 1.4-million of the County's 2.3-million acres are used for agricultural and timber production. More than 550,000-acres are protected open space, forests, and recreation areas. Within the county boundaries, there are four federal parks and beaches; 10 State parks; and 16 county parks and beaches, recreational areas, and reserves. There is also considerable National Forest land, as well as a number of city parks and open spaces owned by non-profit conservation groups. Redwood National Park, Six Rivers National Forest, Redwoods State Park, and King Range National Conservation Area are all significant, protected forests (Humboldt County 2017).

The Six Rivers National Forest surrounds the Project site and borders the Project parcel to the west and north. Project work would occur within the Project parcel and would not take place on State Park land. The next nearest small park, Three Dollar Bar, is located approximately 9-miles northeast of the Project site. No other parks or recreational facilities are in the immediate vicinity of the Project.

Evaluation

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

No impact. The Project would not induce population growth or otherwise result in an increased demand for existing recreational facilities. The Six Rivers National Forest exists in the vicinity of the Project site and borders the Project parcel to the west and north. Work for the Project would not occur on State park land, and it would not impact State park land or facilities. The next nearest small park, Three Dollar Bar, is located approximately 9-miles northeast of the Project site. Therefore, no impact would occur.

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

No impact. The proposed Project would not induce population growth or otherwise require the construction or expansion of recreational facilities. The Project includes upgrading an existing water distribution system by replacing an in-line filtration plant with a new surface, direct-filtration WTP. Further, the proposed Project does not include construction of recreational facilities. No impact would occur.

XVII. TRANSPORTATION

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☐	☐	☒	☐

Environmental Setting

The Project is located in unincorporated Orleans area in Humboldt County, approximately 1.1-miles west of downtown Orleans. The proposed Project site would be located on the northern side of SR 96 and would be accessed via an existing path directly off Camp Creek Road. According to Caltrans, SR 96 is considered an eligible State Scenic Highway (Caltrans 2022). However, no officially designated State Scenic or County Scenic highways in Humboldt County exist near the Project site.

Evaluation

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

Less than significant impact. Project construction would be accomplished by a small number of workers and would take place almost entirely along an existing path off Camp Creek Road. Construction of the Project would result in a temporary increase in construction traffic that would be minimal and for a short duration. Construction activities would be carried out on-site and would not result in substantial adverse effects or conflicts with the local roadway system. Construction would include approximately two weeks of site preparation, approximately 2 weeks of demolition, approximately two weeks of grading, approximately three weeks of underground infrastructure and utilities, and approximately six months of physical building construction. The full buildout of the proposed Project would be completed in less than one year.

The operation of the Project would not create any permanent new jobs or cause long-term changes in traffic volume or patterns. Therefore, the proposed Project would not conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities, and impacts would be less than significant.

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

Less than significant impact. CEQA Guidelines Section 15064.3 requires that transportation impacts be analyzed based on vehicle miles traveled (VMT). If existing models or methods are not available to estimate the vehicle miles traveled for the particular Project being considered, a lead agency may analyze the Project's vehicle miles traveled qualitatively. Construction activities for the proposed Project would be relatively small in scale and short-term in nature and would not constitute a significant impact on vehicle miles travelled. The Project would not change vehicle miles travelled during Project operation relative to existing conditions. The Project would replace an existing in-line filtration plant with a new surface, direct-filtration WTP, and would replace an existing redwood storage tank with a new steel water storage tank. The present employees and their scheduled work hours would continue with the proposed Project and there would be no significant change in vehicle miles travelled. Impacts would be less than significant, and no mitigation would be required.

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

Less than significant impact. The proposed Project would use an existing undeveloped path, directly off Camp Creek Road, to access the Project site. All portions of the Project site are accessible directly via SR 96 and Camp Creek Road. The existing, unimproved dirt road leading to the water treatment building would be widened to create a 12-ft wide road with a 14-ft wide unobstructed clearance (2-ft on each side of the driveway). The path leading to the water treatment building would begin on the edge of Camp Creek Road (a paved roadway). Additionally, the Project would recontour the existing unimproved dirt road from the new water treatment building to the water storage tank site after installation of all buried utilities. Any additional traffic generated by construction activities would be short term and temporary in nature. The proposed Project would not change the public road system in the area nor introduce permanent changes in traffic volume or composition. Therefore, the proposed Project would not substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersection) or incompatible uses (e.g., farm equipment). Potential impacts would be less than significant, and no mitigation would be necessary.

d) Result in inadequate emergency access?

