

Sewerage Commission-Oroville Region

Wastewater Treatment Plant Upgrade Project

Draft Initial Study/ Mitigated Negative Declaration

July 2022

Prepared for:
Sewerage Commission-Oroville Region

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Prepared by:
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Acronyms and Abbreviations

AB	Assembly Bill
AFY	Acre-Feet per Year
AHERA	Asbestos Hazard Emergency Response Act
APE	Area of Potential Effect
BCAQMD	Butte County Air Quality Management District
BMPs	Best Management Practices
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CalEEMod	California Emissions Estimator Model
CalEPA	California Environmental Protection Agency
CAL FIRE	California Department of Forestry and Fire Protection
Cal Green	California Green Building Standards Code
CalNAGPRA	California Native American Graves Protection and Repatriation Act
Cal/OSHA	California Division of Occupational Safety and Health
CAP	Climate Action Plan
CARB	California Air Resources Board
CCAA	California Clean Air Act
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CH ₄	Methane
CHRIS	California Historical Resources Information System
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Service
CPUC	California Public Utilities Commission
CO	Carbon Monoxide
CO ₂	Carbon Dioxide Equivalent
CRHR	California Register of Historical Resources
CUPA	Certified Unified Program Agency
CVRWQCB	Central Valley Regional Water Quality Control Board

CWA Clean Water Act

dBDecibel

dba A weighted decibels

DTSC.....Department of Toxic Substances Control

DWR.....Department of Water Resources

EDUs..... Equivalent Dwelling Units

EIR Environmental Impact Report

EOC.....Emergency Operations Center

EPA Environmental Protection Agency

FEMA..... Federal Emergency Management Agency

FMMP.....Farmland Mapping and Monitoring Program

FHSZ..... Fire Hazard Severity Zone

GCGovernment Code

GHGs.....Greenhouse Gases

GISGeographic Information System

HWMP..... Hazardous Waste Management Program

Lbs/day..... pounds per day

IPaC United States Fish and Wildlife Service’s Information for Planning and Consultation

ISInitial Study

IS/MND..... Initial Study/Mitigated Negative Declaration

LOSLevel of Service

M-2Intensive Industrial Zone District

MGD..... million gallons per day

MMRPMitigation Monitoring & Reporting Program

MBTA..... Migratory Bird Treaty Act

MLD..... Most Likely Descendant

MMTMillion Metric Tons

MMTCO_{2e} Million Metric Tons of Carbon Dioxide Equivalent

MND.....Mitigated Negative Declaration

NAHC Native American Heritage Commission

NAAQS.....National Ambient Air Quality Standards

NDNegative Declaration

NEIC Northeast Information Center

NFPA..... National Fire Protection Association

NO₂Nitrogen Dioxide

NO_x Nitrogen Oxide

NPDES..... National Pollutant Discharge Elimination System

NRCS..... Natural Resources Conservation Service

NRHP..... National Register of Historic Places

NVLAP.....National Voluntary Laboratory Accreditation Program

O₃ Ozone

OHWM..... Ordinary High Water Mark

PbLead

PM₁₀ Particulate Matter less than 10 microns in diameter

PM_{2.5}..... Particulate Matter less than 2.5 microns in diameter

PRC Public Resources Code

Project..... Sewerage Commission- Oroville Region Wastewater Treatment Plant Upgrade Project

PQ Public and Quasi Public Facilities Zone District

RASReturn-Activated Sludge

RCRA..... Resource Conservation and Recovery Act

RDT Rotary Drum Thickener

ROG..... Reactive Organic Gases

RWQCB Regional Water Quality Control Board

SBSenate Bill

SC-OR.....Sewerage Commission-Oroville Region

SFHA Special Flood Hazard Are

SGMA.....Sustainable Groundwater Management Act

SIP State Implementation Plan

SO₂ Sulfur Dioxide

SPCC.....Spill Prevention, Control, and Countermeasure

SVABSacramento Valley Air Basin

SWRCB.....State Water Resources Control Board

SWPPP..... Storm Water Pollution Prevention Plan

tons/year tons per year

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

USC Untied States Code

USFWS United States Fish and Wildlife Service

USGSU.S. Geological Survey

UST Underground Storage Tanks
UV Ultraviolet
VELB..... Valley Elderberry Longhorn Beetle
VHFHSZ..... Very High Fire Hazard Severity Zones
VMT..... Vehicle Miles Traveled
WAS Waste-Activated Sludge
WDR..... Waste Discharge Requirements
WWTP..... Wastewater Treatment Plant

Chapter 1 Introduction

Provost & Pritchard Consulting Group has prepared this Initial Study/Mitigated Negative Declaration (IS/MND) on behalf of the Sewerage Commission-Oroville Region (SC-OR) to address the environmental effects of the proposed Wastewater Treatment Plant (WWTP) Upgrade Project (Project). This document has been prepared in accordance with the California Environmental Quality Act (CEQA), Public Resources Code Section 21000 et seq. SC-OR is the CEQA lead agency for this Project.

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

1.1 Regulatory Information

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

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

1.2 Document Format

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

The California Emissions Estimator Model (CalEEMod) Output Files, Biological Evaluation, Cultural Resources Inventory and Historical Property Evaluation Report, United States Department of Agriculture Natural Resources Conservation Service (NRCS) Soil Resource Report, and Pre-Demolition Asbestos Survey & Lead Based Paint Inspection Report are provided as technical **Appendix A**, **Appendix B**, **Appendix C**, **Appendix D**, and **Appendix E** respectively, at the end of this document.

Chapter 2 Project Description

2.1 Project Background and Objectives

2.1.1 Project Title

Wastewater Treatment Plant Upgrade Project

2.1.2 Lead Agency Name and Address

Sewerage Commission-Oroville Region
P.O. Box 1350
Oroville, CA 95965

2.1.3 Contact Person and Phone Number

Lead Agency Contact

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2.1.4 Project Location

The Project is located in southern Butte County, northern California within the City of Oroville. The City of Oroville is approximately 63 miles north of Sacramento (See **Figure 2-1**). The Project site is located approximately 0.5 mile east of State Route 70 and more specifically, at the existing WWTP near the intersection of Fifth Avenue and Simpco Lane on Assessor's Parcel Number 035-390-013-000 and 350-390-008 within the City of Oroville. The Area of Potential Effect (APE) is approximately 54 acres.

2.1.5 Latitude and Longitude

The centroid of the parcel is 39.486302, -121.565154

2.1.6 General Plan Designation

“Public” and “Industrial”

2.1.7 Zoning

“PQ-Public and Quasi-Public Facilities” () and “M-2-Intensive Industrial”

2.1.8 Description of Project

2.1.8.1 Project Background and Purpose

SC-OR operates wastewater collection and treatment facilities that serve the greater Oroville, California, region. See **Figure 2-1** and **Figure 2-2** for the location and vicinity of the existing WWTP. The service region is composed of three separate member entities that together adopted a Joint Powers Agreement in 1973 forming the SC-OR organization. This agreement established a Joint Power Authority consisting of the following member entities:

- City of Oroville
- Lake Oroville Area Public Utility District (formerly North Burbank)
- Thermalito Water and Sewer District (formerly Thermalito Irrigation District)

The original treatment facility was constructed in 1959, prior to the formation of SC-OR, and has been modified and expanded several times since 1959, with the most significant expansion taking place during construction activities in 1975 when secondary, tertiary, and solids stabilization facilities were constructed. Most of the existing WWTP's equipment was commissioned during this expansion, which translates to equipment with over 40 years of operation. In addition to the existing WWTP, SC-OR maintains a portion of the wastewater collection system that includes three sewer mains, two lift stations, and associated facilities.

SC-OR has conducted various facility evaluations and plans since 1975, the last being the Master Planning and Financial Assistance Study (Master Plan), written by CH2M HILL, Inc. in 2017. The Master Plan built off work done in previous analyses to present recommendations for upgrading the existing WWTP to accommodate influent, regulatory, and service area changes over a 20-year planning period through 2037.

The primary drivers identified for the proposed existing WWTP upgrades are as follows:

- Anticipated reductions in effluent ammonia-nitrogen discharge limits
- Increasing peak wet weather flow
- Odorous air management
- Aged and obsolete equipment

Based upon a Project Definition Report prepared for SC-OR by Jacobs Engineering Group¹, the following design criteria were applied to the Project:

- Have sufficient hydraulic and treatment capacity to process the projected 2037 flows and loads
- Improve grit removal efficiency
- Reduce effluent ammonia-nitrogen levels below the Central Valley Regional Water Quality Control Board (CVRWQCB) guidelines for aquatic ammonia toxicity
- Mitigate the release of odorous air from the primary existing WWTP sources
- Provide an alternate disinfection process to address the unreliable supply of chlorine gas
- Expand and improve the existing WWTP's septage receiving capacity
- Replace and upgrade aged or obsolete equipment

2.1.8.2 Existing Facility

The existing WWTP consists of the following processes:

- Influent Pumping
- Rag Removal (Grit and Screenings removal)

¹ Jacobs Engineering Group, Edward L Couch, RCE, *Project Definition Report – Sewerage Commission -Oroville Region, Wastewater Treatment Plant Upgrade Schematic Design, Final*. September 2018

- Primary clarification
- Activated Sludge Secondary Treatment including Aeration Basins and Secondary Clarifiers
- Filtration
- Disinfection and De-chlorination
- Aerobic Sludge Digestion
- Humus Ponds for sludge storage and stabilization, and septage receiving and disposal
- Emergency Storage Ponds for storage of excess influent flow

The treated effluent is discharged to the Feather River in accordance with the Central Valley Regional Water Quality Control Board (CVRWQCB's) waste discharge requirements.

2.1.8.3 Project Components

Numerous facilities at the existing WWTP will be affected by the proposed Project updates. The Project includes construction of a variety of structures, devices and plumbing to upgrade the existing wastewater treatment plant located in the City of Oroville.

The proposed improvements at each affected process facility are summarized below:

The current plant has an operational capacity of 10.6 million gallons per day (MGD). Although the Project is not a capacity expansion project but rather an upgrade project to improve the quality of water discharged to the Feather River and handle existing peak flows (estimated at ± 25 MGD), the component upgrades will result in a minor residual additional average flow capacity increase of about 9%. The upgrades to the plant will add 1,852 Equivalent Dwelling Units (EDUs) to the current 20,703 EDUs, for total new capacity of 13.3 MGD. The Project will not create a new discharge location into the Feather River nor relocate the existing discharge location.

Several components of the long-planned upgrade, (a new influent pump/lift station, replacement of existing rag removal screens with multi-rake screens, installation of new baffles in the existing grit washing system, and replacement of the obsolete and leaking grit pump) were evaluated in a separate approved environmental document and have been or are under construction/installation. These components will likely be completed and existing when the proposed Project consisting of the below listed components are constructed. The influent pump station replaces aged equipment and expands pumping capacity to handle peak wet weather flows up to 23 MGD.

Aeration Basins

The existing aerobic digesters will be converted to aeration basins, effectively doubling the aeration basin capacity. Along with the elimination of the primary clarifiers, this will provide better secondary treatment. The converted basins will utilize fine-bubble diffusers.

The existing surface aerators will be replaced with fine-bubble diffusers supplied by turbo blowers housed in a new blower building. The layout will be modified by splitting each aeration basin into four zones, three aerobic and one anoxic, to create a Modified Ludzack-Ettinger process specifically targeting nitrogen removal. A hyperbolic mixer will be installed in each anoxic zone for mixing and nitrified recycle pumps to recycle flow from the third aerobic zone back to the anoxic zone.

An aeration basin splitter box will be constructed to divide flow between the two basins. The project will include construction in the pond area for additional electrical and mooring posts for new aerators in the ponds. A mixed liquor distribution box will be constructed to divide mixed liquor flow between the basins and discharge waste activated sludge to the thickening building.

The majority of this work will be inside the existing aeration basins. The blower building will be a slab on grade with shallow foundations. Splitter and distribution boxes will be installed.

Secondary Clarification

One new secondary clarifier will be constructed to accommodate anticipated 15 MGD peak wet weather flows through the plant and acceptable hydraulic loading rates. Volumes of wet-weather flows exceeding 15 MGD will be sent to the equalization ponds. The mixed-liquor distribution box will be modified to ensure even flow split among the four secondary clarifiers.

Filtration

Four new filter supply pumps and two new No. 2 Water (2W) supply pumps will be installed adjacent to the existing chlorine contact basin. Two new filters will be installed next to the existing filters. The flow path will be modified so that secondary effluent is the new filter influent, following the discontinuation of the chlorine disinfection system. The backwash system will be modified to be supplied from a new backwash water supply tank (using the existing chlorine contact basin), including two new backwash water supply pumps, located adjacent to the existing chlorine contact basin. This tank will be supplied with final effluent and a chlorine dose. Structures associated with this component will be slabs on grade with shallow foundations.

Disinfection

A new, open-channel ultraviolet (UV) disinfection system will be installed inside the existing chlorine contact basins. A sodium hypochlorite system to provide chlorination for return-activated sludge (RAS) bulking, 2W, and backwash water will also be installed. These structures will be slabs-on-grade with shallow foundations.

Solids Handling

A rotary drum thickener (RDT) to thicken waste activated sludge from the aeration basins will be installed. The RDT will pre-thicken waste-activated sludge (WAS) or recuperatively thicken digested sludge. An RDT building will be constructed to the south west of the current aerobic digesters (to be converted to aeration basins). A polymer system with the RDT to maximize thickening will be installed. Structures associated with this component will be slabs on grade with shallow foundations.

Return Sludge Pump Station

The existing RAS and WAS pumps will be replaced with four new RAS pumps and a flow control valve to maintain the appropriate RAS/WAS flow split. WAS will have the option of flowing to the RDT or directly to the sludge ponds. [These pumps will be in an existing building.]

Flow Equalization

Two new flow equalization pumps will be installed to transfer equalized flow or digested sludge between ponds. One pump will be located between the flow equalization pond and the North Sludge Pond and the other between the Middle and South Sludge Ponds. Each pump will be capable of drawing suction from two ponds and discharging to all four ponds. Structures associated with this component be slabs on grade with shallow foundations.

Septage Receiving Station

A septage receiving station will be installed adjacent to humus ponds No. 1 and No. 2 to remove unwanted material prior to introduction into the ponds. The septage receiving station will be slabs on grade with shallow foundations.

Additional project components:

- One of the uses of the main building will change from Chlorine and Sulfur Dioxide feed room to Plant operations office.
- SC-OR will use the space south of the plant for the Construction Contractor's Yard and temporary storage of sheds and materials during construction.
- 4 walls on Blower and RDT buildings will be constructed
- Woman's locker room inside the main plant building will be constructed
- The WWTP recycled water irrigation system will be upgraded and relocated due to the construction of the new access road on the north side of the administration building. Changes include upgrading the pumps, pressure tanks and piping

Additional Access Road

The proposed access road will be paved and traverse around the plant (north side of existing main plant building.)

Structures to be demolished (materials will be disposed of off-site at an approved disposal or recycling facility):

- The existing pressurized water tank on the front lawn will be demolished. This tank is currently used for potable water supply for the main office.
- The Primary Sludge pumps and building will be removed.
- Two existing anaerobic digesters, no longer in use, will be demolished. The anaerobic digester tanks are no longer used as digesters, and the west tank was converted into a backwash storage tank, which will no longer be needed.
- The two existing primary clarifiers will be taken out of service and demolished.
- Chemical feed equipment and piping inside Cl_2/SO_2 room
- The existing Chlorine and Sulfur Dioxide distribution system will be demolished, therefore eliminating the use of Chlorine and Sulfur Dioxide gas.

Structures to be relocated:

- Five metal sheds, outbuildings, and equipment will be temporarily relocated during construction to an area south of the digesters, however they will be moved back after the project.
- Water tank (mentioned above) that is within proposed road access way.

2.1.8.4 Operation and Maintenance

Operation and maintenance of the existing WWTP will continue to be performed by the existing operational staff, comprised of five employees. An additional 1 - 2 employees may be employed in 2022/2023.

2.1.8.5 Construction

Construction of the Project is anticipated to be completed within approximately 18 months. Construction equipment will likely include excavators, backhoes, graders, loaders, skid steers, and dump trucks. Generally, construction will occur between the hours of 7 am and 5 pm, Monday through Friday, excluding holidays. Post-construction activities will include system testing, commissioning, and site clean-up. Construction will require temporary staging and storage of materials and equipment. Staging areas will be located onsite.

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

2.1.9 Surrounding Land Uses and Setting:

The Project's setting is an existing WWTP, surrounded by ruderal vacant lots and industrial uses in the southern portion of Butte County in the Sacramento Valley, and more specifically, within the City of Oroville's South Oroville Industrial District. The site is zoned M-2 (Intensive Industrial) and PQ (Public Quasi Public). Corresponding General Plan land use designations for the site are Industrial and Public. Although much of the Industrial District is undeveloped, with an expanse of vacant lots that are not served by utility connections or public streets, land uses in the vicinity include a variety of industrial businesses, such as machine rental shops, lumber yards, and metal shops. South Oroville Industrial District also includes some commercial businesses unrelated to industrial use, such as Feather River Cinemas, as well as several historic cemeteries. The Project site is located along the valley floor, east of the Coast Ranges and West of the Sierra Nevada Mountain Range, approximately 0.6 mile east of Feather River and 0.5 mile east of State Route 70.

2.1.10 Other Public Agencies Whose Approval May Be Required:

- City of Oroville – Building Permit, Erosion Control Permit, Grading Permit, MS-4 Stormwater Permit
- State Water Resources Control Board (SWRCB) – National Pollutant Discharge Elimination System (NPDES) Construction General Permit
- Regional Water Quality Control Board, Central Valley Region (CVRWQCB) – Waste Discharge Requirements
- Butte County Air Quality Management District (BCAQMD) – Rules and Regulations (Rule 200, Rule 201, Rule 202, Rule 205, Rule 234, Rule 400 and 500); Stationary Source Permit for Public and Private Waste Water Treatment Works; Authority to Construct and Permit to Operate
- City of Oroville Fire Department- National Fire Protection Association (NFPA) 820 inspection and compliance
- Butte County, Division of Environmental Health, Certified Unified Program Agency (CUPA)- Hazardous Materials Release Response Plan

2.1.11 Consultation with California Native American Tribes

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

SC-OR, as a lead agency, has not received any written correspondence from a California Native American Tribe traditionally and culturally affiliated with the geographic area of the project formally requesting notification of proposed projects pursuant to Public Resources Code (PRC) Section 21080.3.1.

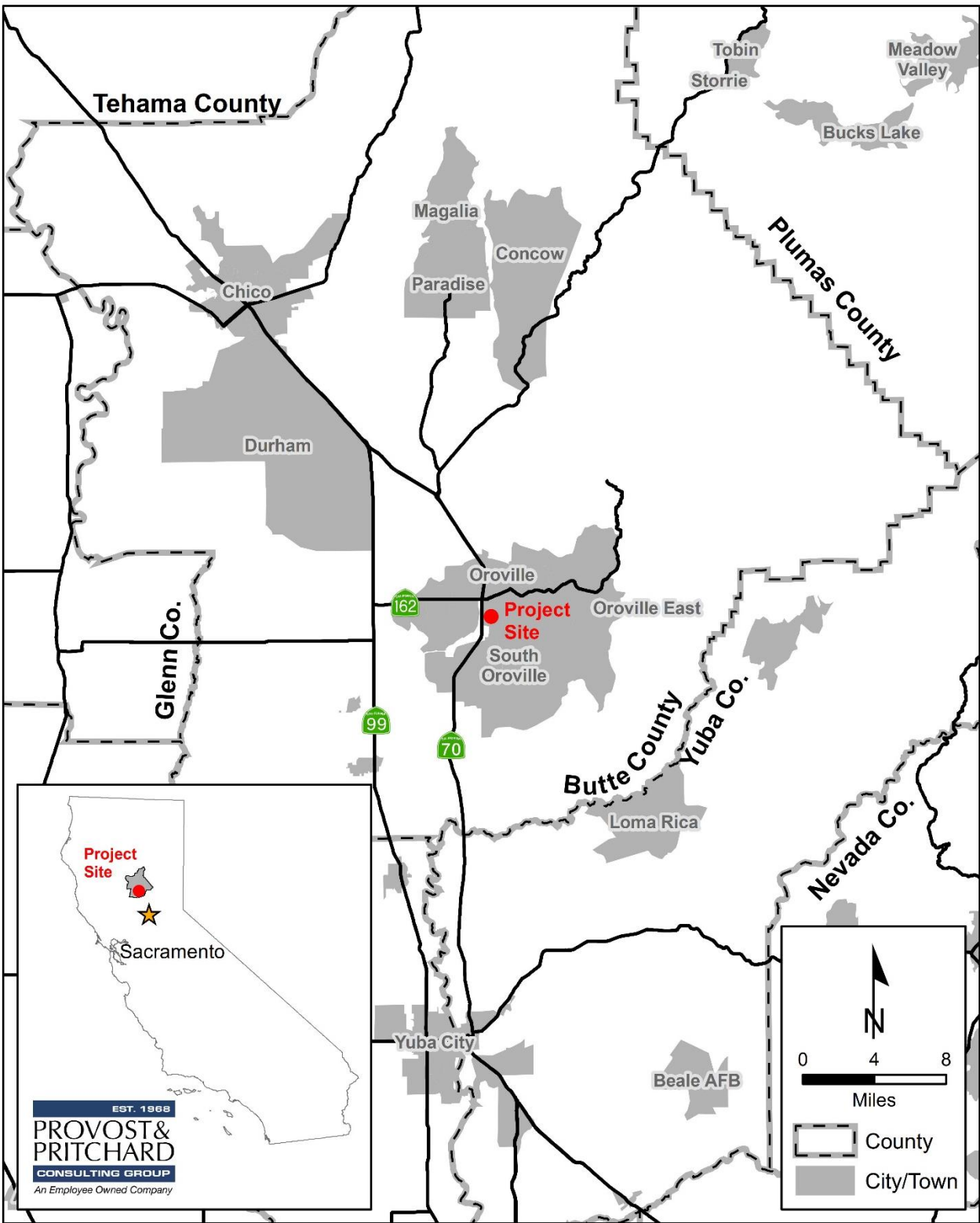


Figure 2-1. Regional Location Map

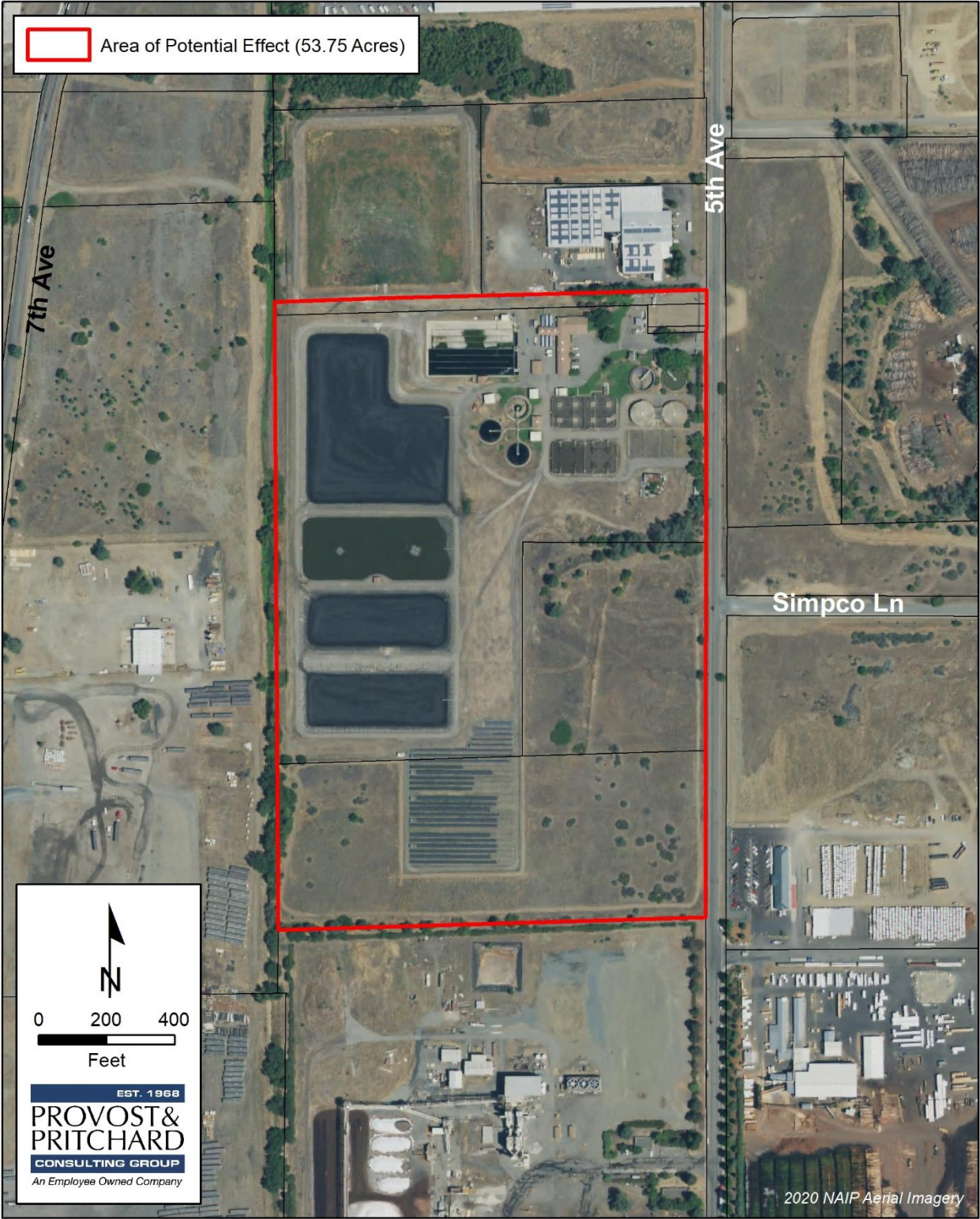


Figure 2-2. Aerial/ Area of Potential Effect

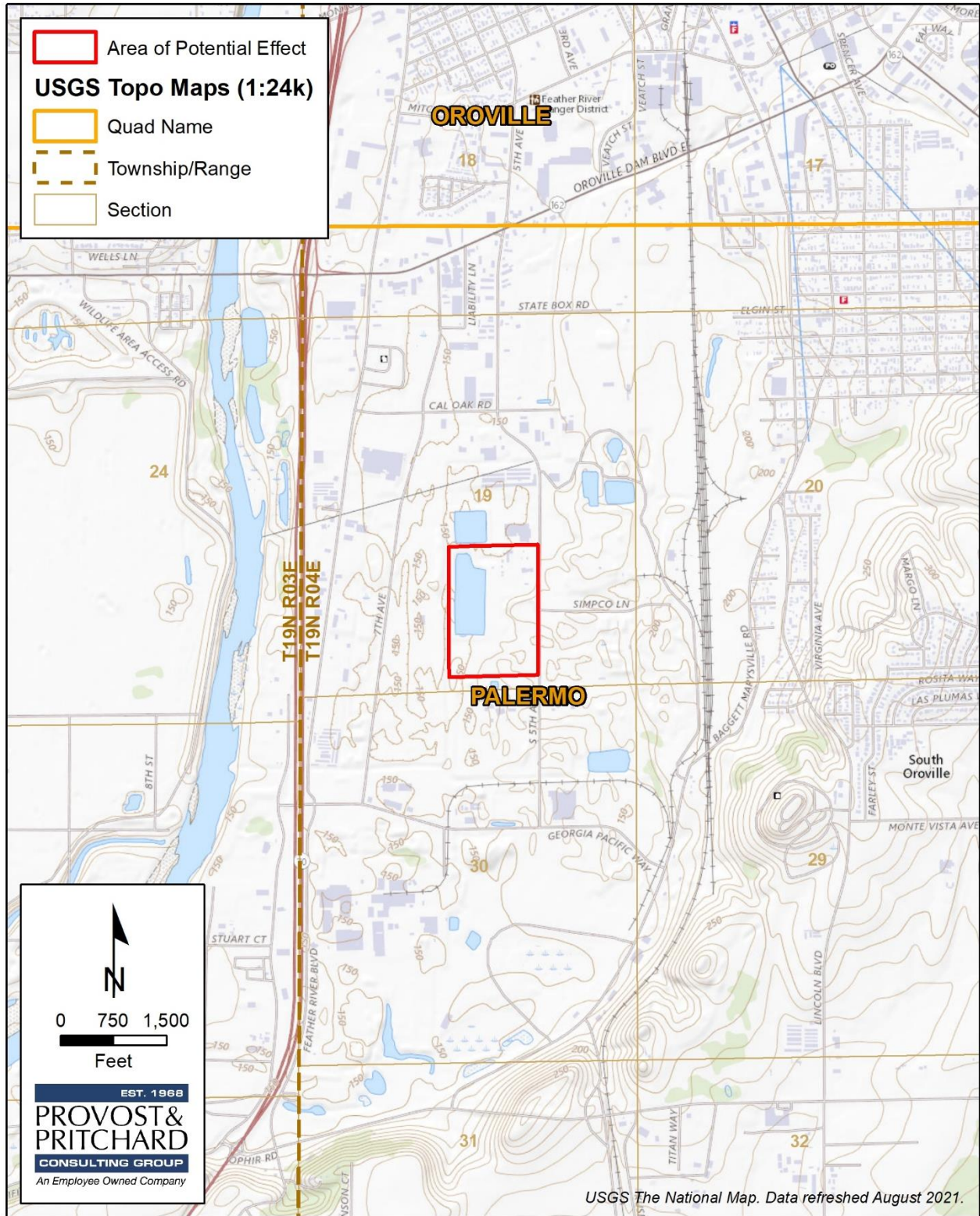


Figure 2-3. Topographic Quadrangle Map

Chapter 3 Impact Analysis

3.1 Environmental Factors Potentially Affected

The environmental factors checked below would be potentially affected by this project, as indicated by the checklist and subsequent discussion on the following pages.