Less than significant impact. All portions of the Project site are accessible via an existing path directly off Camp Creek Road, which is accessed by SR 96. The evacuation routes would depend on the location of the community at risk and law enforcement recommendations based on fire behavior, wind patterns, traffic, and ingress of emergency vehicles. The determination for the locations of these sites is normally made by the Humboldt County Emergency Operations Center Incident Commander in cooperation with an incident Management Team (Humboldt County 2019). SR 96 would, in most cases, serve as the primary evacuation route. The proposed Project is accessed via Camp Creek Road, which is adjacent to the main primary evacuation route, SR 96. The existing, unimproved dirt road leading to the water treatment building would be widened to create a 12-ft wide road with a 14-ft wide unobstructed clearance (2-ft on each side of the driveway). The path leading to the water treatment building would begin on the edge of Camp Creek Road (a paved roadway). Additionally, the Project would recontour the existing unimproved dirt road from the new water treatment building to the new water storage tank site after installation of all buried utilities. All access roads would provide sufficient access for emergency vehicles and opportunities for them to turn around. Therefore, potential impacts would be less than significant, and no mitigation would be necessary.

XVIII. TRIBAL CULTURAL RESOURCES

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
i. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k), or	☐	☒	☐	☐
ii. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code 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.	☐	☒	☐	☐

Environmental Setting

On March 13, 2024, Project notification letters with invitations to consult on the Project were sent by email to representatives of the two tribes on the SWRCB Assembly Bill (AB) 52 list for Humboldt County: the Karuk Tribe and the Wiyot Tribe. Neither tribe responded within the 30-day response period.

However, because the Karuk Tribe owns land within the APE, the SWRCB conducted consultation with the Tribe. Various emails were exchanged, and one phone call occurred on April 16, 2024, between the SWRCB and the Karuk Tribe Tribal Historic Preservation Officer Alex Watts-Tobin. Dr. Watts-Tobin provided ethnographic information that was included in the Helix 2024 Cultural Resources Assessment. Dr. Watts-Tobin also agreed with the findings and mitigation measures proposed in that report and in this document.

Evaluation

a) Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is

geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

i. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)?

Less than significant impact with mitigation. As described in Section 7.V. *Cultural Resources* of this Initial Study, two tribal cultural resources that are listed on the NRHP are located in the APE: the Karuk Panamenik World Renewal Ceremony District (P-12-003123) and its contributing feature, Kusnachanimnam, a sacred medicine place (P-12-003719). Mitigation measures CUL-01 through CUL-04 would reduce the potential impacts to less than significant.

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

Less than significant impact with mitigation. Ground-disturbing activities have the potential to result in the discovery of, or unanticipated damage to, archaeological contexts and human remains, and this possibility cannot be totally eliminated. Consequently, there is a potential for significant impacts on unanticipated TCRs. Implementation of Mitigation Measures CUL-01 through CUL-04 would reduce the potential impacts to less than significant.

XIX. UTILITIES AND SERVICE SYSTEMS

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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 which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☒	☐
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☒	☐
e) Comply with federal, State, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☒	☐

Environmental Setting

The existing Project area includes a surface water diversion off Crawford Creek, a 20,000-gallon redwood raw water storage tank, an in-line filtration plant, and a water distribution system. Two 2-HP booster pumps run continuously to supply water to the distribution system. Power for the in-line filtration plant is currently provided by PG&E. All existing water facilities are owned and operated by OMWC.

Evaluation

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?

Less than significant impact. The proposed Project would replace an existing in-line filtration plant with a new surface, direct-filtration WTP. The Project would construct a new water treatment building with a backwash reclaim tank. A generator and propane tank would be located adjacent to the water treatment building. The Project would also demolish an existing redwood storage tank and construct a new water storage tank. Additionally, the Project would install a new fire hydrant at the entrance of the

path leading to the proposed water treatment building, directly off Camp Creek Road. New fencing around the water treatment building, generator, propane tank, and backwash reclaim tank would be installed. Existing subsurface piping would be demolished and/or abandoned. New subsurface piping would tie into the existing distribution system piping located throughout the parcel in order to serve the new water treatment system.

An internet connection would be provided at the new water treatment building for monitoring the new treatment equipment. It is anticipated that a local ISP is available and capable of providing this service to the site. A new underground electrical service from PG&E would be provided to the site, via the existing path off Camp Creek Road. A new pole or pad mount transformer would be provided to support the new system. A generator and propane tank would be located adjacent to the new water treatment building and backwash reclaim tank. The generator would only operate for about five minutes per week for testing and maintenance purposes. The proposed improvements have been sized to provide for system redundancy and calculated fire flows without additional residential service connections that are non-growth inducing.

The proposed Project would not require or result in the construction of new or expanded wastewater treatment or storm water drainage, natural gas, or telecommunications facilities that would cause significant environmental effects. The proposed improvements would be constructed within the same footprint of the existing facilities or would be constructed in previously disturbed areas. Impacts would be less than significant, and mitigation would not be necessary.

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

Less than significant impact. The Project would improve reliability of water access for the surrounding residents. The proposed Project would replace an existing in-line filtration plant with a new surface, direct-filtration WTP. The Project would construct a new water treatment building with a backwash reclaim tank. A generator and propane tank would be located adjacent to the water treatment building. The Project would also demolish an existing redwood storage tank and construct a new water storage tank. Additionally, the Project would install a new fire hydrant at the entrance of the path leading to the proposed water treatment building, directly off Camp Creek Road, and new fencing would be installed around the water treatment building, generator propane tank, and backwash reclaim tank.

The proposed Project would improve the condition of the existing water treatment system and the distribution infrastructure and would help improve the quality of water delivered to the residents. Implementation of the proposed Project would increase water storage capacity and/or operational capability of the overall system. The proposed improvements have been sized to provide for system redundancy and calculated fire flows without additional residential service connections that are non-growth inducing. The proposed Project would have sufficient water supplies available to serve the Project during normal, dry, and multiple dry years. Impacts would be less than significant.

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

Less than significant impact. The proposed Project would supply existing customers based on current levels of demand; the amount of water supplied and consumed would not significantly change relative

to existing conditions. The Project would not increase the production of wastewater. Any impact would be less than significant.

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?

Less than significant impact. The California Integrated Waste Management Act of 1989 (PRC Division 30), enacted through AB 939 and modified by subsequent legislation, required all California cities and counties to implement programs to divert waste from landfills (Public Resources Code Section 41780). Compliance with AB 939 is determined by the Department of Resources, Recycling, and Recovery (Cal Recycle), formerly known as the California Integrated Waste Management Board (CIWMB). Each county is required to prepare and submit an Integrated Waste Management Plan for expected solid waste generation within the county to the CIWMB. In 2012, the unincorporated area of Humboldt County met or exceeded the waste diversion mandate of 50 percent set by the Integrated Waste Management Act of 1989.

The proposed Project would comply with all federal, State, and local statutes related to solid waste, including AB 939. This would include compliance with the Humboldt Waste Management Authority's recycling, hazardous waste, and composting programs in the county to comply with AB 939. Solid waste from Humboldt County is largely transported to one of three out-of-area landfills for disposal: the Anderson Landfill in Shasta County; Dry Creek Landfill in Medford, Oregon; and Potrero Hills Landfill in Suisun City. The Anderson Landfill is not expected to close until 2036, Dry Creek is expected to remain open until 2099, and Potrero Hills until 2053. The proposed Project is not expected to generate significant amounts of solid waste during construction or operation due to its nature as a water treatment system. The proposed Project would have a less than significant impact regarding solid waste as discussed for subsections d) and e).

XX. WILDFIRE

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☐	☐	☒	☐

Environmental Setting

SB 1241 (2012) requires the legislative body of a city or county to adopt a comprehensive, long-term general plan that includes a safety element for the protection of the community from unreasonable risks associated with wildland and urban fires. The update of the safety element must address fire risks on land classified as SRA and on VHFHZ of Local Responsibility Area (LRA).