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

DETERMINATION: (To be completed by the Lead Agency)

On the basis of this initial evaluation:

- I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature: _____



Date: June 29, 2022

Title: Manager / Superintendent

3.2 Aesthetics

Table 3-1. Aesthetics Impacts

Aesthetics				
Except as provided in Public Resources Code Section 21099, would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

3.2.1 Environmental Setting

The Project is located within the southern portion of Butte County in the Sacramento Valley, and more specifically, within the City of Oroville and its South Oroville Industrial District. The South Oroville Industrial District area is loosely bounded by State Route 162 to the north, State Route 70 to the west, and the Union Pacific rail line to the east. Although much of the District is undeveloped, with an expanse of vacant lots that are not served by utility connections or public streets, land uses surrounding the existing WWTP include a variety of industrial businesses, such as machine rental shops, lumber yards, and metal shops. South Oroville Industrial District also includes some commercial businesses unrelated to industrial use, such as Feather River Cinemas, as well as several historic cemeteries.

Southern and western Oroville are primarily flat river basins that rise into the Sierra Nevada foothills to the northeast. The eastern portion of the City is located in an urban-wildland interface comprised of oak woodlands and chaparral that begins the Sierra Nevada foothills. The existing WWTP is located approximately 0.6 mile east of Feather River and the Oroville Wildlife Area, 2.5 miles west of the Sierra Nevada foothills, 3.7 miles northeast of Thermalito Afterbay, 5.5 miles southwest of Lake Oroville, 7 miles south of Table Mountain and North Table Mountain Ecological Reserve, and 22 miles northeast of Sutter Buttes. In Butte County, there are no officially designated State Scenic Highways; although State Route 70, which is located approximately 0.5 mile west of the site, is eligible for designation.

3.2.2 Regulatory Setting

3.2.2.1 Federal

There are no federal laws or regulations regarding aesthetics applicable to the Project.

3.2.2.2 State

Given the absence of officially designated State Scenic Highways in the vicinity, there are no State laws or regulations regarding aesthetics applicable to the Project.

3.2.2.3 Local

Oroville 2030 General Plan²: The Oroville 2030 General Plan sets for the following goals and policies that protect the aesthetic character of the City and which have potential relevance to the Project's CEQA review:

Goal CD-6: Maintain high quality commercial, industrial, and business park districts with uses that are compatible in design and surrounding uses.

Policy P5.1: Maintain zoning, design guidelines and operating standards for industrial uses that promote a community commitment to high aesthetic standards.

Goal OPS-5: Maintain and enhance the quality of Oroville's scenic and visual resources.

Policy P5.1: Maintain the appearance of Oroville, as seen from the freeway, as a city to be visited, enjoyed and admired.

Policy P5.3: Maintain the scenic view of the Feather River and Table Mountain.

Policy P5.4: Require new light fixtures within new development to be designed and sited so as to minimize light pollution, glare, and light trespass into adjoining properties.

Oroville Zoning Code³: Title 17 of the Oroville Municipal Code, also referred to as the Oroville Zoning Code, sets forth numerous regulations to minimize potential effects a development could have on its surroundings and to promote compatibility with surrounding uses. Title 17 establishes setback, parking and sign standards, building height limits, and building densities. Development standards specifically include considerations relative to neighborhood compatibility, setbacks, building height, landscaping, tree preservation, fences and walls, views and obstructions, signs, and lighting.

3.2.3 Impact Assessment

a) Would the project have a substantial adverse effect on a scenic vista?

Less than Significant Impact. The existing WWTP is located approximately 0.6 mile east of Feather River and the Oroville Wildlife Area, 2.5 miles west of the Sierra Nevada foothills, 3.7 miles northeast of Thermalito Afterbay, 5.5 miles southwest of Lake Oroville, 7 miles south of Table Mountain and North Table Mountain Ecological Reserve, and 22 miles northeast of Sutter Buttes. However, the Project site is not within the viewshed of many of these scenic features. The Project involves improvements to an existing WWTP, and the proposed improvements would not stand out from its surroundings in any remarkable fashion and would not alter the current aesthetic character of the site. Impacts would be less than significant.

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

Less than Significant Impact. In Butte County, there are no officially designated State Scenic Highways; although State Route 70, which is located approximately 0.5 mile west of the site, is eligible for designation. Furthermore, as stated above in Impact Assessment a), the Project does not propose activities that would worsen scenic resources. Given the absence of an officially designated State Scenic Highway and the nature of the Project, impacts would be less than significant.

² Oroville 2030 General Plan. <http://www.cityoforoville.org/home/showdocument?id=12187> Accessed 23 October 2018.

³ Oroville Municipal Code. <http://www.qcodel.us/codes/oroville/> Accessed 23 October 2018.

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

Less than Significant Impact. The existing WWTP is surrounded primarily by industrial uses and vacant lots. As discussed above in Impact Assessment a), improvements to existing infrastructure would not substantially degrade the visual character of the area. Impacts would be less than significant.

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

Less than Significant Impact. The existing WWTP is surrounded by vacant lots and industrial uses. Implementation of the Project would include upgrades to the existing WWTP; however, no additional onsite lighting is proposed, and the operation of the improved facility will not result in an increased number of maintenance trips or staff members. Therefore, the Project would not create a new source of substantial light or glare that would adversely affect day or nighttime views in the area or be inconsistent with existing conditions.

3.3 Agriculture and Forestry Resources

Table 3-2. Agriculture and Forest Resources Impacts

Agriculture and Forest Resources				
Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.3.1 Environmental Setting

Agriculture is the number one industry in Butte County with an estimated gross production value of \$688,369,916 in 2019, of which \$214,261,031 is attributed to walnuts.⁴ A wide range of commodities are grown in the County. Top grossing crops are walnuts, rice, almonds, and prunes. In contrast, only 17 acres of agricultural land exists within the City of Oroville, with the majority used as pasture and for grazing.⁵

The Project’s setting is an existing WWTP, surrounded by ruderal vacant lots and industrial uses in the South Oroville Industrial District. The site is within the M-2 (Intensive Industrial) and PQ (Public Quasi Public) zone districts. Corresponding General Plan land use designations for the site are Industrial and Public. The site and surrounding areas are not designated farmland or used for agricultural production in any way. As shown in **Figure 3-1**, the Farmland Mapping and Monitoring Program (FMMP) for Butte County designates the site as Urban and Built-Up land.

⁴ Butte County 219 Crop Report. <http://www.buttecounty.net/Portals/2/CropReports/2019CROPREPORT.pdf?ver=2020-09-29-122937-093> Accessed 6 April 2022.

⁵ Oroville 2030 General Plan. <http://www.cityoforoville.org/services/planning-development-services-department/planning-division/planning-documents> Accessed 25 October 2018.

3.3.2 Regulatory Setting

3.3.2.1 Federal

There are no federal regulations, plans, programs, and guidelines associated with agriculture and forestry resources that are applicable to the Project.

3.3.2.2 State

Farmland Mapping and Monitoring Program (FMMP)⁶: The FMMP produces maps and statistical data used for analyzing impacts to California's agricultural resources. Agricultural land is rated according to soil quality and irrigation status; the best quality land is called Prime Farmland. The maps are updated every two years with the use of a computer mapping system, aerial imagery, public review, and field reconnaissance. As shown in **Figure 3-1**, the FMMP for Butte County designates the site as Urban and Built-Up land. Given the absence of farmland onsite or in the vicinity, there are no State laws or regulations regarding agriculture that apply to the Project.

3.3.2.3 Local

Oroville 2030 General Plan: The Oroville 2030 General Plan contains few goals and policies relating to agriculture, and none are relevant to this Project's CEQA review. The site is acknowledged as a public facility.

3.3.3 Impact Assessment

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

No Impact. The FMMP for Butte County designates the site as Urban and Built-Up Land, as shown in **Figure 3-1**. The Project involves improvements to an existing WWTP and would not result in any type of land use conversion. Implementation of the Project would not result in a conversion of farmland to non-agricultural use. There would be no impact.

b) Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?

No Impact. The site is located within the South Oroville Industrial District and is not zoned for agricultural use, nor is it covered under a Williamson Act contract. Adjacent parcels consist of vacant lots and industrial uses. The Project involves improvements to an existing WWTP and would not result in any type of land use conversion, nor would it conflict with Williamson Act contracts. There would be no impact.

c) Would the project 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))? ; and,

d) Would the project result in the loss of forest land or conversion of forest land to non-forest use?

No Impacts. There are no forest lands or timberlands within the Project site or vicinity. Furthermore, as stated above in Impact Assessments a and b, the Project does not propose any type of land use conversion. There would be no impacts.

⁶ Department of Conservation, Farmland Mapping and Monitoring Program. Map data accessible at website: <https://www.conservation.ca.gov/dlrp/fmmp> Accessed 30 October 2018

e) **Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?**

No Impact. As discussed above in Impact Assessments a-d, the Project involves improvements to an existing WWTP and would not result in any type of land use conversion, either directly or indirectly. There would be no impact.

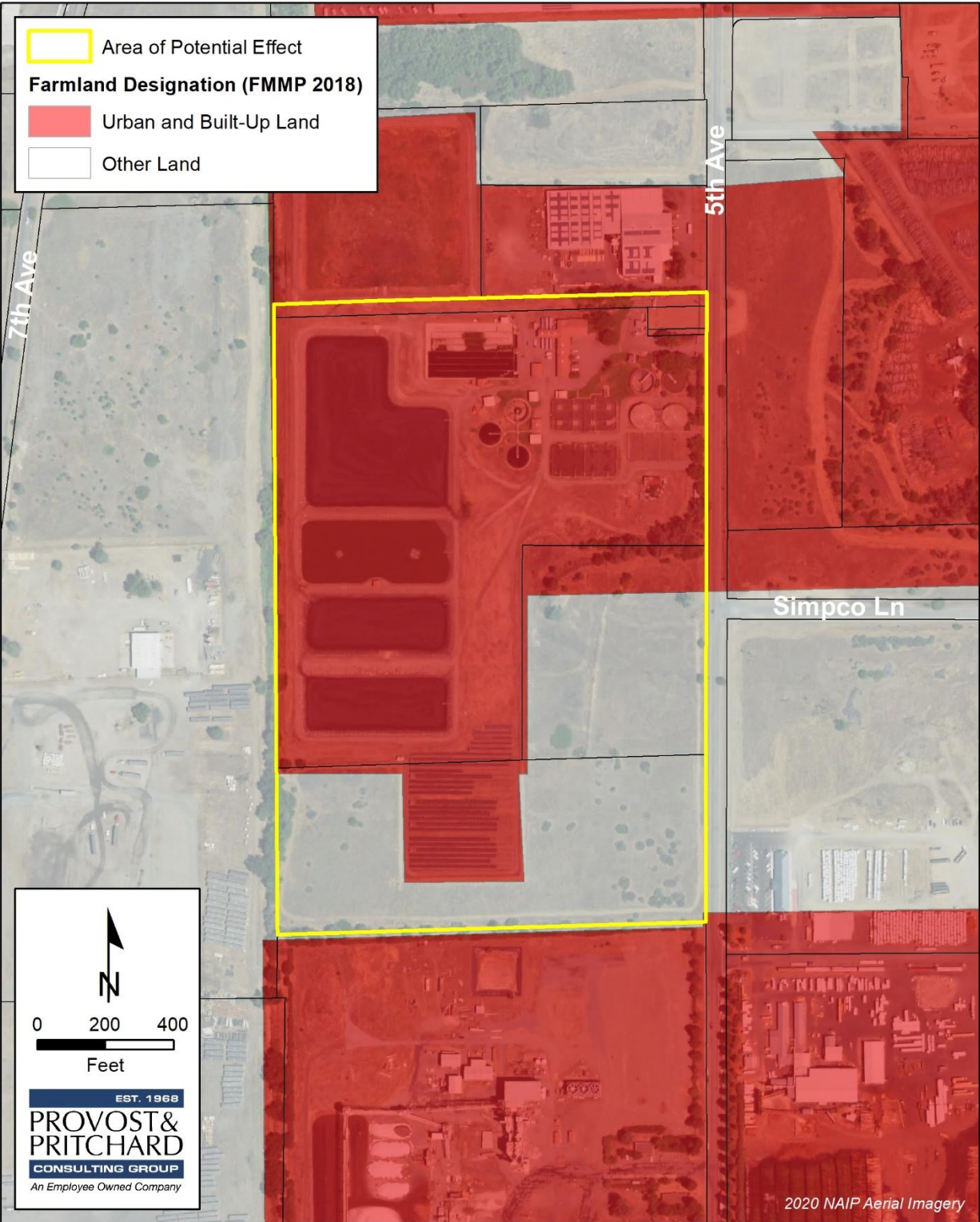


Figure 3-1. Farmland Designation Map

3.4 Air Quality

Table 3-3. Air Quality Impacts

Air Quality				
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:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Result in other emissions (such as those leading to odors adversely affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.4.1 Environmental Setting

The Project lies within the Sacramento Valley Air Basin (SVAB) and is managed by Butte County Air Quality Management District (BCAQMD). The SVAB is bounded on the west by the Coast Range, on the north by the Cascade Range, on the east by the Sierra Nevada, and on the south by the San Joaquin Valley Air Basin. The intervening terrain is flat and is approximately 25 feet above sea level. The SVAB consists of the counties of Butte, Colusa, Glenn, Sacramento, Shasta, Sutter, Tehama, Yolo, and Yuba and portions of Placer and Solano Counties.

Air quality in the SVAB is influenced by a variety of factors, including topography and local and regional meteorology. The SVAB generally experiences two types of inversions, both of which are accompanied by air quality issues due to poor dispersion. In the warm summer months, subsidence inversion is common, in which sinking air forms a “lid” over the region, contributing to photochemical smog problems by confining pollution to a shallow layer near the ground. In the cool winter months, radiative inversion occurs because the surrounding mountains create a barrier to airflow which traps pollutants in the valley. Air near the valley floor cools by radiative processes, while the upward air remains warm. Absence of surface wind leads to poor dispersion which can create localized air pollution “hot spots” near emission sources. Because these inversions occur more frequently during summer and winter, the air quality is generally better by comparison during the spring and fall seasons.

National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) have been established for the following criteria pollutants: carbon monoxide (CO), ozone (O₃), sulfur dioxide (SO₂), nitrogen dioxide (NO₂), particulate matter (PM₁₀ and PM_{2.5}), and lead (Pb). The CAAQS also set standards for sulfates, hydrogen sulfide, and visibility.

Air quality plans or attainment plans are used to bring the applicable air basin into attainment with all state and federal ambient air quality standards designed to protect the health and safety of residents within that air basin. Areas are classified under the federal Clean Air Act as either “attainment”, “nonattainment”, or “extreme

nonattainment” areas for each criteria pollutant based on whether the NAAQS have been achieved or not. Attainment relative to the State standards is determined by the California Air Resources Board (CARB). As illustrated in **Appendix A**, Butte County is currently designated as a State and federal nonattainment area for ozone and a State nonattainment area for particulate matter (PM₁₀ and PM_{2.5}).

3.4.2 Methodology

An Air Quality and Greenhouse Gas Emissions Evaluation Report (**Appendix A**) was prepared using CalEEmod, Version 2016.3.2 for the Project in December 2018. The sections below detail the methodology of the air quality and greenhouse gas emissions report and its conclusions.

3.4.2.1 Short-Term Construction-Generated Emissions

Short-term construction emissions associated with the Proposed Project were calculated using CalEEmod, Version 2016.3.2. The emissions modeling includes emissions generated by off-road equipment, haul trucks, and worker commute trips. Emissions were quantified based on anticipated construction schedules and construction equipment requirements provided by the project applicant. All remaining assumptions were based on the default parameters contained in the model. Localized air quality impacts associated with the Project would be minor and were qualitatively assessed. Modeling assumptions and output files are included in **Appendix A**.

3.4.2.2 Long-Term Operational Emissions

Since the Project involves improvements to an existing WWTP, long-term operational emissions associated with the Project will be essentially unchanged from existing baseline conditions. However, operational emissions were calculated using CalEEmod, Version 2016.3.2. Worker and vendor commute trips will be unchanged, as no additional long-term operational nor maintenance staff will be required. Stationary sources and operational equipment will be similar to those currently present in the existing facility. The Project proposes replacement and upgrades to aged or obsolete equipment, which would result in energy efficiency and a reduction in emissions.

3.4.2.3 Thresholds of Significance

To assist local jurisdictions in the evaluation of air quality impacts, the BCAQMD has published the *CEQA Air Quality Handbook: Guidelines for Assessing Air Quality and Greenhouse Gas Impacts for Projects Subject to CEQA Review*.⁷ This guidance document includes recommended thresholds of significance to be used for the evaluation of short-term construction, long-term operational, odor, toxic air contaminant, and cumulative air quality impacts. Accordingly, the BCAQMD-recommended thresholds of significance are used to determine whether implementation of the Project would result in a significant air quality impact. Projects that exceed these recommended thresholds would be considered to have a potentially significant impact to human health and welfare. The thresholds of significance are summarized in **Table 3-4** below:

Table 3-4. BCAQMD Thresholds of Significance for Criteria Air Pollutants

Pollutant	Construction-Related	Operational-Related
ROG	137 lbs/day, not to exceed 4.5 tons/year	25 lbs/day
NOX	137 lbs/day, not to exceed 4.5 tons/year	25 lbs/day
PM ≤ 10 microns (PM ₁₀ or smaller)	80 lbs/day	80 lbs/day

Short-Term Emissions of Particulate Matter (PM₁₀ and PM_{2.5}): Construction impacts associated with the Project would be considered significant if construction-related emissions of PM₁₀ and/or PM_{2.5} exceed 80 lbs/day.

⁷ CEQA Air Quality Handbook. <https://bcaqmd.org/wp-content/uploads/CEQA-Handbook-Appendices-2014.pdf> Accessed 30 October 2018.

Short-Term Emissions of Ozone Precursors (ROG and NO_x): Construction impacts associated with the Project would be considered significant if the project generates emissions of Reactive Organic Gases (ROG) or NO_x that exceeds 137 lbs/day or 4.5 tons/year.

Long-Term Emissions of Particulate Matter (PM₁₀ and PM_{2.5}): Operational impacts associated with the Project would be considered significant if the Project generates operational emissions of PM₁₀ and/or PM_{2.5} exceeding 80 lbs/day.

Long-Term Emissions of Ozone Precursors (ROG and NO_x): Operational impacts associated with the Project would be considered significant if the project generates operational emissions of ROG or NO_x exceeding 25 lbs/day.

Conflict with or Obstruct Implementation of Applicable Air Quality Plan: Due to the region's nonattainment status for ozone and PM, if the project-generated emissions of either of the ozone precursor pollutants (i.e., ROG and NO_x) or PM₁₀ or PM_{2.5} exceeding the BCAQMD's significance thresholds, then the project would be considered to conflict with the attainment plans. Furthermore, consistency with District Rules and Regulations, such as Rule 205 (Fugitive Dust Emissions) is required, as these rules were developed with the intention of meeting the attainment goals of the 2012 Northern Sacramento Valley Planning Area Air Quality Management Plan.

Exposure to toxic air contaminants would be considered significant if the probability of contracting cancer for the Maximally Exposed Individual (i.e., maximum individual risk) would exceed 10 in 1 million or would result in a Hazard Index greater than 1.

Odor impacts associated with the Project would be considered significant if the Project has the potential to generate odors that could adversely affect a substantial number of persons in the Project vicinity or locate receptors where they would be affected by an existing odor source.

3.4.3 Regulatory Setting

3.4.3.1 Federal

U.S. Environmental Protection Agency: At the Federal level, the EPA has been charged with implementing national air quality programs. The EPA's air quality mandates are drawn primarily from the Clean Air Act (CAA), which was signed into law in 1970. Congress substantially amended the CAA in 1977 and again in 1990.

Federal Clean Air Act: The CAA required the EPA to establish National Ambient Air Quality Standards (NAAQS), and also set deadlines for their attainment. Two types of NAAQS have been established: primary standards, which protect public health, and secondary standards, which protect public welfare from non-health-related adverse effects, such as visibility restrictions.

The CAA also required each State to prepare an air quality control plan referred to as a State Implementation Plan (SIP). The CAA Amendments of 1990 added requirements for States with nonattainment areas to revise their SIPs to incorporate additional control measures to reduce air pollution. The SIP is periodically modified to reflect the latest emissions inventories, planning documents, and rules and regulations of the air basins as reported by their jurisdictional agencies. The EPA has responsibility to review all State SIPs to determine conformance with the mandates of the CAA, and the amendments thereof, and determine if implementation will achieve air quality goals. If the EPA determines a SIP to be inadequate, a Federal Implementation Plan may be prepared for the nonattainment area that imposes additional control measures.

Toxic Substances Control Act: The Toxic Substances Control Act first authorized the EPA to regulate asbestos in schools and Public and Commercial buildings under Title II of the law, which is also known as the Asbestos

Hazard Emergency Response Act (AHERA). AHERA requires Local Education Agencies to inspect their schools for asbestos-containing building materials and prepare management plans to reduce the asbestos hazard. The Act also established a program for the training and accreditation of individuals performing certain types of asbestos work.

National Emission Standards for Hazardous Air Pollutants: Pursuant to the CAA of 1970, the EPA established the National Emission Standards for Hazardous Air Pollutants (NESHAP). These are technology-based source-specific regulations that limit allowable emissions of hazardous air pollutants.

3.4.3.2 State

California Air Resources Board: The California Air Resources Board (CARB) is the agency responsible for coordination and oversight of State and local air pollution control programs in California and for implementing the California Clean Air Act of 1988. Other CARB duties include monitoring air quality (in conjunction with air monitoring networks maintained by air pollution control districts and air quality management districts, establishing CAAQS, which in many cases are more stringent than the NAAQS, and setting emissions standards for new motor vehicles. The emission standards established for motor vehicles differ depending on various factors including the model year, and the type of vehicle, fuel and engine used.

California Clean Air Act: The California Clean Air Act (CCAA) requires that all air districts in the State endeavor to achieve and maintain CAAQS for ozone, CO, SO₂, and NO₂ by the earliest practical date. The CCAA specifies that districts focus particular attention on reducing the emissions from transportation and area-wide emission sources, and the act provides districts with authority to regulate indirect sources. Each district plan is required to either (1) achieve a five percent annual reduction, averaged over consecutive 3-year periods, in district-wide emissions of each nonattainment pollutant or its precursors, or (2) to provide for implementation of all feasible measures to reduce emissions. Any planning effort for air quality attainment would thus need to consider both State and Federal planning requirements.

Table 3-5. Summary of Ambient Air Quality Standards and Butte County Attainment Designations

Summary of Ambient Air Quality Standards & Butte County Attainment Designation					
Pollutant	Averaging Time	California Standards		National Standards	
		Concentration	Attainment Status	Primary	Attainment Status
Ozone (O ₃)	1-hour	0.09 ppm	Nonattainment	–	Nonattainment
	8-hour	0.070 ppm		0.070 ppm	
Respirable Particulate Matter (PM ₁₀)	AAM	20 µg/m ³	Attainment	–	–
	24-hour	50 µg/m ³	Nonattainment	150 µg/m ³	Attainment
Fine Particulate Matter (PM _{2.5})	AAM	12 µg/m ³	Nonattainment	12 µg/m ³	Attainment
	24-hour	–	–	35 µg/m ³	
Carbon Monoxide (CO)	1-hour	20 ppm	Attainment	35 ppm	Attainment
	8-hour	9 ppm		9 ppm	
	8-hour (Lake Tahoe)	6 ppm		–	
Nitrogen Dioxide (NO ₂)	AAM	0.030 ppm	Attainment	0.053 ppm	Attainment
	1-hour	0.18 ppm		100 ppb	
Sulfur Dioxide (SO ₂)	AAM	–	Attainment	0.03 ppm	Attainment
	24-hour	0.04 ppm		0.14 ppm	
	3-hour	–		–	
	1-hour	0.25 ppm		75 ppb	
Lead	30-day Average	1.5 µg/m ³	–	–	–
	Calendar Quarter	–		1.5 µg/m ³	
	Rolling 3-Month Average	–		0.15 µg/m ³	
Sulfates	24-hour	25 µg/m ³	–	No Federal Standards	
Hydrogen Sulfide	1-hour	0.03 ppm (42 µg/m ³)	–		
Vinyl Chloride	24-hour	0.01 ppm (26 µg/m ³)	–		
Visibility-Reducing Particle Matter	8-hour	Extinction coefficient: 0.23/km-visibility of 10 miles or more (0.07-30 miles or more for Lake Tahoe) due to particles when the relative humidity is less than 70%.	–		

Source: CARB 2016; BCAQMD 2014

3.4.3.3 Local

Oroville 2030 General Plan⁸: The Oroville 2030 General Plan sets for the following goals and policies that protect air quality of the City and which have potential relevance to the Project's CEQA review:

Goal OPS-12: Reduce particulate matter pollution in Oroville to meet State and federal ambient air quality standards.