The Humboldt County General Plan section on Fire Hazards outlines policies that address and reduce fire risk in the County. Policies include improving subdivision design and building code conformance, increasing information exchange and education, and encouraging prescribed burning and native plant conservation (Humboldt County 2017). The Humboldt County Community Wildfire Protection Plan (CWPP) gives further guidelines on how these policies will be implemented; the Mid-Klamath Planning Unit Action Plan (Unit 3) is the portion of the CWPP that encompasses the Project area (Humboldt County 2019).

The entire Project area is located in the Mid-Klamath fire planning unit of Humboldt County. The Project site is within a “Very High” Fire Hazard Severity Zone in an SRA and is served by CAL FIRE (CAL FIRE 2022). The Orleans Volunteer Fire Department is the nearest fire department (Humboldt County 2019). Their station is located at 38162 California 96, Orleans, CA 95556, located approximately 1.5-miles east of the Project site. The Orleans Volunteer Fire Department responds to structural fires, wildland fire support, and medical and rescue services (Humboldt County 2019). CAL FIRE would provide an initial response to a wildfire on the Project site. The nearest CAL FIRE station is the CAL FIRE Elk Camp Forest

Fire Station, located at Bald Hills at Johnson Road, Orick, CA, 95555, approximately 38-miles east via SR 96.

Evaluation

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

Less than significant impact. The Project site is located within the Mid-Klamath Wildfire Planning Unit. Evacuation routes would depend on the location of the community at risk and law enforcement recommendations based on fire behavior, wind patterns, traffic, and ingress of emergency vehicles. The determination for the locations of these sites is normally made by the Humboldt County Emergency Operations Center Incident Commander in cooperation with an incident Management Team (Humboldt County 2019). SR 96 would, in most cases, serve as the primary evacuation route. The proposed Project is accessed via an existing path directly off Camp Creek Road, which is adjacent to the main primary evacuation route, SR 96. The Project would construct a new water treatment building, a new backwash reclaim tank, and a new steel water storage tank on the northern side of Camp Creek Road. All Project components would be constructed within the existing footprint of within previously disturbed areas and would not limit ingress or egress of the Project area. The existing, unimproved dirt road leading to the water treatment building would be widened to create a 12-ft wide road with a 14-ft wide unobstructed clearance (2-ft on each side of the driveway). The path leading to the water treatment building would begin on the edge of Camp Creek Road (a paved roadway). Additionally, the Project would recontour the existing unimproved dirt road from the new water treatment building to the water storage tank site after installation of all buried utilities.

Therefore, the proposed Project would not substantially impair an adopted emergency response plan or emergency evacuation plan and impacts would be less than significant.

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?

Less than significant impact. The Project is situated in and around a small rural community and located within a “Very High” Fire Hazard Severity Zone within a SRA. The proposed Project would replace an in-line filtration plant with a new surface, direct-filtration surface WTP. The Project would construct a new water treatment building, a backwash reclaim tank, and a new steel water storage tank. A generator and a propane tank would be located adjacent to the water treatment building. A new fire hydrant would be installed at the entrance of the path leading to the proposed water treatment building, directly off Camp Creek Road. Subsurface piping would also be demolished and/or abandoned and would tie into the existing distribution system piping. The Project would not induce growth nor involve the creation of new occupied structures within a wildfire hazard zone. By adding a fire hydrant in an area where no hydrants currently exist, the Project would enhance the protection of existing residences, infrastructure, and wildlands. All proposed structure modifications would comply with County fire code requirements and access would follow requirements by CAL FIRE. Impacts would be less than significant.

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?

Less than significant impact. The Project site would be accessed via an existing path directly off Camp Creek Road. The existing, unimproved dirt road leading to the water treatment building would be widened to create a 12-ft wide road with a 14-ft wide unobstructed clearance (2-ft on each side of the driveway). The path leading to the water treatment building would begin on the edge of Camp Creek Road (a paved roadway). Additionally, the Project would recontour the existing unimproved dirt road from the new water treatment building to the water storage tank site after installation of all buried utilities.