Policy P12.1: Cooperate with the Butte County Air Pollution Control District to achieve 5 percent annual emissions reductions for non-attainment pollutants, including ozone and particulate matter, by implementation of air pollution control measures as required by State and federal standards.

Policy P12.3: Require all construction projects to implement dust control measures to reduce particulate matter emissions due to disturbance of exposed top-soils. Such measures would include watering of active areas where disturbance occurs, covering haul loads, maintaining clean access roads, and cleaning the wheels of construction vehicles accessing disturbed areas of the site.

Goal OPS-13: Reduce emissions of air contaminants, including greenhouse gases, and minimize public exposure to toxic, hazardous, and odoriferous air pollutants.

Policy P13.1: Prohibit sensitive receptors, such as residential uses, schools and hospitals, from locating in the vicinity of industrial and commercial uses known to emit toxic, hazardous or odoriferous air pollutants, and prohibit the establishment of such uses in the vicinity of sensitive receptors.

Policy P13.4: Encourage the use of alternative fuels in vehicle fleets and the use of alternative forms of transportation for City staff and other public agencies.

Policy P13.9: Control measures shall be implemented at all construction sites, such as alternative fuels, after-market add-ons, and other measures to further minimize exhaust emissions from construction equipment.

Butte County Air Quality Management District: BCAQMD is the agency primarily responsible for ensuring that NAAQS and CAAQS are not exceeded and that air quality conditions are maintained in the SVAB, within which the Project is located. Responsibilities of the BCAQMD include, but are not limited to, preparing plans for the attainment of ambient air quality standards, adopting and enforcing rules and regulations concerning sources of air pollution, issuing permits for stationary sources of air pollution, inspecting stationary sources of air pollution and responding to citizen complaints, monitoring ambient air quality and meteorological conditions, and implementing programs and regulations required by the CAA and the CCAA.

The BCAQMD Rules and Regulations⁹ that are applicable to the Project include, but are not limited to, the following:

Rule 200 (Nuisance): No person shall discharge from any non-vehicular source 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 or which endanger the comfort, repose, health or safety of any such persons or the public or which cause or have a natural tendency to cause injury or damage to business or property.

Rule 201 (Visible Emissions): No person shall discharge into the atmosphere from any single non-vehicular source of emission whatsoever any air contaminant, other than uncombined water vapor, for a period or periods aggregating more than three (3) minutes in any one hour which is:

⁸ Oroville 2030 General Plan. <http://www.cityoforoville.org/home/showdocument?id=12187> Accessed 23 October 2018.

⁹ BCAQMD Rules and Regulations. <https://www.arb.ca.gov/drd/but/cur.htm> Accessed 1 November 2018.

- As dark or darker in shade as that designated as No. 2 on the Ringelmann Chart as published by the U.S. Bureau of Mines; or,
- Of such opacity as to obscure an observer's view to a degree equal to or greater than does smoke described in Section 1 of this Rule.

Rule 202 (Particulate Matter Concentration): A person shall not discharge into the atmosphere from any source particulate matter in excess of 0.3 grains per cubic foot of gas at standard conditions.

Rule 205 (Fugitive Dust Emissions): This rule is a series of requirements designed to reduce particulate emissions generated by human activity, including construction and demolition activities, carryout and trackout, paved and unpaved roads, bulk material handling and storage, unpaved vehicle/traffic areas, open space areas, etc. In order to minimize fugitive dust emissions, all projects are required to implement applicable best available control measures, which are specifically outlined in Table 1 on pages 7 through 11 of Rule 205¹⁰. The table of best available control measures is organized by source category, control measure(s) required, and an additional guidance column.

Rule 234 (Disposal of Organic Waste): This rule is a series of requirements designed to reduce the emissions of volatile organic compounds resulting from the generation, storage, transfer, treatment, recycling, or disposal of volatile organic wastes.

Rule 400 and 500 (Stationary Source Permit): Rules 400 and 500 require any person constructing, altering, or operating a source that emits or may emit air contaminants to obtain an Authority to Construct or Permit to Operate from the Air Pollution Control Officer and to provide an orderly procedure for application, review, and authorization of new sources and of the modification and operation of existing sources of air pollution. According to these rules, the Project may require a Stationary Source Permit for Public and Private Waste Water Treatment Works, Authority to Construct, and Permit to Operate.

Butte County Air Quality Control District Thresholds of Significance. Projects that produce emissions that exceed the significance thresholds identified in **Section 3.4.2.2**, above, shall be considered significant for a project level and/or cumulatively considerable impact to air quality.

3.4.3.4 Regulatory Attainment Designations

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

The EPA designates areas for ozone, CO, and NO₂ as "does not meet the primary standards," "cannot be classified," or "better than national standards." For SO₂, areas are designated as "does not meet the primary standards," "does not meet the secondary standards," "cannot be classified," or "better than national standards." However, the CARB terminology of attainment, nonattainment, and unclassified is more frequently used. The EPA uses the same sub-categories for nonattainment status: serious, severe, and extreme. In 1991, EPA assigned new nonattainment designations to areas that had previously been classified as Group I, II, or

¹⁰ BCAQMD Rule 205. <https://www.arb.ca.gov/drdb/but/curhtml/r205.pdf> Accessed 1 November 2018.

III for PM₁₀ based on the likelihood that they would violate national PM₁₀ standards. All other areas are designated “unclassified.”

The State and national attainment status designations pertaining to the BCAQMD are summarized in **Table 3-5**. Butte County is currently designated as a State and federal nonattainment area for ozone and a State nonattainment area for particulate matter (PM₁₀ and PM_{2.5}).

3.4.4 Impact Assessment

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

No Impact. As noted in Impact Assessment b and c below, implementation of the Project would not result in short-term or long-term increases in emissions that would exceed applicable thresholds of significance. Projects that do not exceed the recommended thresholds would not be considered to conflict with or obstruct the implementation of applicable air quality plans.

Less than Significant Impact. Due to the region’s nonattainment status, BCAQMD has adopted thresholds of significance for ROG, NO_x, and particulate matter (PM₁₀ or smaller). As demonstrated in **Table 3-6**, the emissions generated by the Project’s construction phase would not exceed the BCAQMD thresholds of significance.

Table 3-6. Short-Term Construction-Related Emissions of Criteria Air Pollutants

Short-Term Construction-Related Emissions of Criteria Air Pollutants					
	ROG	NO _x	PM ₁₀ or smaller	CO	SO ₂
Summer (daily max)	23.4201 lbs/day	32.3730 lbs/day	12.2041 lbs/day	26.8431 lbs/day	0.0586 lbs/day
Winter (daily max)	23.4165 lbs/day	32.4031 lbs/day	12.2041 lbs/day	26.5891 lbs/day	0.0582 lbs/day
Annual (max)	0.4407 tons/year	2.5823 tons/year	0.4663 tons/year	2.4435 tons/year	0.00567 tons/year
BCAQMD Thresholds of Significance	137 lbs/day 4.5 tons/year	137 lbs/day 4.5 tons/year	80 lbs/day	No adopted threshold	No adopted threshold
Exceeds BCAQMD thresholds?	No	No	No	N/A	N/A

Since the Project involves improvements to an existing WWTP, long-term operational emissions associated with the Project will be essentially unchanged from existing baseline conditions. However, estimated long-term operational emissions were calculated using CalEEMod, Version 2016.3.2 and are displayed in **Table 3-7**. Worker and vendor commute trips will be unchanged, as no additional long-term operational nor maintenance staff will be required. Stationary sources and operational equipment will be similar to those currently present in the existing facility. The Project proposes replacement and upgrades to aged or obsolete equipment, which would result in energy efficiency and a reduction in emissions. As demonstrated in **Table 3-7**, the emissions generated by the Project’s operational phase would not exceed the BCAQMD thresholds of significance. Therefore, Project-related impacts to air quality would be considered less than significant.

Table 3-7. Long-Term Operational Emissions of Criteria Air Pollutants

Long-Term Operational Emissions of Criteria Air Pollutants					
	ROG	NO _x	PM ₁₀ or smaller	CO	SO ₂
Summer (daily max)	2.4687 lbs/day	0.4878 lbs/day	0.0742 lbs/day	0.4185 lbs/day	0.00293 lbs/day
Winter (daily max)	2.4687 lbs/day	0.4878 lbs/day	0.0742 lbs/day	0.4185 lbs/day	0.00293 lbs/day
Annual (max)	0.4505 tons/year	0.0890 tons/year	0.1352 tons/year	0.0756 tons/year	0.00053 tons/year
BCAQMD Thresholds of Significance	25 lbs/day	25 lbs/day	80 lbs/day	No adopted threshold	No adopted threshold
Exceeds BCAQMD thresholds?	No	No	No	N/A	N/A

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 (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

Less than Significant Impact. As mentioned above in Impact Assessment b), due to the region’s nonattainment status, BCAQMD has adopted thresholds of significance for ROG, NO_x, and particulate matter (PM₁₀ or smaller). Estimated construction-related emissions and estimated operational emissions were calculated using CalEEMod, Version 2016.3.2 and the results are displayed above in **Table 3-6 and Table 3-7**.

Short-Term Construction-Related Emissions

Construction-generated emissions are temporary in duration, lasting approximately 18 months. The construction of the Project would result in the temporary generation of emissions associated with site grading and excavation, motor vehicle exhaust associated with construction equipment and worker trips, as well as the movement of construction equipment on unpaved surfaces.

It is important to note that the Project would be required to comply with all applicable BCAQMD Rules and Regulation, including but not limited to Rule 200, Rule 201, Rule 202, Rule 205, and Rule 234, as mentioned above in **Section 3.4.3.3**. Compliance with these Rules and Regulations would further reduce construction-related emissions, minimizing the Project’s potential to adversely impact to air quality.

Given that construction-related emissions would not exceed applicable BCAQMD significance thresholds and the Project would be required to comply with all applicable BCAQMD Rules and Regulations, construction-related emissions of criteria pollutants would be considered less than significant.

Long-Term Operational Emissions

Long-term operational emissions associated with the Project will be essentially unchanged from existing baseline conditions. Worker and vendor trips will not increase, and stationary sources and operational equipment will be similar to those currently in use at the existing WWTP. Furthermore, estimated operational emissions do not exceed BCAQMD’s significance thresholds. Therefore, Project-related emissions of criteria air pollutants would be considered less than significant.

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

Less than Significant Impact. The Project involves improvements to an existing WWTP in the South Oroville Industrial District. There are no existing or planned sensitive receptors in the Project’s vicinity. Construction and operation of the existing WWTP Upgrade Project is not anticipated to result in a substantial increase in pollutant concentrations, as discussed above in Impact Assessment a)-d). Therefore, Project-related impacts to sensitive receptors would be less than significant.

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

No Impact. The Project involves improvements to an existing WWTP located in the South Oroville Industrial District. Although this area is designated by the general plan and zoned for industrial use, there are scattered commercial developments in the vicinity which may have issue with odors generated by the existing WWTP. For this reason, the Project specifically proposes upgrades to mitigate these odors, such as implementation of an odor control system and a biofilter to treat odorous air from the rag removal process and the influent pump station. The Project would not increase the amount of waste handled or create new sources of odor. On the contrary, the Project aims to reduce the existing issue of objectionable odors. Therefore, implementation of the Project would have no adverse impact related to objectionable odors.

3.5 Biological Resources

Table 3-8. Biological Resources Impacts

Biological Resources				
Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.5.1 Environmental Setting

The Project is located in north central California in the northeastern portion of the Sacramento Valley, in Butte County. The Sacramento Valley is the north portion of California’s Central Valley, situated north of the Sacramento-San Joaquin River Delta. Butte County is located within the Sacramento Valley and foothills of the Sierra Nevada, bordered by the Sierra Nevada to the east, the Cascade Range to the north, and the Sacramento River and Butte Creek to the west. Water from snowpack in the northern Sierra Nevada and the southern Cascade Range drains into the Sacramento Valley via the Feather River, the Sacramento River, Butte Creek, and other tributaries. The Project is located in a portion of the Sacramento Valley that has historically been used for agricultural, mining, and development purposes. Gold dredging of the nearby Feather River occurred from 1898 through 1952, and some dredge tailings were deposited in the vicinity of the existing WWTP. Current agricultural activities in the region include cropland, fruit and nut orchards, and livestock grazing.

Like most of California, the Sacramento Valley has a Mediterranean climate. Warm dry summers are followed by cool moist winters. Summer temperatures commonly exceed 90 degrees Fahrenheit. Annual precipitation within the vicinity of the Project is about 31 inches, the majority of which falls between the months of October and April. Nearly all precipitation falls in the form of rain. Stormwater readily infiltrates the soils of and surrounding the Project site.

The principal drainage in the Project vicinity is the Feather River. The Feather River originates in the Sierra Nevada in four distinct forks which unite as arms of the Lake Oroville reservoir in the Sierra Nevada foothills five miles northeast of Oroville in eastern Butte County. The North Fork Feather River drains approximately 60% of the entire upper Feather River watershed. The main stem of the Feather River begins at Oroville Dam, the outlet of Lake Oroville, and flows generally south across the Sacramento Valley, east of the Sutter Buttes, past Oroville and Yuba City-Marysville. The Project is located less than one mile east of the main stem Feather River and approximately five and a half miles southwest of the Oroville Dam.

Since the completion of the Oroville Dam in 1968, flow of the Feather River below the dam has been highly regulated for hydroelectric power production, flood control, water supply, and fish and wildlife. The dam has confined fish migration up the Feather River, and the controlled flow of the river has affected riparian habitat. In an effort to mitigate negative effects from altered water flow, the Department of Water Resources collaborated with California Department of Fish and Wildlife (CDFW) to build the Feather River Fish Hatchery. Since 1967, the Feather River Hatchery has raised Chinook salmon and steelhead along the Feather River and below Lake Oroville.

The Project site is immediately surrounded by commercial uses to the north, east, and south and by ruderal fields to the west. A storage business is directly north, and a firewood products business lies adjacent to the east with a railway just beyond. An agricultural processing plant is south of the site. West of the ruderal fields bordering the site is Highway 70 and just beyond, the main stem Feather River. The nearest boundary of the Oroville Wildlife Area lies on the western banks of the Feather River directly west of the Project site.

3.5.1.1 Methodology

A field survey of the Project area was conducted on November 7, 2018 by Live Oak Associates (LOA) ecologist Geoffrey Cline and written evaluation updated and completed in January 2021. The survey consisted of walking throughout the Project area while identifying the principal land uses and associated plant and animal species while mapping suitable habitat for special status species and other sensitive biological resources. The survey assessed the significance of possible biological impacts associated with development of the Project area. The Biological Evaluation Report, in its entirety, is available as **Appendix B** at the end of this document.

LOA conducted an analysis of potential Project impacts based on the known and potential biotic resources of the Project area. Sources of information used in the preparation of this analysis included: (1) the California Natural Diversity Data Base (CNDDB), the United States Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) system, (3) the California Native Plant Society's Online Inventory of Rare and Endangered Vascular Plants of California, and (4) manuals, reports, and references related to plants and animals of the Sacramento Valley region.

Several species of plants and animals within the state of California have low populations, limited distributions, or both. Such species may be considered "rare" and are vulnerable to extirpation as the State's human population grows and the habitats these species occupy are converted to agricultural and urban uses. As described in **Section 3.5.2**, State and federal laws have provided California Department of Fish and Wildlife (CDFW) and United States Fish and Wildlife Service (USFWS) with a mechanism for conserving and protecting the diversity of plant and animal species native to the state. A sizable number of native plants and animals have been formally designated as "threatened" or "endangered" under State and federal endangered species legislation. Others have been designated as candidates for such listing. Still others have been designated as

“species of special concern” by CDFW. The California Native Plant Society (CNPS) has developed its own set of lists of native plants considered rare, threatened, or endangered. Collectively, these plants and animals are referred to as “special status species.”

The California Natural Diversity Database (CNDDDB) was queried for special status species occurrences in the nine United States Geologic Survey (USGS) 7.5-minute quadrangles containing and immediately surrounding the Project area (*Palermo, Shippee, Oroville, Oroville Dam, Biggs, Bangor, Gridley, Honcut, and Loma Rica*). These species, and their potential to occur onsite, are listed in **Table 3-9** and **Table 3-10**. Sources of information for this table included California’s Wildlife, Volumes I, II, and III, CNDDDB, the USFWS IPaC system, The Jepson Manual: Vascular Plants of California, second edition, The California Native Plant Society’s Inventory of Rare and Endangered Vascular Plants of California, Calflora.org, and eBird.org. A complete list of references is available in the Biological Evaluation Report as **Appendix B** at the end of this document.

3.5.1.2 Project Site Existing Conditions

At the time of the August 2021 field survey, the APE consisted of approximately 34 acres of the existing WWTP facility and 20 acres of vacant land adjoining the facility to the south. The site is fairly level, with an average elevation of approximately 150 feet, and is surrounded by a perimeter fence, approximately 6-feet in height, that meets the ground along the majority of the fence-line.

The 20 acres of vacant land is unfenced and is described as disturbed savanna. This area is characterized by extremely rocky soils associated with dredge tailings, and widespread evidence of past ground disturbance such as vegetated berms and stockpiles. At the time of the 2021 field survey, the vegetative community comprised non-native grasses and forbs including wild oats (*Avena fatua*), filaree (*Erodium* sp.), yellow star-thistle (*Centaurea solstitialis*), and black mustard (*Brassica nigra*), and scattered trees and shrubs including foothill pine (*Pinus*

There are five sewage treatment lagoons immediately west and northwest of the Project area that store raw wastewater, four of which are included within the western site boundary. This wastewater is pumped back to the existing WWTP facility where it undergoes a multi-stage treatment process before it is piped approximately five miles to the Feather River discharge location south of the Project site. The four southernmost lagoons within the western site boundary are asphalt lined, while the northernmost lagoon is clay lined. In typical operation, any of these five lagoons may be dry for long periods of time, as each are regularly drained as part of their operational cycle.

The Project area contains two soil mapping units from two soil series: Xerorthents, tailings-Urban land complex, 0 to 2 percent slopes, and Thompson flat-Oroville, 0 to 9 percent slopes. The Xerorthents soils are considered hydric, meaning that they tend to pond water consistently enough to support the growth of wetland vegetation.

The Project area consists primarily of developed WWTP habitat which included the existing WWTP facilities (buildings, equipment, treatment lagoons), paved and gravel access roads, irrigated lawns, and ornamental vegetation. The remainder of the site consists of ruderal land which includes gravel or hard-pack weedy areas and roads adjacent to the existing WWTP. The majority of the vegetation in the developed areas included landscaped areas consist of non-native lawn grasses, bur clover, and ornamental trees and shrubs. Invasive, weedy forbs and graminoids dominate ruderal portions of the site.

Frequent human disturbance from regular operations and the prevalence of man-made facilities limit the value of the developed existing WWTP and ruderal habitats to wildlife; however, some species may occur onsite in limited numbers. Common wildlife species expected to occur onsite or in the vicinity include the following: Pacific chorus frog, western toad, western fence lizard, mourning dove, common raven, Brewer’s blackbird, least sandpiper, killdeer, northern mockingbird, black phoebe, European starling, deer mouse, house mouse, Norway rat, Botta’s pocket gopher, western gray squirrel, red-tailed hawk, American kestrel, northern harrier, western meadowlark, raccoon, striped skunk, Audubon’s cottontail, and black-tailed jackrabbit.

Table 3-9. List of Special Status Plants with Potential to Occur in the Project Vicinity

Species	Status	Habitat	Occurrence
Butte County Meadowfoam (<i>Limnanthes floccosa</i> ssp. <i>californica</i>)	FE, CE, CNPS 1B	Occurs along vernal pool edges and freshwater wetlands at elevations often below 1,000 feet. Blooms around March-May.	Absent. Suitable habitats for this species are absent from the Project area.
Slender Orcutt Grass (<i>Orcuttia tenuis</i>)	FT, CE, CNPS 1B	Occurs in vernal pools of valley grassland, foothill woodland, freshwater wetlands, and wetland-riparian habitats at elevations of approximately 650-3,600 feet. Blooms around May-October.	Absent. Suitable habitats for this species are absent from the Project area and the site is well below the elevation range of this species.
Greene's Tuctoria (<i>Tuctoria greenei</i>)	FE, CR, CNPS 1B	Occurs in vernal pools of valley grassland, freshwater wetlands, and wetland-riparian habitats at elevations often below 3,450 feet. Blooms around May-September.	Absent. Suitable habitats for this species are absent from the Project area.
Big-scale Balsamroot (<i>Balsamorhiza macrolepis</i>)	CNPS 1B	Occurs on open grassy or rocky slopes in valley grassland and foothill woodland habitat, between 150 and 5,100 feet in elevation. Blooms March-July.	Unlikely. The APE is situated at the lower limit of this species' elevation distribution, and consists largely of an active wastewater treatment facility that would not support this or other sensitive plant species. Although the APE's disturbed savanna may theoretically offer suitable habitat for big-scale balsamroot, past ground disturbance associated with gold dredging would greatly limit its potential to occur here. Moreover, there are no known occurrences of this species in the project vicinity. The closest CNDDDB record is more than 9 miles from the APE, documented in 1897.
Pink Creamsacs (<i>Castilleja rubicundula</i> var. <i>rubicundula</i>)	CNPS 1B	Occurs in serpentinite rock of chaparral, cismontaine woodland, meadows and seeps, and valley and foothill grassland habitat at elevations of approximately 65-3,000 feet. Blooms around April-June.	Absent. Suitable habitats for this species are absent from the Project area.
Mosquin's Clarkia (<i>Clarkia mosquinii</i>)	CNPS 1B	Occurs in dry, rocky places like foothill woodland at elevations of 600-4,000 feet. Blooms around June-July.	Absent. Suitable habitats for this species are absent from the Project area and the site is well below the elevation range of this species.
Recurved Larkspur (<i>Delphinium recurvatum</i>)	CNPS 1B	Occurs in shadscale scrub, valley grassland, and foothill woodland habitats, usually in non-wetlands but occasionally in wetlands at elevations of approximately 100-2,000 feet. Blooms around March-June.	Absent. Suitable habitats for this species are absent from the Project area.
Adobe-lily (<i>Fritillaria pluriflora</i>)	CNPS 1B	Occurs in adobe, general serpentine soils of chaparral, valley grassland, and foothill woodland habitats at elevations often below 3,000 feet. Blooms around February-April.	Absent. Suitable habitats for this species are absent from the Project area.

Species	Status	Habitat	Occurrence
Wooly Rose-mallow (<i>Hibiscus lasiocarpus</i> var <i>occidentalis</i>)	CNPS 1B	Occurs in freshwater wetlands, wet banks, and marshes often below 330 feet in elevation. Blooms around June-November.	Absent. Suitable habitats for this species are absent from the Project area.
Ahart's Dwarf Rush (<i>Juncus leiospermus</i> var. <i>ahartii</i>)	CNPS 1B	Occurs in vernal pool margins, grassland swales, and gopher mounds at elevations of approximately 100-300 feet. Blooms around March-May.	Absent. Suitable habitats for this species are absent from the Project area.
Red Bluff Dwarf Rush (<i>Juncus leiospermus</i> var. <i>leiospermus</i>)	CNPS 1B	Occurs in vernal pool margins, wet places in chaparral, and woodland habitats at elevations of approximately 900-1,700 feet. Blooms around March-June.	Absent. Suitable habitats for this species are absent from the Project area and the site is well below the elevation range of this species.
Baker's Navarretia (<i>Navarretia leucocephala</i> ssp. <i>bakeri</i>)	CNPS 1B	Occurs in vernal pools and wetlands of yellow pine forest, norther oak woodland, foothill woodland, valley grassland, freshwater wetlands, and wetland-riparian habitats at elevations often below 5,600 feet. Blooms around April-July.	Absent. Suitable habitats for this species are absent from the Project area.
Ahart's Paronychia (<i>Paronychia ahartii</i>)	CNPS 1B	Occurs in well-drained, rocky outcrops, often vernal pool edges, and volcanic upland areas of valley grassland, foothill woodland, and freshwater wetland habitat at elevations often below 1,650 feet. Blooms around March-June.	Absent. Suitable habitats for this species are absent from the Project area.
Sanford's Arrowhead (<i>Sagittaria sanfordii</i>)	CNPS 1B	Occurs in ponds and ditches of freshwater wetlands and wetland-riparian habitats at elevations often below 1,000 feet. Blooms around May-October.	Absent. Suitable habitats for this species are absent from the Project area.
Butte County Golden Clover (<i>Trifolium jokerstii</i>)	CNPS 1B	Occurs in vernal pools at elevations often below 1,350 feet. Blooms around March-May.	Absent. Suitable habitats for this species are absent from the Project area.

Table 3-10. List of Special Status Animals with Potential to Occur in the Project Vicinity

Species	Status	Habitat	Occurrence
Valley Elderberry Longhorn Beetle (<i>Desmocerus californicus dimorphus</i>)	FT	Lives in mature elderberry shrubs of California's Central Valley and Sierra foothills.	Possible. Blue elderberry shrubs are located along the APE's southern and western boundary in six distinct clusters. These shrubs may support VELB. This species is known from the Oroville Wildlife Area, 3 to 5 miles southwest of the APE.
Monarch Butterfly (<i>Danaus plexippus</i>)	FC	The western North American population of monarch butterfly overwinters along the California coast. In the spring, individuals migrate north and east over to the Pacific Northwest and toward the Rockies, producing multiple generations en route. In the fall, adults enter reproductive diapause and return to the coast. Milkweed, the obligate host plant of this species, is required during spring migration, when	Possible. Monarchs have the potential to migrate through the APE, and may occasionally forage or roost on site. Milkweed was not detected during the field surveys, so it appears unlikely that the APE would support breeding by this species.

Species	Status	Habitat	Occurrence
		breeding occurs. Trees are used as roost sites during fall migration. Nectar resources from both milkweed and other flowering plants are important year-round.	
Vernal Pool Fairy Shrimp <i>(Branchinecta lynchi)</i>	FT	Occurs in vernal pools, clear to tea-colored water in grass or mud-bottomed swales, and basalt depression pools.	Absent. Suitable habitat in the form of vernal pools is absent from the Project area. The nearest CNDDDB observation is approximately 1.5 miles to the southeast, and is from 2006.
Vernal Pool Tadpole Shrimp <i>(Lepidurus packardii)</i>	FE	Occurs in vernal pools, clear to tea-colored water in grass or mud-bottomed swales, and basalt depression pools.	Absent. Suitable habitat in the form of vernal pools is absent from the APE. The nearest CNDDDB observation is approximately 3 miles to the northwest, and is from 2005.
Delta Smelt <i>(Hypomesus transpacificus)</i>	FT	This slender-bodied fish is endemic to the San Francisco Bay and Sacramento-San Joaquin Delta upstream through Contra Costa, Sacramento, San Joaquin, Solano, and Yolo Counties.	Absent. Suitable habitats for this species are absent from the Project area.
Steelhead – Central Valley DPS <i>(Oncorhynchus mykiss irideus pop. 11)</i>	FT	Cold-water streams with adequate dissolved oxygen and gravel substrates free of excessive silt for spawning in coastal streams and tributaries of San Francisco and San Pablo bays.	Absent. Suitable habitats for this species are absent from the Project area.
Chinook Salmon – Central Valley spring-run ESU <i>(Oncorhynchus tshawytscha pop. 6)</i>	FT, CT	Salmon of this run begin to migrate up the Sacramento River in the spring. They hold in cool water tributaries through the summer, and spawn in the fall in gravel beds in riffle areas. Juveniles migrate soon after emergence as young-of-the year, or remain in freshwater and migrate as yearlings.	Absent. Suitable habitats for this species are absent from the Project area.
Foothill Yellow-Legged Frog <i>(Rana boylei)</i>	CCT, CSSC	Frequents rocky streams and rivers with open, sunny banks in forests, chaparral, and woodlands. Occurs from sea level to 2,040 meters in elevation.	Absent. Suitable habitats for this species are absent from the Project area.
California Red-legged Frog <i>(Rana draytonii)</i>	FT	Perennial rivers, creeks and stock ponds of the Coast Range and northern Sierra foothills with overhanging vegetation.	Absent. Suitable habitats for this species are absent from the Project area.
Giant Garter Snake (GGS) <i>(Thamnophis gigas)</i>	FT, CT	Occurs in marshes, sloughs, drainage canals, irrigation ditches, rice fields, and adjacent uplands. Prefers locations with emergent vegetation for cover and open areas for basking. GGS use small mammal burrows and soil crevices adjacent to aquatic habitats for overwintering and, in the summer, to escape excessive heat.	Absent. Suitable habitats for this species are absent from the Project area. The nearest CNDDDB observation is over four miles to the southwest, within the Feather River, and is from 2011.
Tricolored Blackbird <i>(Agelaius tricolor)</i>	CCE	Nests colonially near fresh water in dense cattails or tules, or in thickets of	Possible. The APE's disturbed savanna habitat offers suitable foraging

Species	Status	Habitat	Occurrence
		willows or shrubs. In the San Joaquin Valley, has increasingly been documented nesting in wheat fields. Forages in grassland and cropland areas.	habitat for tricolored blackbirds. This species nests in large colonies that would not be supported by the site's isolated patches of willows and blackberry. The nearest known nesting occurrence is approximately 2.6 miles to the southwest, and is from 1971.
Greater Sandhill Crane <i>(Antigone canadensis tabida)</i>	CT, CFP	Winters in the Central Valley, where it frequents grasslands, moist croplands with rice or corn stubble, and emergent wetlands. Breeds in northern California and elsewhere.	Possible. Migrating or wintering greater sandhill cranes may occasionally forage in the APE's disturbed savanna habitat. Use of the site would be infrequent at best, given the APE's industrial setting and absence of cereal grain and wetland habitats likely to attract cranes. This species does not breed in Butte County.
Golden Eagle <i>(Aquila chrysaetos)</i>	CFP	Hunts over open terrain for rodents, lagomorphs and occasionally birds and reptiles. Nests on cliffs of all heights and in large trees in open areas.	Possible. Golden eagles may occasionally forage in the APE's disturbed savanna habitat, but nesting habitat is absent.
Swainson's Hawk <i>(Buteo swainsoni)</i>	CT	This breeding migrant to California nests in mature trees in riparian areas and oak savannah, and occasionally in lone trees at the margins of agricultural fields. Requires adjacent suitable foraging areas such as grasslands or alfalfa fields supporting rodent populations.	Possible. Swainson's hawks have the potential to nest in mature trees of the APE's disturbed savanna habitat, and to forage in that habitat's open areas. This species is unlikely to use the APE's ruderal/developed habitat, which is highly modified and frequently disturbed by WWTP operations. The closest known nesting occurrence of this species is approximately 5 miles to the southwest at Oroville Wildlife Area.
Western Yellow-billed Cuckoo <i>(Coccyzus americanus)</i>	FT, CE	Once a common breeding species in riparian habitats of lowland California, the western yellow-billed cuckoo today breeds consistently in only two California localities: along the Sacramento and South Fork Kern Rivers.	Absent. Suitable habitats for this species are absent from the Project area.
White-Tailed Kite <i>(Elanus leucurus)</i>	CFP	Occurs in savanna, open woodlands, marshes, desert grassland, and cultivated fields. Prefer lightly grazed or ungrazed fields for foraging.	Possible. White-tailed kites may nest in mature trees of the APE's disturbed savanna habitat, and forage in that habitat's open areas. This species is not expected to use the highly modified and frequently disturbed habitats of the active WWTP facility.
Bald Eagle <i>(Haliaeetus leucocephalus)</i>	CE, CFP	In California, breeds in mountain and foothill forests near reservoirs, lakes, and rivers, and winters near Central Valley reservoirs. Primarily feeds on fish and waterfowl, and may also eat carrion.	Unlikely. This species may occasionally fly over the APE, but is unlikely to forage on site due to the marginal nature of the site's aquatic habitats and high levels of disturbance. The site would not support breeding by this species.

Species	Status	Habitat	Occurrence
California Black Rail (<i>Laterallus jamaicensis coturniculus</i>)	CT, CFP	Prefers marshes, swamps, and wet meadows and is dependent on aquatic plants, insects, and crustaceans.	Absent. Suitable habitats for this species are absent from the Project area.
Bank Swallow (<i>Riparia riparia</i>)	CT	Prefers riverbanks, creeks, seashores, and lakes. Nests in colonies in vertical streamside banks or cliffs.	Absent. Suitable habitats for this species are absent from the Project area.
Least Bell's Vireo (<i>Vireo belii pusillus</i>)	FE, CE	Breeds in dense early successional riparian vegetation. Winters in Mexico and Central America.	Absent. Suitable habitats for this species are absent from the Project area.
Western Spadefoot (<i>Spea hammondi</i>)	CSSC	Mainly occurs in grasslands of the Central Valley, where it breeds in vernal pools or other temporary wetlands and aestivates in underground refugia such as rodent burrows. Baumberger et al. (2019) recorded a maximum distance of around 890 feet between breeding and aestivation sites.	Unlikely. While the APE's disturbed savanna habitat is theoretically suitable for spadefoot aestivation, potential breeding habitat is absent from the APE and adjacent lands, greatly limiting the potential for this species to occur on site.
Coast Horned Lizard (<i>Phrynosoma blainvillii</i>)	CSSC	Occurs in the lower Sierra foothills and throughout the central and southern California coast in relatively open areas.	Unlikely. While the APE's disturbed savanna habitat is theoretically suitable for this species it is unlikely to have persisted in the project vicinity following widespread dredging activities, nor would it be expected to migrate into this industrial portion of Oroville. The closest known occurrence, historical or otherwise, is approximately 8 miles north of the APE at a CDFW ecological reserve.
Western Pond Turtle (<i>Emys marmorata</i>)	CSSC	An aquatic turtle of ponds, marshes, slow-moving rivers, streams and irrigation ditches with aquatic vegetation. Needs basking sites and sandy banks or grassy open fields for egg laying.	Absent. The APE's treatment ponds would not support this species because they are not perennially inundated. The closest suitable aquatic habitat appears to be the Feather River, which, at ½ mile from the APE, is too distant to enable upland use of the site by individuals of this species.
Burrowing Owl (<i>Athene cunicularia</i>)	CSSC	Frequents open, dry annual or perennial grasslands, deserts, and scrublands characterized by low growing vegetation. Dependent upon burrowing mammals, most notably the California ground squirrel, for nest burrows.	Possible. This species has limited presence in the project vicinity, with only one known occurrence in a nearly 20-mile radius. However, the APE's disturbed savanna offers marginal roosting, nesting, and foraging habitat for the burrowing owl. Should this species occur in the vicinity, it could conceivably use this portion of the site. This species is not expected to use the highly modified and frequently disturbed habitats of the active WWTP facility.
Northern Harrier (<i>Circus cyaneus</i>)	CSSC	Frequents meadows, grasslands, open rangelands, freshwater emergent	Possible. Northern harriers have the potential to forage and nest in the APE's disturbed savanna habitat. Its

Species	Status	Habitat	Occurrence
		wetlands. Nests on ground, generally in marshes, although grassland and pasture habitat may also be used.	use of the APE's ruderal/developed habitat, if it occurs at all, would be limited to occasional foraging in open areas.
Loggerhead Shrike <i>(Lanius ludovicianus)</i>	CSSC	Frequents open habitats with sparse shrubs and trees, other suitable perches, bare ground, and low herbaceous cover. In the Central Valley, nests in riparian areas, desert scrub, and agricultural hedgerows.	Possible. This species may occasionally forage within the APE, and has the potential to nest in trees and shrubs of the APE's disturbed savanna habitat.
Yellow Warbler <i>(Setophaga petechia)</i>	CSSC	Migrants move through many habitats of Sierra and its foothills. This species breeds in riparian thickets of alder, willow and cottonwoods.	Possible. This species may pass through or forage within the APE's disturbed savanna habitat during migration, but would not breed on site or in the vicinity.
Townsend's Big-eared Bat <i>(Corynorhinus townsendii)</i>	CSSC	Primarily a cave-dwelling bat, but may also roost in tunnels, buildings, other human-made structures, and hollow trees. Occurs in a variety of habitats.	Possible. This species has the potential to roost in the APE's buildings and mature trees, and could forage on site.
Western Mastiff Bat <i>(Eumops perotis californicus)</i>	CSSC	Frequents open, semi-arid to arid habitats, including conifer, and deciduous woodlands, coastal scrub, grasslands, palm oasis, chaparral and urban. Roosts in cliff faces, high buildings, and tunnels.	Possible. This species may forage over the APE, but would not roost on site.

OCURRENCE DESIGNATIONS AND STATUS CODES

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

STATUS CODES

FE	Federally Endangered	CE	California Endangered
FT	Federally Threatened	CT	California Threatened
FPE	Federally Proposed Endangered	CCE	California Candidate Endangered
FPT	Federally Proposed Threatened	CCT	California Candidate Threatened
FC	Federal Candidate	CFP	California Fully Protected
		CSSC	California Species of Special Concern

CNPS LISTING

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

3.5.2 Regulatory Setting

3.5.2.1 Threatened and Endangered Species

State and federal “endangered species” legislation has provided the California Department of Fish and Wildlife (CDFW) and the U.S. Fish and Wildlife Service (USFWS) with a mechanism for conserving and protecting plant and animal species of limited distribution and/or low or declining populations. Permits may be required

from both CDFW and USFWS if activities associated with a proposed project will result in the “take” of a listed species. “Take” is defined by the State of California as “to hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture or kill” (Fish and Game Code Section 86). “Take” is more broadly defined by the federal Endangered Species Act to include “harm” (16 United States Code (USC), Section 1532(19), 50 Code of Federal Regulations (CFR), Section 17.3). Furthermore, CDFW and USFWS are responsible agencies under CEQA. Both agencies review CEQA documents in order to determine the adequacy of their treatment of endangered species issues and to make project-specific recommendations for their conservation.

3.5.2.2 Migratory Birds

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

Although the USFWS and its parent administration, the U.S. Department of the Interior, have traditionally interpreted the MBTA as prohibiting incidental as well as intentional “take” of birds, a January 2018 legal opinion issued by the Department of the Interior now states that incidental take of migratory birds while engaging in otherwise lawful activities is permissible under the MBTA. However, California Fish and Game Code makes it unlawful to take or possess any non-game bird covered by the MBTA (Section 3513), as well as any other native non-game bird (Section 3800), even during lawful activities.

3.5.2.3 Birds of Prey

Birds of prey are also protected in California under provisions of Fish and Game Code Section 3503.5, which states that it is “unlawful to take, possess, or destroy any birds in the order *Falconiformes* or *Strigiformes* (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto.” Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered “taking” by the CDFW.

3.5.2.4 Nesting Birds

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

3.5.2.5 California Fully Protected Species

The classification of certain animal species as “fully protected” was the State of California’s initial effort in the 1960s, prior to the passage of the California Endangered Species Act (CESA), to identify and provide additional protection to those species that were rare or faced possible extinction. Following CESA enactment in 1970, many fully protected species were also listed as California threatened or endangered. The fully protected species are identified, and their protections stipulated, in Fish and Game Code Sections 3511 (birds), 4700 (mammals), 5050 (reptiles and amphibians), and 5515 (fish). Fully protected species may not be taken or possessed at any time and no licenses or permits may be issued for their take, except in conjunction with necessary scientific research and protection of livestock.

3.5.2.6 Wetlands and Other Jurisdictional Waters

The United States Army Corps of Engineers (USACE) regulates the filling or grading of Waters of the U.S. under the authority of Section 404 of the Clean Water Act. Natural drainage channels and adjacent wetlands may be considered “Waters of the United States” or “jurisdictional waters” subject to the jurisdiction of the

USACE. The extent of jurisdiction has been defined in the Code of Federal Regulations and clarified in federal courts.

On June 29, 2015, the Environmental Protection Agency and USACE jointly issued the Clean Water Rule as a synthesis of statute, science, and U.S. Supreme Court decisions. The Clean Water Rule defines Waters of the U.S. to include the following:

- 1) All waters used in interstate or foreign commerce (also known as traditional navigable waters), including all waters subject to the ebb and flow of the tide;
- 2) All interstate waters including interstate wetlands;
- 3) The territorial seas;
- 4) All impoundments of Waters of the U.S.;
- 5) All tributaries of waters defined in Nos. 1 through 4 above, where “tributary” refers to a water (natural or constructed) that contributes flow to another water and is characterized by the physical indicators of a bed and bank and an ordinary high water mark (OHWM);
- 6) Adjacent waters, defined as either (a) located in whole or in part within 100 feet of the OHWM of waters defined in Nos. 1 through 5 above, or (b) located in whole or in part within the 100-year floodplain and within 1,500 feet of the OHW mark of waters defined in Nos. 1 through 5 above;
- 7) Western vernal pools, prairie potholes, Carolina bays and Delmarva bays, pocosins, and Texas coastal prairie wetlands, if determined on a case-specific basis to have a significant nexus to waters defined in Nos. 1 through 3 above;
- 8) Waters that do not meet the definition of adjacency, but are determined on a case-specific basis to have a significant nexus to waters defined in Nos. 1 through 3 above, and are either (a) located in whole or in part within the 100-year floodplain of waters defined in Nos. 1 through 3 above, or (b) located within 4,000 feet of the OHWM of waters defined in Nos. 1 through 5 above.

The 2015 rule also redefines exclusions from jurisdiction, which include:

- 1) Waste treatment systems;
- 2) Prior converted cropland;
- 3) Artificially irrigated areas that would revert to dry land should application of irrigation water to the area cease;
- 4) Groundwater;
- 5) Stormwater control features constructed to convey treat or store stormwater created in dry land; and
- 6) Three types of ditches: (a) ditches with ephemeral flow that are not a relocated or excavated tributary, (b) ditches with intermittent flow that are not a relocated or excavated tributary or that do not drain wetlands, and (c) ditches that do not flow, either directly or through another water, to a traditional navigable water.

A ditch may be a water of the U.S. only if it meets the definition of “tributary” and is not otherwise excluded under the provision.

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

Under the Porter-Cologne Water Quality Control Act of 1969, the State Water Resources Control Board has regulatory authority to protect the water quality of all surface water and groundwater in the State of California (“Waters of the State”). Nine RWQCBs oversee water quality at the local and regional level. The RWQCB for a given region regulates discharges of fill or pollutants into Waters of the State through the issuance of various permits and orders. Discharges into Waters of the State that are also Waters of the U.S. require a Section 401 Water Quality Certification from the RWQCB as a prerequisite to obtaining certain federal permits, such as a Section 404 Clean Water Act permit. Discharges into all Waters of the State, even those that are not also Waters of the U.S., require Waste Discharge Requirements (WDRs), or waivers of WDRs, from the RWQCB.

The RWQCB also administers the Construction Storm Water Program and the federal National Pollution Discharge Elimination System (NPDES) program. Projects that disturb one or more acres of soil must obtain a Construction General Permit under the Construction Storm Water Program. A prerequisite for this permit is the development of a Storm Water Pollution Prevention Plan (SWPPP) by a certified Qualified SWPPP Developer. Projects that discharge wastewater, storm water, or other pollutants into a Water of the U.S. may require a NPDES permit.

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

3.5.2.7 Local

Oroville 2030 General Plan¹¹: The Oroville 2030 General Plan sets for the following goals and policies that protect biological resources of the City and which have potential relevance to the Project’s CEQA review:

Goal OPS-8: Preserve and protect all special-status species, species that are candidates for federal or State listing, State species of special concern, and CNPS listed plant species.

Policy P8.2: Require a habitat-based site assessment during the project design phase to determine the potential for special-status species to occur within a proposed project area. If potential habitat for special-status plant or animal species is identified, additional focused surveys may need to be conducted during the appropriate season.

Policy P9.7: Protect native plant species in undisturbed portions of a development site and use native species for replanting in disturbed portions of the project site.

Policy P9.8: Support efforts to eradicate invasive and noxious weeds and vegetation on public and private property.

3.5.3 Impact Assessment

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?

Less than Significant Impact with Mitigation Incorporated. As discussed in **Chapter Chapter 2, Project Description**, SC-OR proposes upgrades to the existing WWTP. The Project will entail various improvements within an approximately 54-acre area inside the boundaries of the existing WWTP facility property.

¹¹ Oroville 2030 General Plan. <http://www.cityoforoville.org/home/showdocument?id=12187> Accessed 7 December 2018.

Project-Related Mortality/ Disturbance of the Valley Elderberry Longhorn Beetle

As discussed in **Appendix B**, blue elderberry shrubs, the obligate habitat of the federally threatened valley elderberry longhorn beetle (VELB), are located along the APE's southern and western boundaries in six distinct clusters. These shrubs would be protected during construction with fenced no-disturbance buffers of at least 20 feet, as measured from the dripline. None of the shrubs are located within the fenced WWTP facility, where most improvements would be constructed. One cluster is located immediately outside of the WWTP fence line to the west of the treatment ponds, and the other five are located along the boundary of the APE's disturbed riparian habitat, which would only be used for construction staging and materials laydown. The risk to these shrubs and any resident VELB is therefore considered to be low. Nevertheless, there is the potential for individual beetles to be harmed by nearby construction activities, particularly during the March-July flight season. Project-related injury or mortality of VELB individuals would violate the federal Endangered Species Act and be considered a significant impact of the project under CEQA.

3.5.3.1 Mitigation Measures

The following measures adapted from the USFWS (2017) Framework for Assessing Impacts to the Valley Elderberry Longhorn Beetle would be implemented for the protection of the VELB.

BIO-1a (Fencing and Avoidance Areas). All areas to be avoided during construction activities shall be fenced and/or flagged as close to construction limits as possible. This includes the required 20-foot no-disturbance buffers around elderberry shrubs, as well as any other areas within 165 feet of the shrub clusters that may feasibly be avoided. Fencing would be inspected by a qualified biologist prior to the start of work.

BIO-1b (Worker Education). Prior to the start of work a qualified biologist shall provide training for all contractors, work crews, and any onsite personnel on the status of the VELB, its host plant and habitat, the need to avoid damaging the APE's elderberry shrubs, and the possible penalties for non-compliance.

BIO-1c (Timing). As much as feasible, all activities occurring within 165 feet of an elderberry shrub shall be conducted outside of the flight season of the VELB (March-July).

BIO-1d (Chemical Usage). Throughout the operational life of the project, herbicides shall not be used within the dripline of elderberry shrubs, and insecticides shall not be used within 100 feet of an elderberry shrub. All chemicals shall be applied using a backpack sprayer or similar direct application method.

Implementation of the above mitigation measures would reduce project-related impacts to the VELB to a less than significant level under CEQA, and enable a May Affect, Not Likely to Adversely Affect determination for this species under Section 7 of the Endangered Species Act.

Project-Related Mortality/ Disturbance of Burrowing Owl

Although the burrowing owl is not common in the project vicinity, the APE's disturbed savanna offers marginal nesting, roosting, and foraging habitat for this species, and there is some potential for burrowing owl individuals to occur in this portion of the site. Project-related impacts in this area would be relatively minor, limited to temporary disturbance associated with construction staging and materials laydown activities. However, if burrowing owls are occupying burrows in this portion of the APE at the time of construction, owls could be vulnerable to project-related injury or mortality. Project-related injury, mortality, or disturbance of burrowing owls is considered a potentially significant impact under CEQA.

The highly maintained habitats of the fenced WWTP facility are not suitable for the burrowing owl, and no individuals of this species are expected to occur in this portion of the site.

3.5.3.2 Mitigation Measures

The following measures would be implemented for construction activities occurring in the APE's disturbed savanna habitat for Burrowing Owl:

BIO-2a (Take Avoidance Surveys). Take avoidance surveys for burrowing owls shall be conducted by a qualified biologist within 30 days prior to the start of construction activities in the APE's disturbed savanna habitat. The surveys shall be conducted according to methods described in the Staff Report on Burrowing Owl Mitigation (CDFG 2012). The survey shall cover proposed work areas and adjacent lands within 200 meters, where potential nesting or roosting habitat is present ("survey area").

BIO-2b (Avoidance of Nest Burrows). During the burrowing owl breeding season (February 1-August 31), any active nest burrows that are identified shall be avoided by a minimum distance of 200 meters. The avoidance areas shall be enclosed with temporary fencing to prevent encroachment by construction equipment and workers. Buffers shall remain in place for the duration of the breeding season, unless otherwise arranged with CDFW. After the breeding season, passive relocation of any remaining owls may take place as described below.

BIO-2c (Avoidance or Passive Relocation of Resident Owls). During the non-breeding season (September 1-January 31), resident owls occupying burrows in the APE's disturbed savanna habitat shall either be avoided or passively relocated to alternative habitat. If avoidance is elected, a 50-meter no-disturbance buffer shall be established around the occupied burrows, to remain in place until a qualified biologist determines that the burrows are no longer active. If the applicant chooses to passively relocate resident owls, this activity shall be conducted in accordance with a relocation plan prepared by a qualified biologist.

Compliance with the above mitigation measures would reduce potential impacts to the burrowing owl from project-related injury, mortality, or disturbance to a less than significant level under CEQA, and will ensure that the project is in compliance with state and federal laws protecting this species

Project-Related Mortality/ Disturbance of Nesting Raptors and Migratory Birds including the Northern Harrier, Swainson's Hawk, White-tailed Kite, and Loggerhead Shrike

The Project area contains suitable nesting habitat for a number of avian species protected under the California Fish and Game Code. Trees and shrubs in the existing WWTP's developed area could be used by songbirds such as the Brewer's blackbird and northern mockingbird, and possibly also by raptors such as the red-tailed hawk. Black phoebes could utilize commercial buildings for nesting. Mourning doves could nest in the ruderal field, and killdeer could nest on the ground along the gravel roadbed. Least sandpipers could nest in the habitat surrounding the sewage treatment lagoons adjacent to the existing WWTP. If birds were found to be nesting on or adjacent to the Project site at the time of construction, Project-related activities could result in the abandonment of active nests or direct mortality to these birds. Construction activities that adversely affect the nesting success of migratory birds and raptors or result in the mortality of individual birds constitute a violation of State laws and would be considered a significant impact.

The following measures would be implemented to avoid and minimize the potential for Project-related mortality/disturbance of nesting raptors and migratory birds, as necessary.

BIO-3a (Avoidance). In order to avoid impacts to nesting raptors and migratory birds, construction shall occur, where possible, outside the nesting season, or between September 1st and January 31st.

BIO-3b (Pre-construction Surveys). If construction must occur during the nesting season (February 1 – August 31), a qualified biologist shall conduct pre-construction surveys for active raptor and migratory bird nests within 30 days of the onset of these activities. Nest surveys shall include all areas on and within 500 feet of the APE, where accessible. If no active nests are found within the survey area, no further mitigation is required.

BIO-3c (Establish Buffers). Should any active nests be discovered in or near proposed construction zones, the biologist would identify a suitable construction-free buffer around the nest. This buffer would be identified on the ground with flagging or fencing and would be maintained until a qualified biologist has determined that the young have fledged.

Compliance with the above mitigation measures would reduce impacts to nesting raptors and migratory birds to a less than significant level under CEQA and ensure compliance with federal and state laws protecting these species.

Project-Related Mortality/ Disturbance of of Roosting Bats including the Townsend’s Big-eared Bat

The APE contains buildings and trees potentially suitable for roosting by a variety of native bat species including the Townsend’s big-eared bat (*Corynorhinus townsendii*), a California Species of Special Concern. Project-related tree removal and building demolition/relocation have the potential to impact any bats roosting within. If bat maternity colonies are present, many individual bats could be killed. Such a mortality event would be considered a significant impact of the project under CEQA.

The following measures would be implemented to avoid and minimize the potential for project-related mortality/disturbance of roosting bats.

3.5.3.3 Mitigation Measures

The following measures would be implemented to avoid and minimize the potential for project-related mortality/disturbance of roosting bats.

BIO-4a (Temporal Avoidance). To avoid potential impacts to maternity bat roosts, tree removal and building demolition/relocation shall occur outside of the period between April 1 and September 30, the time frame within which colony-nesting bats generally assemble, give birth, nurse their young, and ultimately disperse.

BIO-4b (Preconstruction Surveys). If tree removal or building demolition/relocation must occur between April 1 and September 30, then within 30 days prior to these activities, a qualified biologist shall survey the affected features for roosting bats. The biologist shall look for individuals, guano, and staining, and shall listen for bat vocalizations. If necessary, the biologist shall wait for nighttime emergence of bats from roost sites. If no bats are observed to be roosting or breeding, then no further action would be required, and the activities could proceed.

BIO-4c (Minimization). If a non-breeding bat colony is detected in any of the trees or buildings to be removed, the individuals shall be humanely evicted under the direction of a qualified biologist to ensure that bats are not harmed by these activities.

BIO-4d (Avoidance of Maternity Roosts). If a maternity colony is detected in any of the trees or buildings to be removed, the biologist shall identify a suitable disturbance-free buffer around the colony. The buffer shall remain in place until the biologist determines that the nursery is no longer active.

Compliance with the above mitigation measures would reduce potential impacts to roosting bats from construction-related injury, mortality, or disturbance to a less than significant level under CEQA.