The easement would enhance the road's function as a fuel break and may help to limit the spread of future wildfire in the area. The proposed Project would include the installation of a new fire hydrant at the entrance of the path leading to the proposed water treatment building. The fire hydrant and the proposed water storage tank would aid in the suppression of future wildfires and would protect homes and infrastructure. A new underground electrical service from Pacific Gas and Electric (PG&E) would be provided to the site, via the existing path off Camp Creek Road. A new pole or pad mount transformer would be provided to support the new system. A generator and propane tank would be located adjacent to the new water treatment building and backwash reclaim tank. The generator would only operate for about five minutes per week for testing and maintenance purposes. Project improvements, including the installation of the water treatment building, backwash reclaim tank, and water storage tank, would be done either within the same footprint, or within an area that has been heavily disturbed by mining activities.

During construction and operation of the proposed facility, the presence of humans and associated equipment may expose the area to increased risk of fire ignition. However, staff and contractors would follow all best management practices to reduce fire risk, including avoiding smoking in non-designated areas; using spark arrestors as warranted; maintaining equipment in its proper working order; ensuring that all loads are properly secured and no chains or metal drag; avoiding work that could potentially produce sparks during red flag warnings; and adhering to all requirements for burn permits. Fire suppression equipment, including fire extinguishers and hand tools, would be available onsite for the containment of small, incipient fires if it is safe for workers to do so and they have received proper training in the use of such tools. The Project would be required to comply with CAL FIRE SRA requirements during construction. Compliance with these requirements, along with the above measures, would reduce any impacts to less than significant.

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?

Less than significant impact. Based on FEMA flood maps, the Project site is located within Zone D, which is the resulting designation on the flood map, to indicate that while flood risk remains, the probability of that flood risk has not been quantified (FEMA 2022). The flood map is under 06023C0275F and has a location status of "not printed". However, the Project is only focused on upgrading existing infrastructure to maintain the existing level of service. It would not induce population growth nor introduce new facilities into the area beyond the level that currently exists. Additionally, the Project would not involve significant clearing of trees or brush, exposure of hillsides, or substantial changes to

existing drainage patterns. Therefore, people or structures would not be susceptible to significant new risks involving downstream flooding as a result of runoff, post-fire slope instability or drainage changes.

The proposed water treatment building would be located on relatively flat land but located adjacent to an incised drainage. No landslides, older, active, or incipient were observed in the vicinity of the proposed site. Therefore, natural landslides pose a low risk to the proposed Project site. The proposed water storage tank is located in mountainous terrain with descending slopes to the west and south and ascending slopes to the north and east. No landslides, older, active, or incipient were observed in the vicinity of the proposed site. Slope stability analyses were performed by Bajada Geosciences, Inc. to evaluate the risks of slope instabilities. Results of the analyses indicated the existing slopes beneath the proposed water treatment building, and water storage tank were stable.

The proposed construction of the Project would comply with the CBC requirements and would follow all recommendations outlined in the geotechnical report (Bajada Geosciences, Inc. 2022). Therefore, the proposed Project would not 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, and impacts would be less than significant.

XXI. MANDATORY FINDINGS OF SIGNIFICANCE

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

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

Less than significant impact with mitigation. The preceding analysis indicates that the proposed Project has the potential to adversely affect biological and cultural resources. See sections 7.IV, 7.V, and 7.XVIII of this Initial Study for discussion of the proposed Project's potential impacts on these environmental issue areas. With implementation of the mitigation measures identified in those Sections, and compliance with County and State programs and requirements identified in this report, impacts would be reduced to a less than significant level. No significant or potentially significant impacts would remain.

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

Less than significant impact with mitigation. While the Project would indirectly contribute to cumulative impacts associated with disturbance and infrastructure development in the region, these impacts have previously been evaluated by the County and considered in development of the County's General Plan as set forth in this Initial Study. Key areas of concern are discussed in detail below.

Evaluation of cumulative biological resource impacts: In order to evaluate special-status species and/or their habitats with the potential to occur in the Study Area and/or be impacted by the proposed Project, HELIX obtained lists of special-status species known to occur and/or having the potential to occur in the Study Area and vicinity from the U.S. Fish and Wildlife Service (USFWS; USFWS 2022), the California Native Plant Society (CNPS; CNPS 2022), and the California Natural Diversity Database (CNDDB; CDFW 2022). Additionally, a biological resources reconnaissance survey was conducted by HELIX Wildlife Biologist Stephanie McLaughlin, M.S. on June 1, 2022. Although no evidence of sensitive species was observed on the Project site, the Board recognizes that sensitive species may use the Project site and that they may be encountered during Project construction. With the implementation of **Mitigation Measures BIO-01 and BIO-02,** the impacts would be reduced to a less than significant level and potentially cumulative impacts would be avoided.