Project-Related Impacts to Loss of Habitat for Special Status Plants

Fifteen special status vascular plant species are known to occur within the Project vicinity (see **Table 3-9**). These species include Butte County Meadowfoam (*Limnanthes floccosa* ssp. *californica*), Slender Orcutt Grass (*Orcuttia tenuis*), Greene’s Tuctoria (*Tuctoria greenei*), Big-scale Balsamroot, (*Balsamorhiza macrolepis*), Pink Creamsacs (*Castilleja rubicundula* var. *rubicundula*), Mosquin’s Clarkia (*Clarkia mosquini*), Recurved Larkspur

(*Delphinium recurvatum*), Adobe-lily (*Fritillaria pluriflora*), Woolly Rose-mallow (*Hibiscus lasiocarpus* var. *occidentalis*), Ahart's Dwarf Rush (*Juncus leiospermus* var. *ahartii*), Red Bluff Dwarf Rush (*Juncus leiospermus* var. *leiospermus*), Baker's Navarretia (*Navarretia leucocephala* ssp. *bakeri*), Ahart's Paronychia (*Paronychia ahartii*), Sanford's Arrowhead (*Sagittaria sanfordii*), and Butte County Golden Clover (*Trifolium jokerstii*). Due to habitat loss or degradation associated with the high level of human disturbance onsite, the absence of any historical suitable habitat, and/or the location of the site being outside a particular species' range, none of these species are expected to occur onsite. Therefore, the Project would be unlikely to affect regional populations of these species and impacts would be less than significant. Mitigation measures are not warranted. (Appendix B)

Project-Related Impacts to Loss of Habitat for Special Status Animals

As discussed, the APE has the potential to be used in some form by a number of special status animal species. Although in some cases these animals may be vulnerable to construction-related injury or mortality, the project would not result in substantial loss or degradation of habitat for any special status animal. Because the project would avoid blue elderberry shrubs by a minimum distance of 20 feet, no VELB habitat would be lost. The APE's disturbed savanna habitat, which may be used for nesting, roosting, and/or foraging by a variety of special status animals, would experience temporary disturbance associated with construction staging and materials laydown, but is expected to return to its former level of suitability after construction. For the few special status animals that have the potential to occur within the fenced WWTP facility, a small amount of low-quality habitat may be lost as a result of the project – for example, buildings presently suitable for roosting by the Townsend's big-eared bat may be removed – but similar or higher quality habitat would remain available elsewhere in the APE and project vicinity. For these reasons, project-related loss of special status animal habitat is considered a less than significant impact. Mitigation is not warranted.

Project-Related Impacts to Special Status Animal Species Absent From or Unlikely to Occur Within the Project Area

Of the 29 special status animal species that have the potential to occur in the project vicinity, 16 are considered absent or unlikely to occur on site due to past and ongoing disturbance of the site and surrounding lands, the absence of suitable habitat, and/or the distance of the site from the known distribution of the species. These species include the vernal pool fairy shrimp (*Branchinecta lynchi*), vernal pool tadpole shrimp (*Lepidurus packardii*), delta smelt (*Hypomesus transpacificus*), steelhead – Central Valley DPS (*Oncorhynchus mykiss irideus* pop. 11), chinook salmon – Central Valley spring-run ESU (*Oncorhynchus tshawytscha* pop. 6), foothill yellow-legged frog (*Rana boylei*), California red-legged frog (*Rana aurora draytonii*), giant garter snake (*Thamnophis gigas*), yellow-billed cuckoo (*Coccyzus americanus*), bald eagle (*Haliaeetus leucocephalus*), California black rail (*Laterallus jamaicensis coturniculus*), bank swallow (*Riparia riparia*), least Bell's vireo (*Vireo belii pusillus*), western spadefoot (*Spea hammondi*), coast horned lizard (*Phrynosoma blainvillii*), and western pond turtle (*Emys marmorata*) (see Table 3-10). Since there is little to no likelihood that these species would occur onsite, Project implementation is not likely to adversely affect these species, and Project-related impacts are considered less than significant. Mitigation measures are not warranted. (Appendix B)

Project-Related Impacts to Special Status Animal Species That May Occur Onsite as Occasional or Regular Foragers but Breed Elsewhere

Five special status animal species, the tricolored blackbird (*Agelaius tricolor*), greater sandhill crane (*Antigone canadensis tabida*), golden eagle (*Aquila chrysaetos*), yellow warbler (*Setophaga petechia*), and western mastiff bat (*Eumops perotis californicus*), have the potential to forage on the site from time to time but are unlikely to breed, nest, or roost on-site (see Table 3-10). Neither species would be vulnerable to construction-related injury or mortality while foraging because they are highly mobile foragers, and would be expected to avoid active construction zones.

A sixth such species, the monarch butterfly (*Danaus plexippus*), may forage or roost on the APE during migration events, but would not breed or overwinter on site. None of these species would be vulnerable to construction-related injury or mortality because their use of the APE would be limited to activities in which they maintain a high level of mobility. Individuals of these species would be expected to avoid active

construction zones. Thus, loss of foraging habitat for these species due to Project impacts would be considered less than significant. Mitigation measures are not warranted. (Appendix B)

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

No Impact. The Project site and surrounding areas do not contain riparian habitat, designated critical habitat, or natural communities of special concern. There are no known adopted Habitat Conservation Plans in the Project vicinity. Therefore, there would be no impact.

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?

Less than Significant Impact with Mitigation Incorporated. Although jurisdictional waters, wetlands, and other protected water features are absent from the Project site, Project-related activities could potentially impact downstream waters.

Degradation of Water Quality in Seasonal Drainages and Downstream Waters

Extensive ground disturbance associated with construction projects often leaves the soils of construction zones barren of vegetation and, therefore, vulnerable to erosion. Eroded soil is generally carried as sediment in surface runoff to be deposited in natural creek beds, canals, and adjacent wetlands. Runoff is often polluted with grease, oil, pesticide and herbicide residues, and/or heavy metals.

The proposed project anticipates decreasing the nitrate levels of the treated effluent that enters the Feather River, thereby increasing the water quality downstream of the existing WWTP discharge location. However, water quality of downstream waters could be significantly impacted by construction activities occurring within the Project area. Runoff could enter the ditch to the west of the site or make its way to this ditch system from other areas within the site, and degrade water quality of the Feather River. Degradation of water quality in these downstream waters as a result of project construction would be considered a potentially significant impact.

3.5.3.4 Mitigation Measure

The following measures would be implemented to prevent sedimentation and degradation of downstream waters.

BIO-5a (Erosion Control Measures). The applicant shall define the limits of any construction within the Project area. Wattles or other appropriate erosion controls shall be placed between ground-disturbing activities and areas where sedimentation could flow out of the site.

BIO-5b (Storm Water Pollution Prevention Plan). The applicant shall arrange for the preparation of a Storm Water Pollution Prevention Plan (SWPPP) that identifies measures to prevent erosion and sedimentation from construction activities and measures to prevent contaminants from entering downstream waters. The SWPPP shall be implemented in full during project construction.

BIO-5c (Use of Best Management Practices to control soil erosion and non-point source pollution). Best Management Practices (BMPs) shall be implemented as appropriate. BMP's may include measures in BIO-2a and BIO-2b above, and may include any number of additional measures appropriate for this particular site and this particular project, including, but not-limited to, grease traps in staging areas, regular site inspections for pollutants that could be carried by runoff into natural drainages, etc.

Implementation of the above measures will reduce potential impacts to downstream water quality to a less than significant level.

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 commercially developed area surrounding the existing WWTP to the north, east, and south results in low-quality, fragmented habitat with limited value to terrestrial wildlife. Critical winter range habitat for Butte County's three migratory deer herds does not occur within the Project site or in the immediate vicinity. Although the sewage treatment lagoons within the Project boundary may provide suitable foraging habitat for migratory songbirds, shorebirds, and bats, the Project will have no effect on the Pacific Flyway; birds using the flyway will continue to do so during and following Project implementation. Project impacts to wildlife movement corridors are considered less than significant.

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

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

No Impacts. The Project is in compliance with the City of Oroville General Plan. The Project also appears to be in compliance with the draft Butte Regional Conservation Plan, although it has not been adopted. There would be no impact.

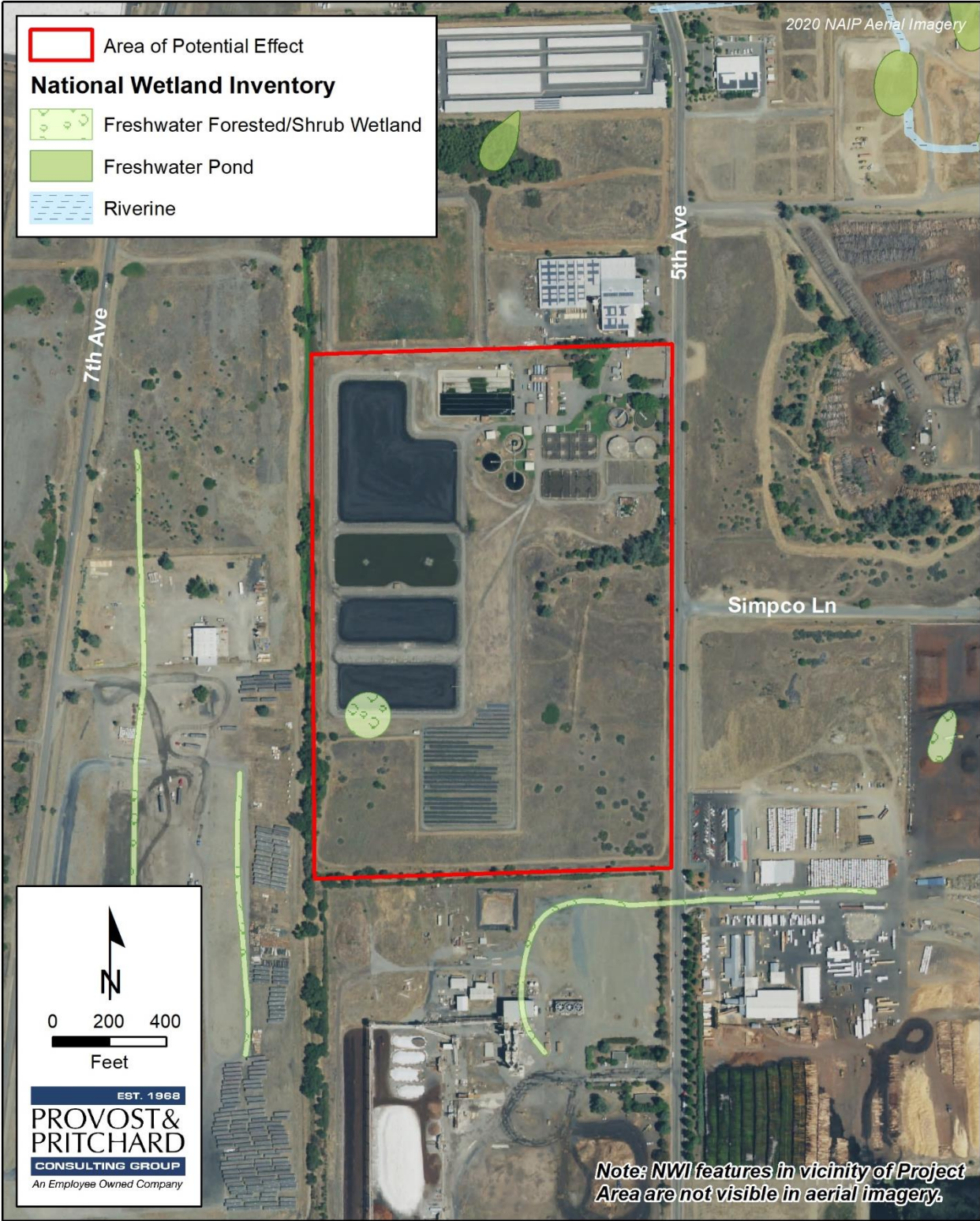


Figure 3-2. Wetlands Map

3.6 Cultural Resources

Table 3-11. Cultural Resources Impacts

Cultural Resources				
Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3.6.1 Environmental Setting

“Cultural resources in Oroville include both prehistoric and historic resources in the realms of archaeology, paleontology and historic structures, sites and areas that played an important role in local history.¹²” According to the Oroville 2030 General Plan, 33 sites with prehistoric components have been located within the City of Oroville and surrounding area, including at least two known Native American burial sites. Prehistoric sites are often found along major rivers in the Sacramento Valley and along creeks and drainages in the foothills of the Sierra Nevada. The banks of the Feather River and its tributaries through Historic Downtown are known to contain prehistoric and historic archaeological resources.

The City of Oroville experienced a large influx of Euro-Americans seeking gold in 1849 during the height of the California Gold Rush. The discovery of gold along the Feather River was immediately followed by the establishment of the City and the development of residential and commercial buildings, many of which are still standing today.

3.6.1.1 Records Search

A records search from the Northeast Information Center (NEIC) of the California Historical Resources Information System (CHRIS), located at California State University, Chico was conducted in January 2020. The NEIC records search includes a review of all recorded archaeological and built-environment resources as well as a review of cultural resource reports on file. In addition, the California Points of Historical Interest (SPHI), the California Historical Landmarks (CHL), the California Register of Historical Resources (CAL REG), the National Register of Historic Places (NRHP), and the California State Built Environment Resources Directory (BERD) listings were reviewed for the above referenced APE and an additional ¼-mile radius. Due to the sensitive nature of cultural resources, archaeological site locations are not released. (Appendix C).

In addition to the official records and maps for archaeological sites and surveys in Butte County, the following historic references were also reviewed: Historic Property Data File for Butte County (OHP 2012); The National Register Information System (National Park Service [NPS] 2020); Office of Historic Preservation, California Historical Landmarks (OHP 2020); California Historical Landmarks (OHP 1996 and updates); California Points of Historical Interest (OHP 1992 and updates); Directory of Properties in the Historical Resources Inventory (1999); Caltrans Local Bridge Survey (Caltrans 2019); Caltrans State Bridge Survey (Caltrans 2018); and Historic

¹² Oroville 2030 General Plan. <http://www.cityoforoville.org/home/showdocument?id=12188> Accessed 11 December 2018.

Spots in California (Kyle 2002). Further discussion and details of the research efforts and references can be found in [Appendix C](#)

3.6.1.2 Native American Outreach

The Native American Heritage Commission (NAHC) in Sacramento was also contacted in January 2020. They were provided with a brief description of the Project and a map showing its location and requested that the NAHC perform a search of the Sacred Lands File to determine if any Native American resources have been recorded in the immediate APE. The NAHC identifies, catalogs, and protects Native American cultural resources -- ancient places of special religious or social significance to Native Americans and known ancient graves and cemeteries of Native Americans on private and public lands in California. The NAHC is also charged with ensuring California Native American tribes' accessibility to ancient Native American cultural resources on public lands, overseeing the treatment and disposition of inadvertently discovered Native American human remains and burial items, and administering the California Native American Graves Protection and Repatriation Act (CalNAGPRA), among many other powers and duties. NAHC provide a current list of Native American Tribal contacts to notify of the project. The four tribal representatives identified by NAHC were contacted in writing via United States Postal Service in a letter mailed January 15, 2020, informing each Tribe of the Project. A follow up call was made February 4, 2020. Further discussion and details of the outreach efforts can be found in [Appendix C](#).

3.6.1.3 Field Survey

On January 23, 2020, ECORP conducted an initial intensive pedestrian survey under the guidance of the Secretary of the Interior's Standards for the Identification of Historic Properties using transects spaced 15 meters apart. An additional intensive pedestrian survey of the expanded APE was conducted on August 4, 2021 (See [Appendix C](#)). During both surveys, the ground surface was examined for indications of surface or subsurface cultural resources. The general morphological characteristics of the ground surface were inspected for indications of subsurface deposits that may be manifested on the surface, such as circular depressions or ditches. Whenever possible, the locations of subsurface exposures caused by such factors as rodent activity, water or soil erosion, or vegetation disturbances were examined for artifacts or for indications of buried deposits. No subsurface investigations or artifact collections were undertaken during the pedestrian survey. The field methods employed for the pedestrian survey and impact evaluations are described in detail and the full report can be found in [Appendix C](#).

3.6.1.4 Project Site Existing Conditions

The existing WWTP facility was initially constructed in 1959-1961 and has been subject to various substantial modifications from 1974 to present. Original features of the existing WWTP include the control building, chlorine building, clarifiers No. 1 and No. 2, digesters No. 1 and No. 2, and drying fields, all of which are still intact and present onsite.

The Project area consists entirely of the existing WWTP. The ground surface has been heavily disturbed by previous grading, subterranean excavations, and the above- and below-ground construction of existing facilities. No archaeological resources were identified by the ECORP archaeologist during the field survey of the Project area. The origin of all existing structures can be traced to 1959-1961 or 1974 to present. Original structures, constructed during 1959-1961, were evaluated for historical significance, and according to the cultural resources reports in [Appendix C](#), none of the existing structures were deemed eligible for inclusion in the California Register of Historical Resources under any of the relevant criteria. No part of the site is considered a significant historical resource or unique archaeological resource.

3.6.2 Regulatory Setting

3.6.2.1 Federal

National Historic Preservation Act of 1966 (as amended), Section 106: The significance of cultural resources is evaluated under the criteria for inclusion in the NRHP, authorized under the National Historic Preservation Act of 1966, as amended.

Significant impacts under CEQA occur when “historically significant” or “unique” cultural resources are adversely affected, which occurs when such resources could be altered or destroyed through project implementation. Historically significant cultural resources are defined by eligibility for or by listing in the California Register of Historical Resources (CRHR). In practice, the federal NRHP criteria (see below) for significance applied under Section 106 are generally (although not entirely) consistent with CRHR criteria (see (PRC) Section 5024.1; Title 14 of the California Code of Regulations (CCR), Sections 4852 and 15064.5(a)(3)).

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

- (A) Are associated with events that have made a significant contribution to the broad patterns of California’s history and cultural heritage;
- (B) Are associated with the lives of persons important in our past;
- (C) Embody the distinctive characteristics of a type, period, region, or method of construction, or represent the work of an important creative individual, or possess high artistic values; or
- (D) Have yielded, or may be likely to yield, information important in prehistory or history.

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

An archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

- (1) Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.
- (2) Has a special and particular quality such as being the oldest of its type or the best available example of its type.
- (3) Is directly associated with a scientifically recognized important prehistoric or historic event or person (PRC Section 21083.2(g)).

Preservation in place is the preferred approach under CEQA to mitigating adverse impacts to significant or unique cultural resources. Sites listed or eligible for listing on the NRHP are considered to be historic properties. Sites younger than 50 years, unless of exceptional importance, are not eligible for listing in the NRHP.

American Indian Religious Freedom Act

The American Indian Religious Freedom Act, a federal law and joint resolution of Congress was created to protect and preserve the traditional religious rights and cultural practices of American Indians, Eskimos, Aleuts and Native Hawaiians. These rights include, but are not limited to, access of sacred sites, repatriation of sacred objects held in museums, freedom to worship through ceremonial and traditional rites, including within prisons, and use and possession of objects considered sacred.

Native American Graves Protection and Repatriation Act

The Native American Graves Protection and Repatriation Act requires federal agencies and institutions that receive federal funding to return Native American cultural items to lineal descendants and culturally affiliated

Indian tribes and Native Hawaiian organizations. Cultural items include human remains, funerary objects, sacred objects, and objects of cultural patrimony.

3.6.2.2 State

CEQA requires consideration of project impacts on archaeological or historical sites deemed to be "historical resources." Under CEQA, a substantial adverse change in the significant qualities of a historical resource is considered a significant effect on the environment. For the purposes of CEQA, a "historical resource" is a resource listed in, or determined to be eligible for listing in, the California Register of Historical Resources (Title 14 CCR Section 15064.5[a][1]-[3]). Historical resources may include, but are not limited to, "any object, building, site, area, place, record, or manuscript which is historically or archaeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California" (PRC Section 5020.1[j]).

The eligibility criteria for the California Register are the definitive criteria for assessing the significance of historical resources for the purposes of CEQA (Office of Historic Preservation.). The criteria for a resource to be considered "historically significant" for listing on the California Register is demonstrated below.

A resource is considered "historically significant" if it meets one or more of the following criteria for listing on the California Register:

- *Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.*
- *Is associated with the lives of persons important in our past.*
- *Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.*
- *Has yielded, or may be likely to yield, information important in prehistory or history. (PRC Section 5024.1[c])*

California Health and Safety Code: Health and Safety Code Section 7050.5 requires that construction or excavation be stopped in the vicinity of discovered human remains until the County coroner can determine whether the remains are those of a Native American. If the remains are determined to be Native American, the coroner must contact the California Native American Heritage Commission. PRC Section 5097.98 specifies the procedures to be followed in case of the discovery of human remains on non-federal land. The disposition of Native American burials is within the jurisdiction of the Native American Heritage Commission.

Paleontological Resources: Paleontological resources are the fossilized remains of plants and animals and associated deposits. The Society of Vertebrate Paleontology has identified vertebrate fossils, their taphonomic and associated environmental indicators, and fossiliferous deposits as significant nonrenewable paleontological resources. Botanical and invertebrate fossils and assemblages may also be considered significant resources¹³. CEQA requires that a determination be made as to whether a project would directly or indirectly destroy a unique paleontological resource or site or unique geological feature (CEQA Appendix G(v)(c)). If an impact is significant, CEQA requires feasible measures to minimize the impact (CCR Title 14(3) Section 15126.4(a)(1)). PRC Section 5097.5 (see above) also applies to paleontological resources.

3.6.2.3 Local

Oroville 2030 General Plan¹⁴: The Oroville 2030 General Plan sets for the following goals and policies that protect cultural resources of the City and which have potential relevance to the Project's CEQA review:

¹³ Society of Vertebrate Paleontology. Conformable Impact Mitigation Guidelines Committee Policy Statements. <http://www.vertpaleo.org/ConformableImpactMitigationGuidelinesCommittee.htm>.

¹⁴ Oroville 2030 General Plan. <http://www.cityoforoville.org/home/showdocument?id=12187>. Accessed 7 December 2018.

Goal OPS-14: Preserve Oroville’s cultural resources, including archaeological, historic and paleontological resources, for their aesthetic, scientific, educational and cultural values.

Policy P14.1: Require consultation with the Northeast Information Center of the California Historical Resources Information System and completion of a records search as part of review of proposed development projects to determine whether the project site contains known prehistoric or historic cultural resources and/or to determine the potential for discovery of additional cultural resources and the necessity of further investigation.

Policy P14.3: Require that areas found during construction to contain significant historic or prehistoric archaeological artifacts be examined by a qualified archaeologist or historian for appropriate protection and preservation. Require that historic or prehistoric artifacts found during construction be examined by a qualified archaeologist to determine their significance and develop appropriate protection and preservation measures as necessary.

Policy P14.4: For projects involving federal land, or requiring permission (including review by the U.S. Army Corps of Engineers) or funding, work with applicants to meet appropriate criteria for cultural resources review, prior to commencement of work.

Policy P14.7: If cultural resources, including archaeological or paleontological resources, are uncovered during grading or other on-site excavation activities, construction shall stop until appropriate mitigation is implemented.

Policy P14.8: If human remains are located during any ground disturbing activity, work shall stop until the County Coroner has been contacted, and, if the human remains are determined to be of Native American origin, the NAHC and most likely descendant have been consulted.

Policy P15.1: Treat with respect and dignity and human remains discovered during implementation of public and private projects within the Planning Area and fully comply with the California Native American Graves Protection and Repatriation Act and other appropriate laws.

3.6.3 Impact Assessment

a) Would the project cause a substantial adverse change in the significance of a historical resource as defined in §15064.5? ; and,

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

Less than Significant Impacts with Mitigation Incorporated. In January of 2020, ECORP conducted an initial intensive pedestrian survey under the guidance of the Secretary of the Interior's Standards for the Identification of Historic Properties using transects spaced 15 meters apart. An additional intensive pedestrian survey of the expanded APE was conducted on August 4, 2021 (See **Appendix C**). A record search was conducted at the Northeast Information Center of the California Historical Resources Information System, California State University, Chico prior to the survey. A record search of the NAHC Sacred Lands File was also conducted, which resulted in a declaration that no sacred sites or tribal cultural resources are known to exist within the Project site or in the vicinity.

ECORP identified three cultural resources on the property as a result of the records search and field survey: Oroville Dredge Tailings (P-04-1345), the Oroville WWTP (OW-001), and an electrical distribution line (OW-002). The Oroville Dredge Tailings were confirmed through field survey to have been removed or redistributed within the APE and lacks integrity. The Oroville WWTP was evaluated as not eligible for the NRHP and

CRHR. The distribution line was evaluated as not eligible for the NRHP and CRHR. Therefore, no Historic Properties under Section 106 of the NHPA or Historical Resources under CEQA would be affected by the Proposed Project. Until the lead agencies concur with the identification and evaluation of eligibility of cultural resources, no Project activity should occur. (See [Appendix C](#))



Figure 3-3. Southwest view of Resource OW-001 - 1950's building located at the plant



Figure 3-4. Southwest view of Resource OW-001 – 1950's tank located at the plant



Figure 3-5. West view of Resource OW-001 - 1970s aeration basin located on plant



Figure 3-6. Northwest view of Resource OW-001 - 1970s main office located at the plant

The potential for buried cultural resources exists within the Project Area. Pre-contact archaeological sites are likely to be located along perennial waterways, and a known village site was mapped in the vicinity of the Project Area. Such sites may have been buried by alluvium from the Feather River or the dredge tailings from the historic period; therefore, there exists the potential for buried pre-contact sites in the Project Area as well. Mitigation Measures **CUL-1a and CUL-1b**, as outlined below, would be implemented and reduce any impacts to less than significant upon discovery of any unknown existing historical or archaeological resources.

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

Less than Significant Impact with Mitigation Incorporated. No formal cemeteries or other places of human internment are known to exist on the Project site; however, in accordance with Health and Safety Code

Section 7050.5 and Public Resource Code Section 5097.98, if human remains are uncovered, Mitigation Measure **CUL-1c** would be implemented and reduce any impacts to less than significant.

3.6.3.1 Mitigation.

The following mitigation measures would be implemented in the event suspected cultural resources or human remains are discovered during ground disturbing construction activity:

Mitigation CUL-1a (Subsurface Deposits). If subsurface deposits believed to be cultural or human in origin are discovered during construction, all work shall halt within a 100-foot radius of the discovery. A qualified professional archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards for pre-contact and historic archaeologist, shall be retained to evaluate the significance of the find, and shall have the authority to modify the no-work radius as appropriate, using professional judgment. The following notifications shall apply, depending on the nature of the find: (If the professional archaeologist determines that the find does not represent a cultural resource, work may resume immediately, and no agency notifications are required.)

Mitigation CUL-1b (Archaeological Resources). If the professional archaeologist determines that the find does represent a cultural resource from any time period or cultural affiliation, he or she shall immediately notify SC-OR and USDA. The agencies shall consult on a finding of eligibility and implement appropriate treatment measures if the find is determined to be a Historical Resource under CEQA or a Historic Property under Section 106. Work may not resume within the no-work radius until the lead agencies, through consultation as appropriate, determine that the site either: 1) is not a Historical Resource under CEQA or Historic Property under Section 106; or 2) that the treatment measures have been completed to their satisfaction.

Mitigation CUL-1c (Human or Potentially human remains). If the find includes human remains, or remains that are potentially human, he or she shall ensure reasonable protection measures are taken to protect the discovery from disturbance (AB 2641). The archaeologist shall notify the Butte County Coroner (per § 7050.5 of the Health and Safety Code). The provisions of § 7050.5 of the California Health and Safety Code, § 5097.98 of the California PRC and AB 2641 will be implemented. If the Coroner determines the remains are Native American and not the result of a crime scene, the Coroner will notify the NAHC, who then will designate a Native American Most Likely Descendant (MLD) for the project (§ 5097.98 of the PRC). The designated MLD will have 48 hours from the time access to the property is granted to make recommendations concerning treatment of the remains. If the landowner does not agree with the recommendations of the MLD, the NAHC may mediate (§ 5097.94 of the PRC). If no agreement is reached, the landowner must rebury the remains where they will not be further disturbed (§ 5097.98 of the PRC). This shall also include either recording the site with the NAHC or the appropriate Information Center; using an open space or conservation zoning designation or easement; or recording a reinterment document with the county in which the property is located (AB 2641). Work may not resume within the no-work radius until the lead agencies, through consultation as appropriate, determine that the treatment measures have been completed to their satisfaction.

3.7 Energy

Table 3-12 Energy Impacts

Energy				
Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

3.7.1 Environmental Setting and Baseline Conditions

Power is already available at the site to operate the various facilities and will continue to be provided by Pacific Gas & Electric.

3.7.2 Impact Assessment

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

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

Less than Significant Impacts. The existing WWTP utilizes energy to operate the plant as a required public facility. Project would utilize current state-of-the-art facilities to provide the needed upgrades, and as such they are anticipated to be more energy efficient and sustainable than the aging or obsolete equipment they are replacing. Thus, energy use during operation would be similar to, or less than, existing conditions. Construction of the Project would require energy use, but this use would not be wasteful or inefficient, nor would it require new or expanded electric power or natural gas facilities. No features of the Project would conflict with or obstruct state or local plans for renewable energy or energy efficiency. The Project would not require the relocation or construction of new or expanded electric or natural gas power generating facilities. The impact on energy use and energy plans would be less than significant.

3.8 Geology and Soils

Table 3-13. Geology and Soils Impacts

Geology and Soils				
Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the most recently adopted Uniform Building Code creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of wastewater?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Directly or indirectly destroy a unique paleontological resource or site or unique geological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.8.1 Environmental Setting

Using the USDA NRCS soil survey of Butte and Plumas Counties, a report of the onsite soils was generated and is provided in [Appendix D](#)

3.8.1.1 Geology and Soils

The Project is located in southern Butte County, northern California, in the northern section of California's Great Valley geomorphic province, or Central Valley. The Sacramento Valley, which contains the Project, encompasses the northern third while the San Joaquin Valley comprises the southern two-thirds of the Great Valley. The Sacramento Valley is primarily watered by the Sacramento River, which flows west from the Sierra

Nevada Range and the Feather River, in the Project's vicinity, is the principal tributary to the Sacramento River. Most of the surface of the Great Valley is covered by Quaternary (present day to 1.6 million years ago) alluvium.

Butte County is comprised of three geologic areas: the valley region, the foothill region, and the mountain region. The Project lies within the valley region, which covers approximately 45% of Butte County. This region consists predominantly of marine sedimentary rocks and continentally-derived sediments underlain by granite and metamorphic bedrock.¹⁵

Soil onsite is primarily comprised of Xerorthents, tailings- Urban land complex, 0 to 2 percent slopes. (See Custom Soil Resource Report in **Appendix D**.) Urban land complex refers to developed urban land, such as pavement, cement, buildings, or infrastructure, while Xerorthents refers to man-modified material such as soils rearranged in a cut and fill or as tailings heaps. In a general sense, tailings are waste from mining activities, which often contain trace residual minerals. These tailings can then be chemically treated, recycled, and utilized as construction materials. The term tailings also encompass leftover material from rock-crushing activities and is often used as an aggregate in asphalt paving or a bank stabilization method during construction. Tailings vary in size from a fine-grain to a large cobble and in their larger form are frequently used as landscaping rock or an alternative to gravel.

Historical gold mining operations along the Feather River created deposits of mine tailings, many of which have been dispersed by development activities or carried downstream. However, some areas adjacent to Feather River may contain residual undisturbed deposits from nineteenth century mining practices.¹⁶ It is unknown if the tailings reported onsite by the NRCS Custom Soil Resource Report are resultant from mining operations or recycled construction materials.

3.8.1.2 Faults and Seismicity

The Project site is not located within an Alquist-Priolo Earthquake Fault Zone and no known faults cut through the local soil at the site. The nearest major fault is the Maacama Fault, located approximately 87 miles south-southwest of the Project site. The Maacama fault is the northward continuation of the Hayward-Rodgers Creek fault system in northern California. The Cleveland Hill Fault, a northern reach of the Foothills Fault System, is approximately 6 miles east of the site.

3.8.1.3 Liquefaction

The potential for liquefaction, which is the loss of soil strength due to seismic forces, is dependent on soil types and density, the groundwater table, and the duration and intensity of ground shaking. Liquefaction is restricted to certain geologic and hydrologic conditions, and areas with high groundwater levels and recently deposited silt and sand are especially susceptible. In Butte County, areas of liquefiable soil can be found on the valley floor, especially near the Sacramento and Feather Rivers and tributaries. The Project site is mapped as an area with generally moderate liquefaction potential, according to the Butte County 2030 General Plan EIR.¹⁷

3.8.1.4 Soil Subsidence

Subsidence occurs when a large land area settles due to over-saturation or extensive withdrawal of groundwater, oil, or natural gas. These areas are typically composed of open-textured soils that become saturated. These areas are high in silt or clay content. The Project site is dominated by Xerorthents, tailings-Urban land complex soil. There are no areas within Butte County with recorded historic or current subsidence. Given the shallow depth of the groundwater table in the County, the risk of subsidence is understood to be low.

¹⁵ Butte County 2030 General Plan EIR. http://www.buttegeneralplan.net/products/2010-08-30_FEIR/default.asp Accessed 1 November 2018.

¹⁶ City of Oroville 2030 General Plan. <http://www.cityoforoville.org/home/showdocument?id=12188> Accessed 27 November 2018.

¹⁷ Butte County 2030 General Plan EIR. Figure SAF-1. Page 9-3.

3.8.1.5 Dam and Levee Failure

Lake Oroville is located approximately 5.5 miles northeast of the Project site and is inside of the inundation zone, in the instance of dam failure.

3.8.2 Regulatory Setting

3.8.2.1 Federal

There are no federal regulations regarding geology and soils applicable to the Project.

3.8.2.2 State

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

California Building Standards Code: The CCR Title 24 is assigned to the California Building Standards Commission, which, by law, is responsible for coordinating all building standards. The California Building Code incorporates by reference the International Building Code with necessary California amendments. The International Building Code is a widely-adopted model building code in the United States published by the International Code Council. About one-third of the text within the California Building Standards Code has been tailored for California earthquake conditions.

3.8.2.3 Local

Oroville 2030 General Plan: The Oroville 2030 General Plan contains several goals and policies relating to geology, soils, and seismic hazards; however, none are relevant to this Project's CEQA review.

3.8.3 Impact Assessment

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

a-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? and,

a-ii) Strong seismic ground shaking?

Less than Significant Impacts. Although the Project site is not located in an Alquist-Priolo Earthquake Fault Zone as established by the Alquist-Priolo Fault Zoning Act (Section 2622 of Chapter 7.5, Division 2 of the California Public Resources Code), nearby potentially active faults could generate ground shaking. The nearest major fault is the Maacama Fault, located approximately 87 miles south-southwest of the Project site. The Cleveland Hill Fault, a northern reach of the Foothills Fault System, is approximately 6 miles east of the site. The Project involves improvements to an existing WWTP and does not include the development of habitable or residential structures. Development of additional structures at the existing WWTP would be limited to small buildings used to house equipment. Furthermore, the development of all structures would be consistent with the requirements set forth in the California Building Standards Code, which sets procedures and limitations for design of structures based on seismic risk, and which would ensure that the design and construction of these structures are engineered to withstand the expected ground acceleration that could occur in the vicinity. Operation and maintenance staff at the existing WWTP will be unchanged from current site operations; therefore, implementation of the Project would not result in an increase of people onsite. Any impact would be less than significant.

a-iii) Seismic-related ground failure, including liquefaction?

Less than Significant Impact. Liquefaction occurs when loose, water-saturated sediments lose strength and fail during strong ground shaking. The Project site is mapped as an area with generally moderate liquefaction potential, according to the Butte County 2030 General Plan EIR.¹⁸ However, as stated above in a-i and a-ii, the Project involves improvements to an existing WWTP and does not include the development of habitable or residential structures. Operation and maintenance staff at the existing WWTP would be unchanged from current site operations; therefore, implementation of the Project would not result in an increase of people onsite. Any impact would be less than significant.

a-iv) Landslides?

No Impact. The Project involves improvements to an existing WWTP within the City of Oroville. As the Project is located on the Valley floor in an area with essentially flat and level topography, no major geologic landforms exist on or near the site that could result in a landslide event. In addition, the Project site is mapped in an area with minimal to no landslide potential, according to the Butte County 2030 General Plan.¹⁹ Furthermore, as stated above in Impact Assessments a-i-iii, the Project does not involve the development of habitable structures and would not result in an increase of people onsite. Given the nature of the Project and the low potential for a landslide event in the vicinity, there would be no impact.

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

b) Less than Significant Impact. The Project involves improvements to an existing WWTP. Since the site is currently developed and comprised of man-modified materials on essentially level terrain, the potential for erosion is minimal. However, earthmoving activities associated with the Project would include excavation, grading, trenching, and infrastructure construction, which could potentially expose soils to erosion processes. The extent of erosion would vary depending on slope steepness/stability, vegetation/cover, concentration of runoff, and weather conditions. Dischargers whose projects disturb one (1) or more acres of soil or whose projects disturb less than one acre but are part of a larger common plan of development that in total disturbs one or more acres, are required to obtain coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity Construction General Permit Order 2009-0009-DWQ. Construction activity subject to this permit includes clearing, grading and disturbances to the ground such as stockpiling, or excavation, but does not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility. The Construction General Permit requires the development of a SWPPP by a certified Qualified SWPPP Developer. Since the Project site has relatively flat terrain with a low potential for soil erosion and would comply with the State Water Resources Control Board (SWRCB) requirements, the impact would be less than significant.

c) Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?; and,

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

Less than Significant Impacts. The Project involves improvements to an existing WWTP. The site is currently developed and comprised of man-modified materials on essentially level terrain. Risk of landslides, lateral spreading, subsidence, liquefaction, and collapse are minimal. The Project does not propose significant alteration of the topography of the site and it does not involve development of habitable structures or facilities that could be affected by expansive soils or expose people to substantial risks to life or property. Furthermore,

¹⁸ Ibid. Figure SAF-1. Page 9-3.

¹⁹ Butte County 2030 General Plan. Figure HS-6. Page 11-34.

http://www.buttecounty.net/Portals/10/Planning/General%20Plan/2018%20Updated%20GP/11_Health_Safety_PRR.pdf Accessed 27 November 2018.

the Project would be consistent with the California Building Standards Code. Any impacts would be less than significant.

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

No Impact. Septic installation or alternative wastewater disposal systems are not proposed nor necessary for the project. There would be no impact.

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

Less than Significant Impact. There are no known unique paleontological resources/sites or unique geologic features present on the Project site. Barring any evidence to the contrary it is not anticipated that the Project would directly or indirectly destroy a unique paleontological resource or site or unique geological feature. Construction activities associated with the Project are not expected to be conducted significantly below grade, at a level where they would have the potential to disturb any previously unknown paleontological resources or geologic features. Impacts would be less than significant.

3.9 Greenhouse Gas Emissions

Table 3-14. Greenhouse Gas Emissions Impacts

Greenhouse Gas Emissions				
Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

3.9.1 Environmental Setting

The Earth’s climate has been warming for the past century. It is believed that this warming trend is related to the release of certain gases into the atmosphere. Greenhouse gases (GHG) absorb infrared energy that would otherwise escape from the Earth. As the infrared energy is absorbed, the air surrounding the Earth is heated. An overall warming trend has been recorded since the late 19th century, with the most rapid warming occurring over the past two decades. The 10 warmest years of the last century all occurred within the last 15 years. It appears that the decade of the 1990s was the warmest in human history (National Oceanic and Atmospheric Administration, 2010). Human activities have been attributed to an increase in the atmospheric abundance of greenhouse gases. The following is a brief description of the most commonly recognized GHGs.

Adopted March 31, 2015, The City of Oroville Community Climate Action Plan²⁰ was developed with the purpose of reducing GHG emissions to 11% below 2010 levels. This goal is referred to as the 2020 emissions reduction target. Oroville’s 2010 community GHG emissions inventory serves as a starting point for emissions projections and forms the foundation for climate action planning efforts in the City. In 2010, Oroville generated approximately 163,000 MTCO_{2e}, which comprised less than 1% of California’s GHG emissions for that year. According to Oroville’s 2010 GHG emissions inventory, on-road transportation accounts for 47.8% of total emissions and the building energy sector accounts for 46%. In contrast, wastewater treatment accounted for 0.8% of the total GHG emissions.²¹

3.9.1.1 Greenhouse Gases

Commonly identified GHG emissions and sources include the following:

Carbon dioxide (CO₂) is an odorless, colorless natural greenhouse gas. CO₂ is emitted from natural and anthropogenic sources. Natural sources include the following: decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungus; evaporation from oceans; and volcanic out gassing. Anthropogenic sources include the burning of coal, oil, natural gas, and wood.

Methane (CH₄) is a flammable greenhouse gas. A natural source of methane is the anaerobic decay of organic matter. Geological deposits, known as natural gas fields, also contain methane, which is extracted for fuel. Other sources are from landfills, fermentation of manure, and ruminants such as cattle.

²⁰ City of Oroville Community Climate Action Plan. <http://www.cityoforoville.org/home/showdocument?id=12191> Accessed 2 November 2018.

²¹ Ibid.. Table 2-1.

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

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

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

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

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

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

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

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

3.9.1.2 Effects of Climate Change

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

Emissions of GHGs contributing to global climate change are largely attributable to human activities associated with the industrial/manufacturing, utility, transportation, residential, and agricultural sectors. About three-quarters of human emissions of CO_2 to the global atmosphere during the past 20 years are due to fossil fuel burning. Atmospheric concentrations of CO_2 , CH_4 , and N_2O have increased 31 percent, 151 percent, and 17 percent respectively since the year 1750 (California Energy Commission (CEC) 2008). GHG emissions are typically expressed in carbon dioxide-equivalents (CO_2e), based on the GHG's Global Warming Potential (GWP). The GWP is dependent on the lifetime, or persistence, of the gas molecule in the atmosphere. For example, one ton of CH_4 has the same contribution to the greenhouse effect as approximately 21 tons of CO_2 . Therefore, CH_4 is a much more potent GHG than CO_2 .

3.9.2 Methodology

An Air Quality and Greenhouse Gas Emissions Evaluation Report, **Appendix A**, was prepared in November 2018. The sections below detail the methodology of the report and its conclusions.

3.9.2.1 Short-Term Construction-Generated Emissions

Short-term construction emissions associated with the Project were calculated using CalEEMod, Version 2016.3.2. Emissions' modeling was assumed to occur over an approximate 18-month period and covering a site area of approximately 2 acres. Remaining assumptions were based on the default parameters contained in the model. Modeling assumptions and output files are included in **Appendix A**.

3.9.2.2 Long-Term Operational Emissions

Since the Project involves improvements to an existing WWTP, long-term operational emissions associated with the Project will be essentially unchanged from existing baseline conditions. However, operational emissions were calculated using CalEEMod, Version 2016.3.2. Worker and vendor commute trips will be unchanged, as no additional long-term operational nor maintenance staff will be required. Stationary sources and operational equipment will be similar to those currently present in the existing facility. The Project proposes replacement and upgrades to aged or obsolete equipment, which would result in energy efficiency and a reduction in emissions.

3.9.2.3 Thresholds of Significance

CEQA Guidelines Amendments became effective March 18, 2010. Included in the Amendments are revisions to the Appendix G Initial Study Checklist. In accordance with these Amendments, a project would be considered to have a significant impact to climate change if it would:

- a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; or,
- b. Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases.

BCAQMD has not established numeric standards as thresholds of significance for GHG. However, the BCAQMD's *CEQA Air Quality Handbook: Guidelines for Assessing Air Quality and Greenhouse Gas Impacts for Projects Subject to CEQA Review*²² states that projects consistent with the goals of AB 32 and/or in compliance with an approved GHG reduction plan, such as the City of Oroville Community Climate Action Plan, would be determined to have a less than significant impact upon global climate change.

Bay Area Air Quality Management District's Thresholds for Significance

Bay Area Air Quality Management District's approach to developing a threshold of significance for GHG emissions is to identify the emissions level for which a project would not be expected to substantially conflict with existing California legislation adopted to reduce Statewide GHG emissions. If a project would generate GHG emissions above the threshold level, it would be considered to contribute substantially to a cumulative impact, and would be considered significant. If mitigation can be applied to lessen the emissions such that the project meets its share of emission reductions needed to address the cumulative impact, the project would normally be considered less than significant. Although the Project is not located in the Bay Area, the Bay Area Air Quality Management District's thresholds for significance are based on the Statewide AB 32 objectives and will be used to quantify potential impacts related to GHG emissions. For land use development projects, the threshold is compliance with a qualified GHG Reduction Strategy or annual emissions less than 1,100 metric tons per year (MT/yr) of CO₂e. For stationary source projects, such as those requiring a permit from a local air district to operate, the threshold is 10,000 MT/yr of CO₂e.

²² CEQA Air Quality Handbook. <https://bcaqmd.org/wp-content/uploads/CEQA-Handbook-Appendices-2014.pdf> Accessed 12 December 2018.

3.9.3 Regulatory Setting

3.9.3.1 Federal

Although climate change and GHG reduction is a concern at the federal level; currently there are no regulations or legislation that have been enacted specifically addressing GHG emissions reductions and climate change at the project level.

3.9.3.2 State

Assembly Bill 1493:

Assembly Bill (AB) 1493 (Pavley) of 2002 (Health and Safety Code Sections 42823 and 43018.5) requires the California Air Resources Board (CARB) to develop and adopt the nation's first GHG emission standards for automobiles.

Assembly Bill 32 - California Global Warming Solutions Act of 2006

AB 32 (Health and Safety Code Sections 38500, 38501, 38510, 38530, 38550, 38560, 38561–38565, 38570, 38571, 38574, 38580, 38590, 38592–38599 “*et seq.*,”) requires that Statewide GHG emissions be reduced to 1990 levels by the year 2020. The gases that are regulated by AB 32 include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, nitrogen trifluoride, and sulfur hexafluoride. The reduction to 1990 levels will be accomplished through an enforceable Statewide cap on GHG emissions that will be phased in starting in 2012. To effectively implement the cap, AB 32 directs CARB to develop and implement regulations to reduce Statewide GHG emissions from stationary sources. AB 32 specifies that regulations adopted in response to AB 1493 should be used to address GHG emissions from vehicles. However, AB 32 also includes language stating that if the AB 1493 regulations cannot be implemented, then CARB should develop new regulations to control vehicle GHG emissions under the authorization of AB 32.

AB 32 requires that CARB adopt a quantified cap on GHG emissions representing 1990 emissions levels and disclose how it arrives at the cap, institute a schedule to meet the emissions cap, and develop tracking, reporting, and enforcement mechanisms to ensure that the State achieves reductions in GHG emissions necessary to meet the cap. AB 32 also includes guidance to institute emissions reductions in an economically efficient manner and conditions to ensure that businesses and consumers are not unfairly affected by the reductions.

Climate Change Scoping Plan

In October 2008, CARB published its Climate Change Proposed Scoping Plan, which is the State's plan to achieve GHG reductions in California required by AB 32. The Scoping Plan contains the main strategies California will implement to achieve reduction of 169 million metric tons (MMT) of Carbon Dioxide Equivalent (CO₂e), or approximately 30 percent from the State's projected 2020 emissions level of 596 MMTCO₂e under a business-as-usual scenario (this is a reduction of 42 MMTCO₂e, or almost 10 percent, from 2002–2004 average emissions). The Scoping Plan also includes CARB-recommended GHG reductions for each emissions sector of the State's GHG inventory. The largest proposed GHG reduction recommendations are from improving emissions standards for light-duty vehicles (estimated reductions of 31.7 MMTCO₂e), implementation of the Low Carbon Fuel Standard (15.0 MMTCO₂e) program, energy efficiency measures in buildings and appliances and the widespread development of combined heat and power systems (26.3 MMTCO₂e), and a renewable portfolio standard for electricity production (21.3 MMTCO₂e). The Scoping Plan identifies the local equivalent of AB 32 targets as a 15 percent reduction below baseline GHG emissions level, with baseline interpreted as GHG emissions levels between 2003 and 2008.

A key component of the Scoping Plan is the Renewable Portfolio Standard, which is intended to increase the percentage of renewables in California's electricity mix to 33 percent by year 2020, resulting in a reduction of 21.3 MMTCO₂e. Sources of renewable energy include, but are not limited to, biomass, wind, solar, geothermal,

hydroelectric, and anaerobic digestion. Increasing the use of renewables will decrease California's reliance on fossil fuels, thus reducing GHG emissions.

The Scoping Plan States that land use planning and urban growth decisions will play important roles in the State's GHG reductions because local governments have primary authority to plan, zone, approve, and permit how land is developed to accommodate population growth and the changing needs of their jurisdictions. (Meanwhile, CARB is also developing an additional protocol for community emissions.) CARB further acknowledges that decisions on how land is used will have large impacts on the GHG emissions that will result from the transportation, housing, industry, forestry, water, agriculture, electricity, and natural gas emissions sectors. The Scoping Plan States that the ultimate GHG reduction assignment to local government operations is to be determined. With regard to land use planning, the Scoping Plan expects approximately 5.0 MMTCO_{2e} will be achieved associated with implementation of Senate Bill 375, which is discussed further below. The Climate Change Proposed Scoping Plan was approved by CARB on December 11, 2008.

The First Update of the Scoping Plan was approved by the CARB on May 22, 2014, which looked past 2020 to set mid-term goals (2030-2035) on the road to reaching the 2050 goals. CARB's Key Action for the Waste Sector focused on eliminating organics from the landfill starting in 2016 and financing the in-State infrastructure development of composting and anaerobic digestion facilities. CARB's Key Action for Short-lived Climate Pollutants such as methane is to develop a comprehensive strategy by 2015 which will focus on methane generated at landfills from the disposal of organic wastes.

Senate Bill 97 - CEQA: Greenhouse Gas Emissions

Senate Bill 97, signed in August 2007, acknowledges that climate change is an important environmental issue that requires analysis under CEQA. This bill directs the Governor's Office of Planning and Research to prepare, develop, and transmit to the Resources Agency guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions, by July 1, 2009. The Resources Agency is required to certify or adopt those guidelines by January 1, 2010. Amendments to the CEQA guidelines took effect March 18, 2010. The revisions include a new section (Sec. 15064.4) that specifically addresses the potential significance of GHG emissions. Section 15064.4 calls for a "good-faith effort" to "describe, calculate or estimate" GHG emissions. Section 15064.4 further States that a lead agency "should" consider several factors when assessing the significance of impacts from GHG emissions on the environment, including: the extent to which the project would increase or reduce GHG emissions; whether project emissions exceed an applicable threshold of significance; and the extent to which the project complies with "regulations or requirements adopted to implement a Statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions." The guidelines also State that a lead agency may determine that a project's incremental contribution to a cumulative effect is not cumulatively considerable if the project will comply with the requirements of previously approved plan or mitigation program (Sec. 15064(h)(3)). However, the guidelines do not require or recommend a specific analytical methodology or provide quantitative criteria for determining the significance of GHG emissions.

This bill also protected projects until January 1, 2010 that were funded by the Highway Safety, Traffic Reduction, Air Quality and Port Security Bond Act of 2006, or the Disaster Preparedness and Flood Protection Bond Act of 2006 (Proposition 1B or 1E) from claims of inadequate analysis of GHG as a legitimate cause of action. Thus, this "protection" is highly limited to a handful of projects and for a short time period (California Air Pollution Control Officers Association, 2008).

Senate Bill 1368

Senate Bill (SB) 1368 (codified at Public Utilities Code Chapter 3) is the companion bill of AB 32. SB 1368 required the California Public Utilities Commission (CPUC) to establish a greenhouse gas emissions performance standard for baseload generation from investor-owned utilities by February 1, 2007. The bill also required the CEC to establish a similar standard for local publicly owned utilities by June 30, 2007. These standards cannot exceed the greenhouse gas emission rate from a baseload combined-cycle natural-gas-fired

plant. The legislation further requires that all electricity provided to California, including imported electricity, must be generated from plants that meet the standards set by the CPUC and the CEC.

Senate Bill 1078 and Governor's Order S-14-08 (California Renewables Portfolio Standards)

Senate Bill 1078 (Public Utilities Code Sections 387, 390.1, 399.25 and Article 16) addresses electricity supply and requires that retail sellers of electricity, including investor-owned utilities and community choice aggregators, provide a minimum 20 percent of their supply from renewable sources by 2017. This Senate Bill will affect Statewide GHG emissions associated with electricity generation. In 2008, Governor Schwarzenegger signed Executive Order S-14-08, which set the Renewables Portfolio Standard target to 33 percent by 2020. It directed State government agencies and retail sellers of electricity to take all appropriate actions to implement this target. The Proposed Project area would receive energy service from the investor-owned Southern California Edison.

Prior to the Executive Order, the CPUC and the CEC were responsible for implementing and overseeing the Renewables Portfolio Standard. The Executive Order shifted that responsibility to CARB, requiring it to adopt regulations by July 31, 2010. CARB is required by current law, AB 32 of 2006, to regulate sources of greenhouse gases to meet a State goal of reducing greenhouse gas emissions to 1990 levels by 2020 and an 80 percent reduction of 1990 levels by 2050. The CEC and CPUC are expected to serve in advisory roles to help CARB develop the regulations to administer the 33 percent by 2020 requirement. Additionally, the CEC and CPUC will continue their implementation and administration of the 20 percent requirement. The Executive Order also stipulates that CARB may delegate to the CPUC and CEC any policy development or program implementation responsibilities that would reduce duplication and improve consistency with other energy programs. CARB is also authorized to increase the target and accelerate and expand the time frame.

The general definition under the State Renewables Portfolio Standard for biomass is any organic material not derived from fossil fuels, including agricultural crops, agricultural wastes and residues, waste pallets, crates, dunnage, manufacturing, and construction wood wastes, landscape and right-of-way tree trimmings, mill residues that result from milling lumber, rangeland maintenance residues, sludge derived from organic matter, and wood and wood waste from timbering operations. Biomass feedstock from State and national forests is allowable under the definition.