Evaluation of cumulative cultural resources impacts: A records search at the NWIC determined that 10 studies have been previously conducted within a 0.25-mile radius of the APE, and that five of these studies included the current APE as part of their study areas. The records search also determined that 11 additional cultural resources are located within 0.250mile of the APE. HELIX requested that the NAHC conduct a search of their SLF, and a written response received from the NAHC stated that results of the SLF search were negative; however, the NAHC's response also suggested the absence of specific site information in the SLF does not definitely indicate the absence of cultural resources. HELIX reached out to points of contact for 20 Native American Tribes and no response have been received. Additionally, HELIX inspected surveyable portions of the APE and determined the APE is understood to have a high cultural sensitivity. With implementation of **Mitigation Measures CUL-01, CUL-02, CUL-03, and CUL-04,** the impacts would be reduced to a less than significant level and potentially cumulative impacts would be avoided.

Evaluation of cumulative geology and soils impacts: A Preliminary Geotechnical Report was prepared by Bajada Geosciences, Inc. on September 2, 2022. It was indicated that although no Alquist Priolo Fault Zones are within the Project area, the Project would still comply with all recommendations outlined in the Geotechnical Report, as described in Mitigation Measure GEO-01. The Geotechnical Report noted that three samples of near-surface soils were subjected to chemical analysis for assessment of corrosion and reactivity with concrete. The results indicated that where the proposed water treatment building would be sited are estimated to be corrosive to severely corrosive to ferrous metals. Where the proposed tank and pipelines are located are estimated to be mildly to moderately corrosive. With implementation of Mitigation Measure GEO-02, impacts to corrosivity would be less than significant.

No previous surveys conducted in the Project area have identified the Project site as sensitive for paleontological resources or other geologically sensitive resources, nor have testing or ground disturbing activities performed to date uncovered any paleontological resources or geologically sensitive resources. While the likelihood encountering paleontological resources and other geologically sensitive resources is considered low, Project-related ground disturbing activities could affect the integrity of a previously unknown paleontological or other geologically sensitive resource, resulting in a substantial change in the significance of the resource. Implementation of Mitigation Measure GEO-03 would reduce potentially significant impacts to a less than significant level.

With implementation of **Mitigation Measure GEO-01**, **GEO-02**, and **GEO-03**, the impacts would be reduced to a less than significant level and potentially cumulative impacts would be avoided.

Evaluation of cumulative noise resource impacts: Construction of the proposed Project would result in a temporary increase in noise levels in the area. This noise increase would be short-term and would occur during daytime hours. The nearest sensitive receptors to any of the proposed Project improvements are single-family residences approximately 350-feet southeast from the new water treatment building. Mitigation Measure NOI-01 would be implemented during Project construction to reduce potential impacts from construction noise to a less than significant level. The proposed mitigation would limit construction hours and days and would require standard maintenance of tools and equipment to reduce noise levels. With implementation of **Mitigation Measure NOI-01**, the impacts would be reduced to a less than significant level and potentially cumulative impacts would be avoided.

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

Less than significant impact. Because of site conditions, existing County regulations, and regulation of potential environmental impacts by other agencies, the proposed Project would not have the potential to cause substantial adverse effects on human beings as demonstrated in the evaluation contained in this Initial Study. Therefore, impacts would be less than significant.

8.0 MITIGATION MONITORING AND REPORTING PROGRAM

A Mitigation Monitoring and Reporting Program (MMRP) has been prepared by the SWRCB per Section 15097 of the CEQA Guidelines and is presented in Appendix F.

9.0 PREPARERS

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Appendix A

Figures

Available upon request

Appendix B

CalEEMod Output

Available upon request

Appendix C

Biological Resources Assessment

Available upon request

Appendix D

Preliminary Geotechnical Report

Available upon request

Appendix E

Preliminary Engineering Report

Available upon request

Appendix F

Mitigation Monitoring and Reporting Program

Available upon request