Mandatory Reporting of Greenhouse Gas Emissions

Reporting of greenhouse gases by major sources is required by the California Global Warming Solutions Act (AB 32, 2006). Revisions to the existing CARB mandatory GHG reporting regulation were considered at the board hearing on December 16, 2010. The revised regulation was approved by the California Office of Administrative Law and became effective on January 1, 2012. The revised regulation affects industrial facilities, suppliers of transportation fuels, natural gas, natural gas liquids, liquefied petroleum gas, and carbon dioxide, operators of petroleum and natural gas systems, and electricity retail providers and marketers.

Cap-and-Trade Regulation

The cap-and-trade regulation is a key element in California's climate plan. It sets a Statewide limit on sources responsible for 85 percent of California's greenhouse gas emissions, and establishes a price signal needed to drive long-term investment in cleaner fuels and more efficient use of energy. The cap-and-trade rules came into effect on January 1, 2013 and apply to large electric power plants and large industrial plants. In 2015, they will extend to fuel distributors (including distributors of heating and transportation fuels). At that stage, the program will encompass nearly 85 percent of the State's total greenhouse gas emissions.

GHG emissions addressed by the cap-and-trade regulation are subject to an industry-wide cap on overall GHG emissions. The cap-and-trade regulation sets a firm limit or cap on GHGs, which declines approximately 3 percent each year beginning in 2013. Any growth in emissions must be accounted for under the cap, such that a corresponding and equivalent reduction in emissions must occur to allow any increase. The cap-and-trade

regulation will help California achieve its goal of reducing GHG emissions to 1990 levels by the year 2020, and ultimately achieving an 80% reduction from 1990 levels by 2050. As such, the CARB has determined that the cap-and-trade regulation meets the requirements of AB 32.

3.9.3.3 Local

Butte County Air Quality Management District

BCAQMD has not established numeric standards as thresholds of significance for GHG. However, the BCAQMD's *CEQA Air Quality Handbook: Guidelines for Assessing Air Quality and Greenhouse Gas Impacts for Projects Subject to CEQA Review*²³ states that projects consistent with the goals of AB 32 and/or in compliance with an approved GHG reduction plan, such as the City of Oroville Community Climate Action Plan, would be determined to have a less than significant impact upon global climate change.

City of Oroville Community Climate Action Plan

Adopted March 31, 2015, The City of Oroville Community Climate Action Plan (CAP)²⁴ was developed with the purpose of reducing GHG emissions to 11% below 2010 levels. This goal is referred to as the 2020 emissions reduction target. The CAP includes a variety of regulatory and incentive-based strategies that will reduce emissions from both existing and new development in Oroville. Strategies that may be applicable to the Project include, but are not limited to, the following:

BE-1 (Green Building Ordinance): Achieve 15% less energy use than the 2013 Title 24 requirements in new development.

BE-4 (Energy Efficient Lighting Standards): Reduce electricity consumption with energy-efficient lighting.

LUT-9 (Idling Ordinance): Limit heavy-duty vehicle idling to 3 minutes to reduce exhaust emissions and fuel consumption.

LUT-10 (Electric-Powered Construction Equipment): Ensure that at least 25% of construction equipment on annual projects utilize electric power.

WR-1 (Waste Diversion Goal): Divert from landfills at least 75% of waste generated in the city and 65% of construction materials and debris.

Oroville 2030 General Plan²⁵: The Oroville 2030 General Plan sets forth the following goals and policies regarding energy use and greenhouse gases and which have potential relevance to the Project's CEQA review:

Goal OPS-13: Reduce emissions of air contaminants, including greenhouse gases, and minimize public exposure to toxic, hazardous, and odiferous air pollutants.

Policy P13.4: Encourage the use of alternative fuels in vehicle fleets and the use of alternative forms of transportation for City staff and other public agencies.

Goal OPS-16: Reduce greenhouse gas emissions and improve the sustainability of actions by City government, residents, and businesses in Oroville.

Policy P16.1: Implement the Climate Action Plan strategies, as feasible.

²³ CEQA Air Quality Handbook. <https://bcaqmd.org/wp-content/uploads/CEQA-Handbook-Appendices-2014.pdf> Accessed 30 October 2018.

²⁴ City of Oroville Community Climate Action Plan. <http://www.cityoforoville.org/home/showdocument?id=12191> Accessed 2 November 2018.

²⁵ Oroville 2030 General Plan. <http://www.cityoforoville.org/home/showdocument?id=12187> Accessed 23 October 2018.

Policy P16.12: Encourage energy conservation, waste reduction, and environmental sustainability in all City activities.

3.9.4 Impact Assessment

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

Less than Significant Impact.

Short-Term Construction-Related Emissions

Estimated construction-related emissions are summarized in **Table 3-15**, below. As indicated, construction of the Project would generate maximum annual emissions of approximately 492.0568 metric tons of carbon dioxide equivalent (MTCO_{2e}). Construction-related production of GHGs would be temporary, lasting approximately 18 months.

Long-Term Operational Emissions

Since the Project involves improvements to an existing WWTP, long-term operational emissions associated with the Project will be essentially unchanged from existing baseline conditions. However, estimated long-term operational emissions were calculated using CalEEMod, Version 2016.3.2, resulting in estimated maximum annual emissions of approximately 435.0036 MTCO_{2e}, as displayed in **Table 3-15**. Worker and vendor commute trips would be unchanged, as no additional long-term operational nor maintenance staff would be required. Stationary sources and operational equipment will be similar to those currently present in the existing facility. The Project proposes replacement and upgrades to aged or obsolete equipment, which would result in energy efficiency and a reduction in emissions. As demonstrated in **Table 3-15**, the emissions generated by the Project's operational phase would not exceed the Bay Area Air Quality Management District's adopted thresholds of significance which are based on the AB 32 objectives. Therefore, Project-related production of GHGs would be considered less than significant.

Table 3-15. Short-Term Construction-Generated GHG Emissions

Estimated Maximum Annual Project-Related GHG Emissions	
Phase	Emissions (MT CO _{2e}) ⁽¹⁾
Construction	492.0568
Operation	435.0036
AB 32 Consistency Threshold for Land-Use Development Projects*	1,100
AB 32 Consistency Threshold for Stationary Source Projects*	10,000
Exceed Threshold?	No

1. Emissions were quantified using the CalEEMod, Version 2016.3.2. Refer to Appendix A for modeling results and assumptions. Totals may not sum due to rounding.

*As published in the Bay Area Air Quality Management District's CEQA Air Quality Guidelines. Available online at http://www.baaqmd.gov/~/_media/files/planning-and-research/ccqa/ccqa_guidelines_may2017-pdf.pdf?la=en Accessed 12 December 2018.

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

Less than Significant Impact. Although BCAQMD has not established numeric standards as thresholds of significance for GHG emissions, the recommended guidance available in BCAQMD's CEQA Air Quality Handbook: Guidelines for Assessing Air Quality and Greenhouse Gas Impacts for Projects Subject to CEQA

Review²⁶ states that projects consistent with the goals of AB 32 and/or in compliance with an approved GHG reduction plan, such as the City of Oroville Community Climate Action Plan, would be determined to have a less than significant impact upon global climate change.

Adopted March 31, 2015, The City of Oroville Community Climate Action Plan (CAP)²⁷ was developed with the purpose of reducing GHG emissions to 11% below 2010 levels. The CAP includes a variety of regulatory and incentive-based strategies that will reduce emissions from both existing and new development in Oroville.

The Project would implement all applicable measures stipulated by the Oroville Community CAP and the Oroville 2030 General Plan to reduce emissions of GHGs during construction and operation. Furthermore, the Project complies with the Bay Area Air Quality Management District's GHG emissions thresholds for significance. For the aforementioned reasons, implementation of the Project is not anticipated to conflict with any applicable plan, policy or regulation for reducing the emissions of GHGs, nor will the Project have a significant impact on the environment. The impact would be considered less than significant.

²⁶ CEQA Air Quality Handbook. <https://bcaqmd.org/wp-content/uploads/CEQA-Handbook-Appendices-2014.pdf> Accessed 30 October 2018.

²⁷ City of Oroville Community Climate Action Plan. <http://www.cityoforoville.org/home/showdocument?id=12191> Accessed 2 November 2018.

3.10 Hazards and Hazardous Materials

Table 3-16. Hazards and Hazardous Materials Impacts

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

3.10.1 Environmental Setting

Historical gold mining operations along the Feather River created deposits of mine tailings, many of which have been dispersed by development activities or carried downstream stream over the past century. However, some areas adjacent to Feather River may contain residual undisturbed deposits from nineteenth century mining practices. In a general sense, tailings are waste from mining activities, which often contain trace residual minerals. These tailings can then be chemically treated, recycled, and utilized as construction materials. The term tailings also encompass leftover material from rock-crushing activities and is often used as an aggregate in asphalt paving or a bank stabilization method during construction. Tailings vary in size from a fine-grain to a large cobble and in their larger form are frequently used as landscaping rock or an alternative to gravel.²⁸

²⁸ City of Oroville 2030 General Plan. <http://www.cityoforoville.org/home/showdocument?id=12188> Accessed 27 November 2018.

As discussed in **Section 3.7**, tailings are present onsite, according to the NRCS Custom Soil Resource Report (**Appendix D**). It is unknown if the tailings reported onsite by the NRCS Custom Soil Resource Report are resultant from mining operations or recycled construction materials.

In more recent times, hazardous materials include a wide variety of substances commonly used in households and businesses. Used motor oil, paint, solvents, lawn care and gardening products, household cleaners, gasoline, and refrigerants are among the diverse range of substances classified as hazardous materials. Nearly all businesses and residences generate some amount of hazardous waste; certain businesses and industries generate larger amounts of such substances, including gas stations, automotive service and repair shops, printers, dry cleaners, and photo processors. Hospitals, clinics, and laboratories generate medical waste, much of which is also potentially hazardous.²⁹

Wastewater treatment processes generally involve a variety of hazardous chemicals and biological materials contained within the effluents and reagents used in water processing or generated during treatment. For instance, SC-OR currently uses gaseous chlorine for effluent disinfection. Gaseous chlorine is toxic, and regulatory requirements have been established to reduce potential public exposure. The Uniform Fire Code is typically used as the design basis for hazardous gas abatement systems.

3.10.1.1 Asbestos Survey

The objective of the asbestos investigation was to evaluate suspect building and construction materials at specified portions of the property that would be impacted by proposed renovation/demolition operations as to asbestos content. The scope of sampling was conducted in accordance with the NESHAP regulation of the EPA., the BCAQMD, and California Division of Occupational Safety and Health (Cal/OSHA) requirements. Specific sampling locations were selected by the inspector based on referenced regulatory requirements. Sampling was conducted utilizing destructive techniques. Suspect asbestos-containing materials were characterized by size, color, and texture in order to quantify materials and to draw conclusions based on bulk sample results.

Bulk sample analysis was provided by Environmental Management Consultants, an independent, National Voluntary Laboratory Accreditation Program (NVLAP) accredited laboratory (NVLAP No. 101926-0) located in Phoenix, Arizona and specializing in asbestos analysis. Bulk samples were individually bagged and numbered for identification and to maintain a chain-of-custody as part of the report. See **Appendix E** for full details of the Asbestos Investigation.

3.10.1.2 Lead Based Paint Investigation

The Lead-Based Paint Inspection was conducted in accordance with Title 17 - CCR, Division 1, Chapter 8, 8 CCR 1532.1 (Cal/OSHA), and the federal Renovation, Remodeling and Paint Rule. The sampling event was conducted in a manner which provides limited, representative evaluation of painted surfaces at referenced locations at the subject sites in accordance with the United States Department of Housing and Urban Development schedule in Chapter 7 (Lead-Based Paint Inspection) of the “Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing”. Testing locations provide an overall representation of painted finishes present at the referenced structure. The referenced inspection is representative in nature and is limited based on the limitations of the referenced regulatory standard.

Sampling of painted surfaces for suspect lead-based paint at specified portions of the specified commercial property included a total of nineteen (19) separate testing combinations. The XRF instrument was calibrated prior to and following the prescribed sampling period in accordance with the Performance Characteristic Sheet provided by the manufacturer.

²⁹ City of Oroville 2030 General Plan Safety Element
<https://www.cityoforoville.org/home/showpublisheddocument/12188/635955765376170000> Accessed 6 April 2022

Calibration readings are included in the XRF sampling results as the initial and concluding readings and are designated as a “calibrate” reading. The calibration readings were compared to a known concentration of lead using a standard SRM sheet provided by the XRF manufacturer to verify accurate performance of the instrument at the beginning and the conclusion of the sampling episode.

3.10.1.3 Hazardous Materials

The Hazardous Waste and Substances Sites (Cortese) List is a planning document used by the State, local agencies, and developers to comply with CEQA requirements in providing information about the location of hazardous materials release sites. Government Code (GC) Section 65962.5 requires the California Environmental Protection Agency (CalEPA) to develop at least annually an updated Cortese List. The Department of Toxic Substances Control (DTSC) is responsible for a portion of the information contained in the Cortese List. Other State and local government agencies are required to provide additional hazardous material release information for the Cortese List. DTSC's EnviroStor database provides DTSC's component of Cortese List data (DTSC, 2010). In addition to the EnviroStor database, the SWRCB Geotracker database provides information on regulated hazardous waste facilities in California, including underground storage tank (UST) cases and non-UST cleanup programs, including Spills-Leaks-Investigations-Cleanups (SLIC) sites, Department of Defense sites, and Land Disposal program. A search of the DTSC EnviroStor database and the SWRCB Geotracker performed on November 7, 2018 determined that there are no known active hazardous waste generators or hazardous material spill sites within the Project site or immediate surrounding vicinity.

3.10.1.4 Airports

The Oroville Municipal Airport is located approximately 2.3 miles west and Sacramento International Airport is located approximately 54.5 miles south of the Project.

3.10.1.5 Emergency Response Plan

During disasters or large-scale incidents, the Butte County Office of Emergency Management coordinates the overall response through the Emergency Operations Center (EOC). When activated, the EOC provides a central location for responding and supporting agencies to collaborate response and recovery efforts in order to provide information and deploy resources effectively and efficiently.

3.10.1.6 Sensitive Receptors

The Project is located approximately one mile north-northwest of Oakdale Heights Elementary School.

3.10.2 Regulatory Setting

3.10.2.1 Federal

Hazardous Materials – United States Environmental Protection Agency: The United States Environmental Protection Agency (EPA) was established in 1970 to consolidate in one agency a variety of Federal research, monitoring, standard-setting and enforcement activities to ensure environmental protection. EPA's mission is to protect human health and to safeguard the natural environment — air, water, and land — upon which life depends. EPA works to develop and enforce regulations that implement environmental laws enacted by Congress, is responsible for researching and setting national standards for a variety of environmental programs, and delegates to States and tribes the responsibility for issuing permits and for monitoring and enforcing compliance. Where national standards are not met, EPA can issue sanctions and take other steps to assist the states and tribes in reaching the desired levels of environmental quality.

Toxic Substances Control Act/Resource Conservation and Recovery Act/ Hazardous and Solid Waste Act: The Toxic Substances Control Act (1976) and the Resource Conservation and Recovery Act of 1976 (RCRA) established a program administered by the EPA for the regulation of the generation, transportation, treatment, storage, and disposal of hazardous waste. Resource Conservation and Recovery Act (RCRA) was amended in 1984 by

the Hazardous and Solid Waste Act, which affirmed and extended the “cradle to grave” system of regulating hazardous wastes.

Clean Water Act (CWA)/SPCC Rule: The Clean Water Act (CWA) (33 U.S.C. Section 1251, *et seq.*, formerly the Water Pollution Control Act of 1972), was enacted with the intent of restoring and maintaining the chemical, physical, and biological integrity of the waters of the United States. As part of the Clean Water Act, the EPA oversees and enforces the Oil Pollution Prevention regulation contained in Title 40 of the CFR, Part 112, which is often referred to as the “SPCC rule” because the regulations describe the requirements for facilities to prepare, amend and implement Spill Prevention, Control, and Countermeasure (SPCC) Plans. A facility is subject to SPCC regulations if a single oil storage tank has a capacity greater than 660 gallons, or the total above ground oil storage capacity exceeds 1,320 gallons, or the underground oil storage capacity exceeds 42,000 gallons, and if, due to its location, the facility could reasonably be expected to discharge oil into or upon the “navigable waters” of the United States. Other federal regulations overseen by the EPA relevant to hazardous materials and environmental contamination include Title 40, CFR, Chapter 1, Subchapter D – Water Programs and Subchapter I – Solid Wastes. Title 40, CFR, Chapter 1, Subchapter D, Parts 116 and 117 designate hazardous substances under the Water Pollution Control Act. Title 40, CFR, Part 116 sets forth a determination of the reportable quantity for each substance that is designated as hazardous. Title 40, CFR, Part 117 applies to quantities of designated substances equal to or greater than the reportable quantities that may be discharged into waters of the United States.

3.10.2.2 State

California Environmental Protection Agency (CalEPA): CalEPA was created in 1991 by Governor’s Executive Order. California Air Resources Board (CARB), the Department of Pesticide Regulation, the Department of Resources Recycling and Recovery, the Department of Toxic Substances Control (DTSC), the Office of Environmental Health Hazard Assessment and the State Water Resources Control Board (SWRCB) were placed under the CalEPA umbrella to create a cabinet-level voice for the protection of human health and the environment and to assure the coordinated deployment of State resources. The mission of CalEPA is to restore, protect, and enhance the environment to ensure public health, environmental quality, and economic vitality under Title 22 of the California Code of Regulations (CCR).³⁰

Department of Toxic Substances Control (DTSC): DTSC is a department of CalEPA and is the primary agency in California that regulates hazardous waste, clean-up of existing contamination, and looks for ways to reduce the hazardous waste produced in California. DTSC regulates hazardous waste in California primarily under the authority of RCRA and the Health and Safety Code. Other laws that affect hazardous waste are specific to handling, storage, transportation, disposal, treatment, reduction, cleanup, and emergency planning. GC Section 65962.5 (commonly referred to as the Cortese List) includes DTSC-listed hazardous waste facilities and sites, SWRCB Division of Drinking Water lists of contaminated drinking water wells, sites listed by the SWRCB as having UST leaks and which have had a discharge of hazardous wastes or materials into the water or groundwater, and lists from local regulatory agencies of sites that have had a known migration of hazardous waste/material.

Unified Program: The Unified Program (CCR Title 27, Division 1, Subdivision 4, Chapter 1, Sections 15100-15620) consolidates, coordinates, and makes consistent the administrative requirements, permits, inspections, and enforcement activities of the following six environmental and emergency response programs³¹:

- Hazardous Waste Generator program and Hazardous Waste On-site Treatment activities;
- Aboveground Storage Tank program Spill Prevention Control and Countermeasure Plan requirements;
- Underground Storage Tank program;

³⁰ California Environmental Protection Agency. <http://www.calepa.ca.gov> Accessed 13 September 2018.

³¹ California Environmental Protection Agency. <http://www.calepa.ca.gov/cupa/> Accessed 13 September 2018

- Hazardous Materials Release Response Plans and Inventory program;
- California Accidental Release Prevention program;
- Hazardous Materials Management Plans and Hazardous Materials Inventory Statement requirements.

The Secretary of CalEPA is directly responsible for coordinating the administration of the Unified Program. The Unified Program requires all counties to apply to the CalEPA Secretary for the certification of a local unified program agency. Qualified cities are also permitted to apply for certification. The local CUPA is required to consolidate, coordinate, and make consistent the administrative requirements, permits, fee structures, and inspection and enforcement activities for these six program elements in the county. Most CUPAs have been established as a function of a local environmental health or fire department.

Hazardous Waste Management Program: The Hazardous Waste Management Program (HWMP) regulates hazardous waste through its permitting, enforcement, and Unified Program activities in accordance with HHSC Section 25135, *et seq.* The main focus of HWMP is to ensure the safe storage, treatment, transportation, and disposal of hazardous wastes.

State Water Resources Control Board (SWRCB): The SWRCB was created by the California legislature in 1967. The mission of SWRCB is to ensure the highest reasonable quality for waters of the State, while allocating those waters to achieve the optimum balance of beneficial uses. The joint authority of water allocation and water quality protection enables SWRCB to provide comprehensive protection for California's waters.

California Department of Industrial Relations – Division of Occupational Safety and Health (Cal/OSHA): In California, every employer has a legal obligation to provide and maintain a safe and healthful workplace for employees, according to the California Occupational Safety and Health Act of 1973 (per Title 8 of the CCR). The Division of Occupational Safety and Health (Cal/OSHA) program is responsible for enforcing California laws and regulations pertaining to workplace safety and health and for providing assistance to employers and workers about workplace safety and health issues. Cal/OSHA regulations are administered through Title 8 of the CCR. The regulations require all manufacturers or importers to assess the hazards of substances that they produce or import and all employers to provide information to their employees about the hazardous substances to which they may be exposed.

3.10.2.3 Local

Oroville 2030 General Plan³²: The Oroville 2030 General Plan sets forth the following policies regarding hazards and hazardous materials and which have potential relevance to the Project's CEQA review:

Policy P4.1: Prohibit development in areas of known toxic contamination until such contamination has been remediated or mitigated to acceptable levels.

Policy P4.2: Require applicants to take and analyze soil samples prior to grading or construction in areas with a historical or suspected presence of toxic materials, including areas with known mine tailings, Superfund sites or other sites identified by the City or concerned agencies. If contamination is discovered prior to development, consult with the appropriate agencies and commence the proper clean-up measures.

Policy P4.3: Rely on the Butte County Local Hazard Mitigation Plan in the event of a hazardous materials incident.

Policy P4.6: Continue to coordinate with the Butte County Environmental Health Division and Oroville Fire Department in the review of all projects which require the use, storage or transport of hazardous waste to ensure necessary measures are taken to protect public health and safety.

³² Oroville 2030 General Plan. <http://www.cityoforoville.org/home/showdocument?id=12187> Accessed 23 October 2018.

Policy P4.9: Provide on-going training for appropriate City personnel in hazardous materials, response and handling.

3.10.3 Impact Assessment

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

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

Less than Significant Impact with Mitigation Incorporated. The Project involves improvements to the existing WWTP including the demolition and relocation of existing structures. Materials from these structures would be disposed of off-site at an approved disposal or recycling facility.

Construction of the Project would also involve the use of hazardous materials associated with construction equipment, such as diesel fuel, lubricants, and solvents.

The contractor would implement a SWPPP and would comply with all Cal/OSHA regulations regarding regular maintenance and inspection of equipment, spill prevention, and spill remediation in order to reduce the potential for incidental release of pollutants or hazardous substances onsite. Furthermore, any potential accidental hazardous materials spills during construction are the responsibility of the contractor to remediate in accordance with industry best management practices and State and county regulations. The operational phase of the Project would continue the use, transport, and disposal of potentially hazardous materials associated with the wastewater treatment process. Although the Project proposes replacement of the toxic gaseous chlorine disinfection process with safer UV disinfection, undoubtedly other phases of treatment and maintenance will continue to include potentially hazardous materials. The Project does not propose an increase in the amount of hazardous materials transported, stored, used or disposed of onsite and implementation of the Project would not result in an increased risk of accidental release.

Implementation of the mitigation measures HAZ-1a through HAZ-1e as outlined below for the handling and disposal of hazardous materials would reduce any potential impacts to less than significant in nature.

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

No Impact. There are no existing or proposed schools located within one-quarter mile of the Project site, which is confined to an existing WWTP. There would be no impact.

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

No Impact. The Project does not involve land that is listed as a hazardous materials site pursuant to Government Code Section 65962.5 and is not included on a list compiled by the DTSC. A search of the DTSC EnviroStor database and the SWRCB Geotracker performed on November 7, 2018 determined that there are no known active hazardous waste generators or hazardous material spill sites within the Project site or immediate surrounding vicinity. There would be no impact.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?

Less than Significant Impact. The Project site is not located within an Airport Land Use Plan. The nearest airport is being the Oroville Airport located approximately 2.3 miles west of the Project. The Project is more than two miles away from all other public and public use airports. Therefore, impacts would be less than significant

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

No Impacts. The Project does not provide any physical barriers or disturb any roadways in such a way that would impede emergency or hazards response; therefore, the Project would not interfere with implementation of an emergency response plan or evacuation plan.

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

No Impact. The Project site comprises the existing WWTP in the South Oroville Industrial District. Pursuant to Government Code 51175-89, the California Department of Forestry and Fire Protection (CAL FIRE) identifies areas of Very High Fire Hazard Severity Zones (VHFHSZ) and publishes maps illustrating these locations. The nearest VHFHSZ, according to CAL FIRE³³, is located approximately 6.5 miles northeast of the Project. The Project does not include any residential components, nor would it require any employees to be stationed permanently at the site on a daily basis. There would be no impact.

3.10.3.1 Mitigation.

Implementation of the following mitigation measures to reduce impacts from hazardous materials:

HAZ-1a (Renovation/Demolition involving materials containing asbestos). Prior to proceeding with planned renovation and/or demolition operations involving specified portions of the referenced commercial property, have all building materials identified as containing asbestos in amounts (>0.1%) which would be impacted by planned work operations removed by a qualified, licensed abatement contractor with a demonstrated history of similar projects and regulatory compliance. Ensure that all work operations are conducted in accordance with applicable EPA and OSHA requirements. The Contractor shall be required to document evidence of current training, licensing, and asbestos specific insurance coverage.

HAZ-1b (Asbestos – Non-Friable to Friable conditions). Compliance with the notification requirements of Cal-OSHA and the air district of the EPA and pay fees (if required). Wait the required ten (10) working-days after filing the notification before proceeding with regulated renovation activities exceeding the threshold amount (>160 s.f. or 260 l.f.) of Risk and Control Matrix, and/or any non-friable Asbestos Containing Materials which becomes friable, or “any” demolition based on NESHAP and NESHAP requirements.

HAZ-1c (Hazard Communication Training - Lead). Upon commencing work operations involving disturbance of lead, the Contractor engaged in the work shall conduct an “Initial Exposure Assessment” for each planned “trigger task” in accordance with Cal/OSHA regulations to determine potential lead exposures to workers. The Contractor must assume workers would be exposed to airborne levels above the Permissible Exposure Limit and must provide workers with Hazard Communication Training, and personal protective equipment, including High Efficiency Particulate Air (HEPA) equipped respirators. A hand-washing facility must be present at the worksite.

³³ CAL FIRE. Butte County FHSZ Map. http://fire.ca.gov/fire_prevention/fhsz_maps_butte Accessed 28 November 2018.

HAZ-1d (Disposal – Lead Containing Paint). Prior to disposal of lead-containing paint or elements which include lead-containing paint, the State of California requires that representative sample(s) of the waste stream waste (along with the substrate where bonded) be submitted to an accredited laboratory and that a Total Threshold Limit Concentration (TTL) test be performed to determine the total lead content.

HAZ-1e (Toxicity Characteristic Leaching Procedure). Dependent upon the result, a SW846 (STLC) may be required to determine the amount of leachable lead. These tests would determine transportation and disposal requirements and may greatly impact the ultimate cost of the work. Due to potential delays associated with conducting the analysis of the waste, it is recommended that the waste characterization be initiated prior to soliciting bids for the work.

3.11 Hydrology and Water Quality

Table 3-17. Hydrology and Water Quality Impacts

Hydrology and Water Quality				
Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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;	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or offsite;	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv) impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

3.11.1 Environmental Setting

According to the USGS classification system, the Project is located within the Lower Feather watershed; Hydrologic Unit Code: 18020106,³⁴ which commences at Oroville Dam. The Feather River watershed is part of the northern Sierra Nevada and is the source of water for Lake Oroville.

The Project lies entirely within the Wyandotte Creek Groundwater Subbasin of the Sacramento Valley Groundwater Basin of the Sacramento River Hydrologic Region.³⁵

³⁴ USGS Watershed Maps. <https://water.usgs.gov/maps.html> Accessed 28 November 2018.

³⁵ DWR Bulletin 118. BBAT. <https://gis.water.ca.gov/app/bbat/> Accessed 28 November 2018.

3.11.2 Regulatory Setting

3.11.2.1 Federal

Clean Water Act (CWA): The CWA is intended to restore and maintain the chemical, physical, and biological integrity of the nation's waters (33 CFR 1251). The regulations implementing the CWA protect waters of the U.S. including streams and wetlands (33 CFR 328.3). The CWA requires States to set standards to protect, maintain, and restore water quality by regulating point source and some non-point source discharges. Under Section 402 of the CWA, the NPDES permit process was established to regulate these discharges.

Federal Emergency Management Agency (FEMA) Flood Zones: The National Flood Insurance Act (1968) makes available federally-subsidized flood insurance to owners of flood-prone properties. To facilitate identifying areas with flood potential, FEMA has developed Flood Insurance Rate Maps (FIRM) that can be used for planning purposes. Flood hazard areas identified on the Flood Insurance Rate Map are identified as a Special Flood Hazard Area (SFHA). SFHA are defined as the area that will be inundated by the flood event having a 1-percent chance of being equaled or exceeded in any given year. The 1-percent annual chance flood is also referred to as the base flood or 100-year flood. SFHAs are labeled as Zone A, Zone AO, Zone AH, Zones A1-A30, Zone AE, Zone A99, Zone AR, Zone AR/AE, Zone AR/AO, Zone AR/A1-A30, Zone AR/A, Zone V, Zone VE, and Zones V1-V30. Moderate flood hazard areas, labeled Zone B or Zone X (shaded) are also shown on the FIRM, and are the areas between the limits of the base flood and the 0.2-percent-annual-chance (or 500-year) flood. The areas of minimal flood hazard, which are the areas outside the SFHA and higher than the elevation of the 0.2-percent-annual-chance flood, are labeled Zone C or Zone X (un-shaded).

3.11.2.2 State

State Water Resources Control Board: The SWRCB has jurisdiction over water quality issues in California. The SWRCB is governed by the Porter-Cologne Water Quality Act (Division 7 of the Water Code (WC)), which establishes the legal framework for water quality control activities by the SWRCB. The intent of the Porter-Cologne Act is to regulate factors which may affect the quality of waters of the State to attain the highest quality which is reasonable, considering a full range of demands and values. Much of the implementation of the SWRCB's responsibilities is delegated to its nine Regional Boards. The Project site is located within the CVRWQCB. The CVRWQCB administers the NPDES storm water-permitting program in the Central Valley region. Construction activities on one acre or more are subject to the permitting requirements of the NPDES General Permit for Discharges of Storm Water Runoff Associated with Construction Activity (General Construction Permit). For projects proposing ground disturbance of one acre or greater, the SWRCB requires a SWPPP as a requirement of the NPDES to regulate water quality associated with construction or industrial activities. Additionally, CVRWQCB is responsible for issuing Waste Discharge Requirements Orders under WC Section 13260, Article 4, Waste Discharge Requirements.

Recycled Water Policy: The Water Recycling Act of 1991 (WC Section 1357,5 *et seq.*) established a Statewide goal to recycle a total of 700,000 acre-feet of water per year (AFY) by the year 2000 and 1,000,000 AFY by the year 2010. In February 2009, the SWRCB adopted its Recycled Water Policy (SWRCB Resolution No. 2009-0011), the purpose of which is to increase the beneficial use of recycled water from municipal wastewater sources in a manner that fully implements State and Federal water quality laws. The policy directs the State to rely less on variable annual precipitation and more on sustainable management of surface waters and groundwater, together with enhanced water conservation, water reuse and the use of stormwater. As a part of the new recycled water policy, the SWRCB adopted the following four goals for California:

1. *Increase the use of recycled water over 2002 levels by at least one million AFY by 2020 and by at least two million AFY by 2030.*
2. *Increase the use of stormwater over use in 2007 by at least 500,000 AFY by 2020 and by at least one million AFY by 2030.*

3. *Increase the amount of water conserved in urban and industrial uses by comparison to 2007 by at least 20 percent by 2020.*
4. *Included in these goals is the substitution of as much recycled water for potable water as possible by 2030.*

In the new policy, the SWRCB also discussed several practical impacts of the greater use of recycled water in the State. Those impacts include the following:

- **Groundwater salt and nutrient control:** The SWRCB imposed a requirement that consistent salt and nutrient management plans be prepared for each basin and subbasin in California. Such plans must include a significant stormwater use and recharge component.
- **Landscape irrigation:** The SWRCB discussed issues involving the permitting of landscape irrigation projects that use recycled water, including the control of incidental runoff of recycled water.
- **Groundwater recharge:** The SWRCB addressed site-specific approvals of groundwater recharge projects using recycled water, emphasizing that such projects must not lower the water quality within a groundwater basin.
- **Chemicals of emerging concern:** The SWRCB further addressed chemicals of emerging concern (CEC), knowledge of which is currently “incomplete.” An advisory panel will advise the Water Board regarding actions involving CECs, as they relate to the use of recycled water.

The wide-ranging ramifications of using recycled water, coupled with the aggressive goals established by the SWRCB for such future use in California, demonstrates that the new Recycled Water Policy will have a significant impact on land use activities within the State for many years to come.

Department of Water Resources (DWR): WC Section 10004, *et seq.* requires that DWR update the State Water Plan every five years. The Plan is currently undergoing its 2018 update; the most recent adopted version is from 2013. For Update 2013, DWR worked with researchers at the University of California, Davis, to quantify how much growth might occur in the Sacramento River Hydrologic Region through 2050. The model was used to estimate a year 2050 urban footprint under the scenarios of alternative population growth and development density. Each of the growth scenarios shows a decline in irrigated acreage over existing conditions, but to varying degrees. Irrigated crop acreage declines, on average, by about 9,000 acres by year 2050 as a result of low population growth and urbanization in the Sacramento River region, while the decline under high population growth was higher, at approximately 73,000 acres. The change in water demand from 2006 to 2050 is estimated for the Sacramento River Hydrologic Region for the agriculture and urban sectors under 9 growth scenarios and 13 scenarios of future climate change. Urban demand increased under all nine growth scenarios tracking with population growth. Agricultural water demand decreases under all future scenarios due to reduction in irrigated lands as a result of urbanization and background water conservation. Groundwater resources were evaluated for performance under the plausible futures, resulting in 198 scenarios showing the change in groundwater storage from 2013 to 2050. The Sacramento River region is projected to remain highly reliable in both urban and agricultural sectors.³⁶

Government Code 65302 (d): A conservation element for the conservation, development, and utilization of natural resources including water and its hydraulic force, forests, soils, river and other waters, harbors, fisheries, wildlife, minerals, and other natural resources. That portion of the conservation element including waters shall be developed in coordination with any County-wide water agency and with all district and city agencies which have developed, served, controlled or conserved water for any purpose for the County or city for which the plan is prepared. Coordination shall include the discussion and evaluation of any water supply and demand information described in Section 65352.5, if that information has been submitted by the water agency to the city or County. The conservation element may also cover:

³⁶ DWR California Water Plan. Update 2013. Sacramento River Hydrologic Region. <https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/California-Water-Plan/Docs/Update2013/Regional-Reports/Water-Plan-Update-2013-Sacramento-River-Regional-Report.pdf>
Accessed 10 December 2018.

1. The reclamation of land and waters.
2. Prevention and control of the pollution of streams and other waters.
3. Regulation of the use of land in stream channels and other areas required for the accomplishment of the conservation plan.
4. Prevention, control, and correction of the erosion of soils, beaches, and shores.
5. Protection of watersheds.
6. The location, quantity and quality of the rock, sand and gravel resources.
7. Flood control.

Sustainable Groundwater Management Act: On September 16, 2014 Governor Edmund G. Brown, Jr. signed historic legislation to strengthen local management and monitoring of groundwater basins most critical to the State's water needs. The three bills, SB 1168 (Pavley), SB 1319 (Pavley), and AB 1739 (Dickinson) together makeup the Sustainable Groundwater Management Act (SGMA). SGMA comprehensively reforms groundwater management in California. The intent of the Act is to place management at the local level, although the State may intervene to manage basins when local agencies fail to take appropriate responsibility. The Act provides authority for local agency management of groundwater and requires creation of groundwater sustainability agencies and implementation of plans to achieve groundwater sustainability within basins of high and medium-priority including the Tulare County Sub-basin. The Act took effect on January 1, 2015 and will be implemented over the course of next several years and decades.

3.11.2.3 Local

Oroville 2030 General Plan³⁷: The Oroville 2030 General Plan sets forth the following goals and policies regarding hydrology and water quality and which have potential relevance to the Project's CEQA review:

Policy P6.10: Encourage the use of drought-resistant landscaping and the use of reclaimed wastewater for agriculture and landscape irrigation supply water. Ensure that all reclaimed wastewater complies with State wastewater treatment and reclamation regulations and standards.

Goal PUB-7: Collect, treat and dispose of wastewater in ways that are safe, sanitary, environmentally acceptable, and financially sound.

Policy P7.1: Ensure that adequate wastewater collection and wastewater treatment services continue to be available to developed properties throughout the Planning Area.

Policy P7.9: Encourage SC-OR to begin planning and implementing expansions to the existing Regional Wastewater Treatment Master Plan to meet future demand for wastewater treatment generated by this General Plan at least four years prior to reaching the capacity of existing facilities.

Policy P7.13: Monitor the effectiveness, cooperation and functions of SC-OR through and by its member agencies for the interest of the public and implementation of this General Plan.

Policy P8.2: Encourage project design that minimizes the potential for wind and water erosion to occur. Where necessary, require the preparation and implementation of a soil erosion plan, including soil erosion mitigation during construction.

Policy P8.9: Require installation of temporary drainage facilities as necessary during construction activities in order to adequately mitigate stormwater impacts.

³⁷ Oroville 2030 General Plan. <http://www.cityoforoville.org/home/showdocument?id=12187> Accessed 23 October 2018.

3.11.3 Impact Assessment

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

Less than Significant Impact with Mitigation Incorporated. As mentioned above in Section 3.9.2.2, the existing WWTP currently operates under a NPDES permit issued by the CVRWQCB which places stringent standards on the quality of effluent discharged into Feather River. SC-OR has a history of compliance with effluent limitations and since its inception has had no major violations. The proposed improvements to existing WWTP intend to increase treatment capacity thereby consistently reducing organic, nutrient, and solid loadings of raw sewage and further improving the quality of effluent discharged into the Feather River. During construction, the contractor will implement erosion control measures, a SWPPP, and Best Management Practices to control soil erosion and non-point source pollution to ensure that Project construction does not adversely impact water quality of the Feather River. Upon implementation of the Project, SC-OR would continue to comply with all applicable water quality standards and waste discharge requirements. For these reasons, any impacts would be less than significant with mitigation incorporated.

3.11.3.1 Mitigation.

The applicant will implement the following measures to prevent sedimentation and degradation of downstream waters.

HYD-1a (Erosion Control Measures). The applicant shall define the limits of any construction within the APE. Wattles or other appropriate erosion controls shall be placed between ground-disturbing activities and areas where sedimentation could flow out of the APE.

HYD-1b. (Storm Water Pollution Prevention Plan). The applicant shall arrange for the preparation of a Storm Water Pollution Prevention Plan (SWPPP) that identifies measures to prevent erosion and sedimentation from construction activities and measures to prevent contaminants from entering downstream waters. The SWPPP shall be implemented in full during project construction.

HYD-1c. (Use of Best Management Practices). Best Management Practices (BMPs) shall be implemented as appropriate. BMP's may include measures in a and b above, and may include any number of additional measures appropriate for this particular site and this particular project, including, but not-limited to, grease traps in staging areas, regular site inspections for pollutants that could be carried by runoff into natural drainages, etc.

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

No Impact. There is no anticipated increase in water demand resulting from implementation of the Project and the site is not currently being used for aquifer recharge as it is an existing WWTP. The Project would not involve withdrawals from an aquifer or groundwater table and would not interfere with groundwater recharge. There would be no impact.

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

c-i) result in substantial erosion or siltation on- or off-site?

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

c-iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

Less than Significant Impacts. The Project involves improvements to an existing WWTP. There are no streams or rivers onsite and the Project does not propose significant alteration of the topography of the site or a substantial increase in the area of impervious surfaces. Furthermore, construction of the Project would require implementation of a Construction General Permit and a SWPPP which would include various measures to minimize erosion, siltation, stormwater runoff, and polluted runoff. Any impacts would be less than significant.

c-iv) impede or redirect flood flows?

No Impact. According to FEMA National Flood Insurance Program Flood Insurance Rate Maps Panel 06007C980E, the Project is not located within a 100-year flood zone (See **Figure 3-7**). Therefore, there would be no impact.

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

Less than Significant Impact. There are no nearby bodies of water of sufficient size or shape to generate a standing wave resulting in seiche and the Project site's distance from the Pacific Ocean and the intervening Coast Ranges preclude occurrence of a tsunami. The site's flat topography and its distance from flood-prone bodies of water make inundation by mudflow an unlikely occurrence. As mentioned above in Impact Assessment i, no structures housing people are associated with the Project and operational staff would be unchanged from existing conditions. Therefore, any impacts would be less than significant

The Project is located within the inundation zone of Lake Oroville and would likely be flooded if Oroville Dam were to experience failure. However, the Project involves improvements to an existing WWTP to which the flooding risks are an aspect of the baseline conditions. The Project does not propose the development of housing or habitable structures, that would result in increased threat to staff onsite. Construction staff associated with the Project would occupy the site on a short-term and temporary basis. Upon implementation, personnel onsite would be unchanged from existing conditions; therefore, any impacts would be less than significant.

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

Less than Significant Impact with Mitigation Incorporated. As noted in Impact Assessment b) above the Project would not involve withdrawals from an aquifer or groundwater table and would not interfere with groundwater recharge and therefore could not be in conflict with sustainable groundwater management plans. Any potential impacts to water quality have been discussed above in Impact Assessment a) and were determined to be less than significant with Mitigation Measures HYD-1a-1c incorporated.

3.11.3.2 Mitigation.

See **Mitigation Measures HYD-1a, 1b, and 1c** above.



Figure 3-7. FEMA Flood Map

3.12 Land Use and Planning

Table 3-18. Land Use and Planning Impacts

Land Use and Planning				
Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.12.1 Environmental Setting

The Project's setting is an existing WWTP located within the South Oroville Industrial District. Although much of the Industrial District is undeveloped, with an expanse of vacant lots that are not served by utility connections or public streets, land uses in the vicinity include a variety of industrial businesses, such as machine rental shops, lumber yards, and metal shops. South Oroville Industrial District also includes some commercial businesses unrelated to industrial use, such as Feather River Cinemas, as well as several historic cemeteries. As displayed in **Figure 3-8**, General Plan land use designations for the site are Industrial and Public. As shown in **Figure 3-9**, the site is zoned M-2 (Intensive Industrial) and PQ (Public Quasi Public).

3.12.2 Regulatory Setting

3.12.2.1 Federal

There are no federal regulations, plans, programs, and guidelines associated with land use and planning that are applicable to the Project.

3.12.2.2 State

There are no State regulations, plans, programs, and guidelines associated with land use and planning that are applicable to the Project.

3.12.2.3 Local

Oroville 2030 General Plan: The Oroville 2030 General Plan contains several goals and policies relating to land use and planning; however, none are relevant to this Project's CEQA review.

3.12.3 Impact Assessment

a) **Would the project physically divide an established community? and,**

b) **Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?**

No Impacts. The existing WWTP has provided municipal wastewater treatment services to the community of Oroville and surrounding areas since its establishment in 1959. The Project does not involve the development of habitable structures or the conversion of land use. Surrounding lands consist primarily of vacant lots and

industrial uses. The Project would not physically divide any established community or conflict with any applicable plans, policies, ordinances, or regulations. There would be no impact.

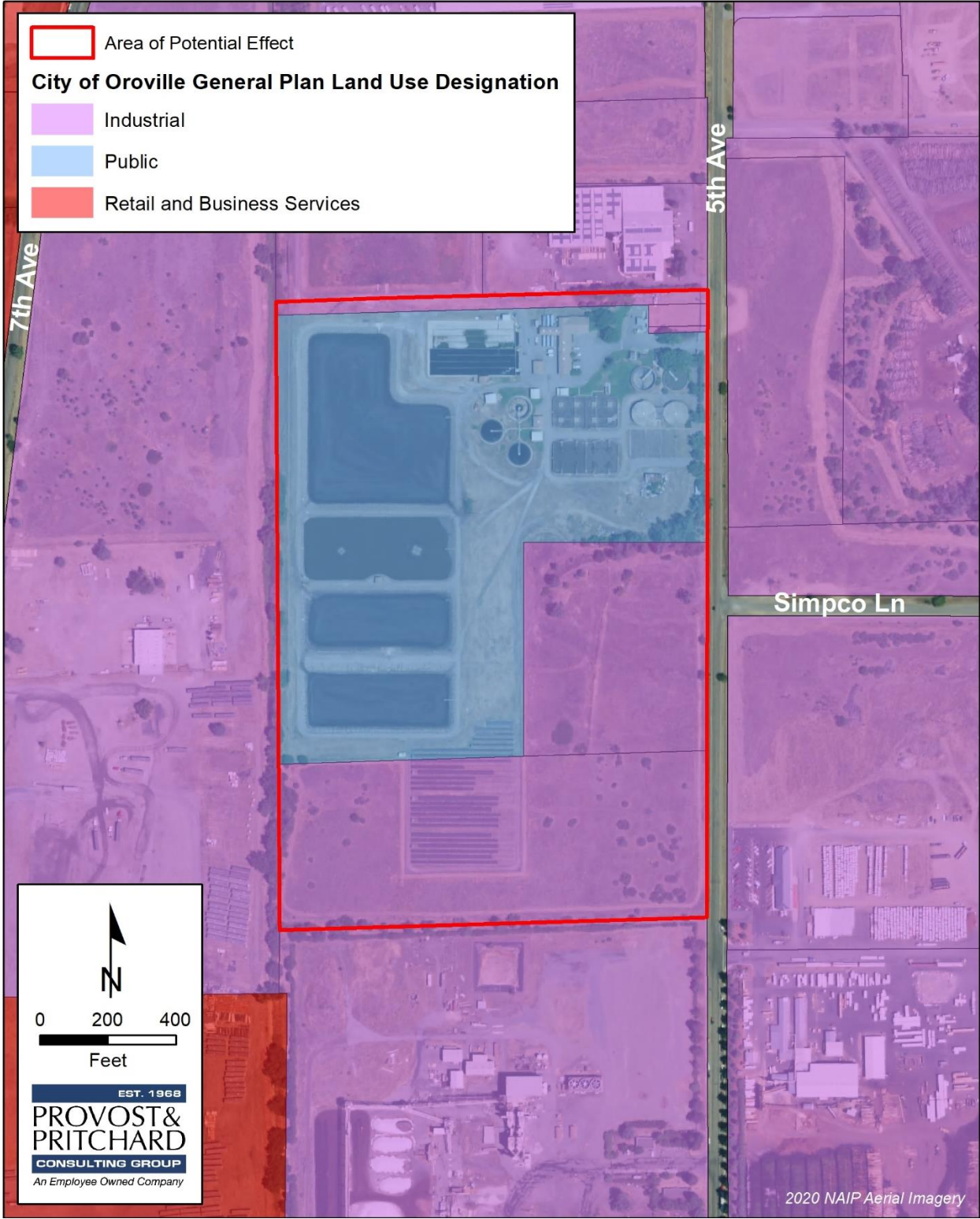


Figure 3-8. General Plan Land Use Designation Map

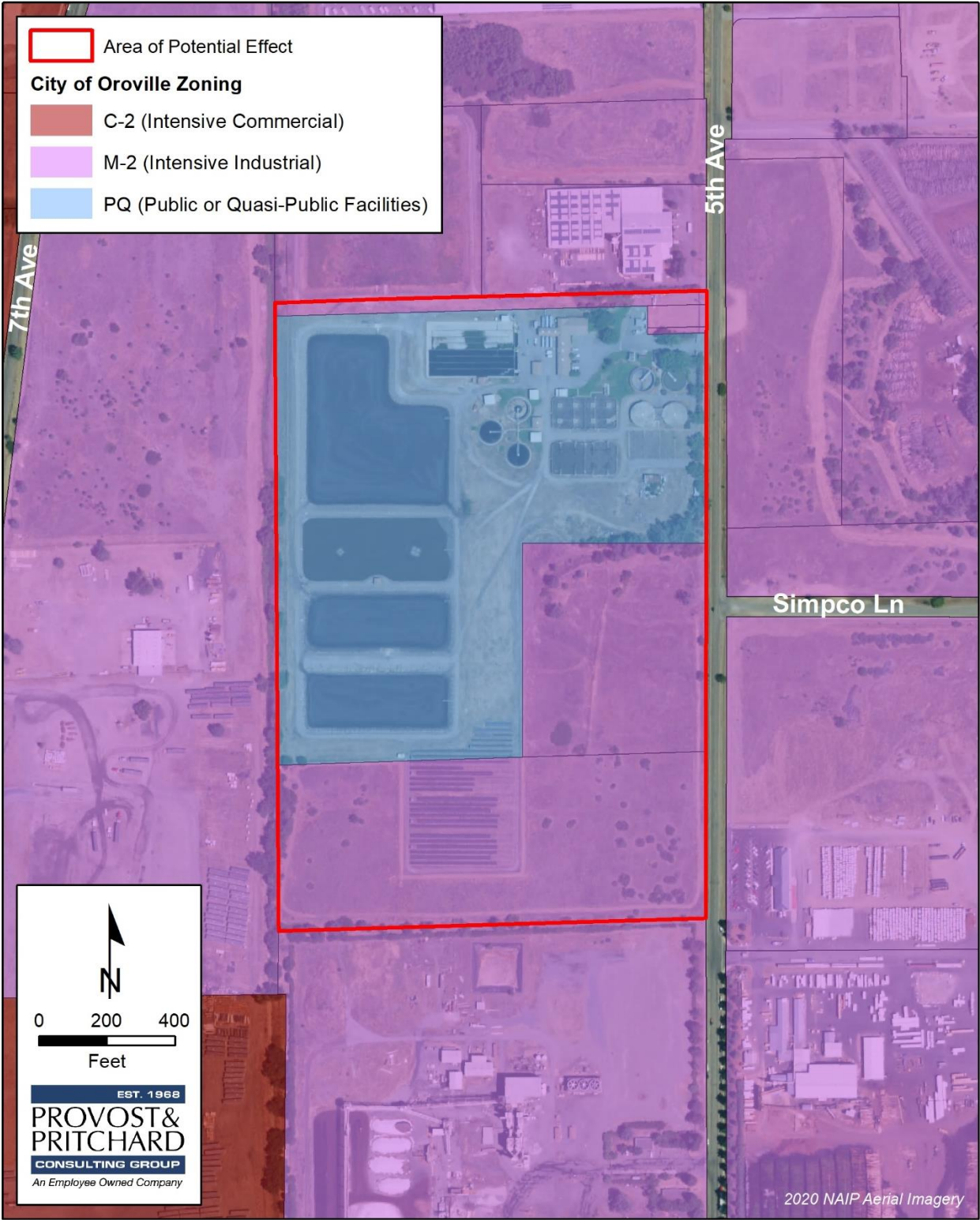


Figure 3-9. Zone District Map

3.13 Mineral Resources

Table 3-19. Mineral Resources Impacts

Mineral Resources				
Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.13.1 Environmental Setting

Oroville was settled in 1849, at the height of the California Gold Rush, after the discovery of gold along the Feather River. Early miners recovered gold from the area by hand using picks, shovels, and gold pans. Towards the end of the 19th century, dredging became the preferred method for extracting minerals. Despite its historical importance, gold mining has dwindled and been replaced by sand and gravel operations.

Oroville is located with Butte County’s central “gravel belt,” a region characterized by the collection of sediment that has been washed down from the Sierra Nevada to the slower waters of the valley, like the Feather River. Gravel and sand are primarily valued as a construction material, although they are also mined for silica, which is used as an abrasive in toothpaste, cleansers, and fiberglass.

3.13.2 Regulatory Setting

3.13.2.1 Federal

There are no federal regulations, plans, programs, and guidelines associated with mineral resources that are applicable to the Project.

3.13.2.2 State

There are no State regulations, plans, programs, and guidelines associated with mineral resources that are applicable to the Project.

3.13.2.3 Local

Oroville 2030 General Plan: The Oroville 2030 General Plan contains several goals and policies relating to mineral resources; however, none are relevant to this Project’s CEQA review.

3.13.3 Impact Assessment

- 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? and,
- 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 Impacts. The California Geological Survey Division of Mines and Geology has not classified the Project site as a Mineral Resource Zone under the Surface Mining and Reclamation Act. California's Division of Oil, Gas and Geothermal Resources has no records of active oil or gas wells on the Project site. No known mineral resources are present within the Project area. Therefore, implementation of the Project would not result in the loss of availability of a known mineral resource since no known mineral resources occur in this area. There would be no impact.

3.14 Noise

Table 3-20. Noise Impacts

Noise				
Would the project result in:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a) Generation of a substantial temporary or permanent noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Generation of excessive ground borne vibration or ground borne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.14.1 Environmental Setting

The Project involves improvements to an existing WWTP, within the South Oroville Industrial District. The surrounding vicinity is comprised predominantly of vacant lots, machine shops, and other industrial uses. The existing WWTP is located approximately 0.5 mile east of State Route 70 and 0.4 mile west of the Union Pacific Railroad.

Typical noise around the Project area are associated with industrial practices, as well as traffic. Major mobile noise sources in the City of Oroville include vehicular traffic, trains, and aircraft. Industrial processes involving large scale mechanical equipment and the associated operation of trucks can also be a substantial source of noise. The City's daytime noise compatibility standard for non-transportation sources is 50 dBA.

3.14.2 Regulatory Setting

3.14.2.1 Federal

There are no federal regulations, plans, programs, and guidelines associated with noise that are applicable to the Project.

3.14.2.2 State

There are no State regulations, plans, programs, and guidelines associated with noise that are applicable to the Project.

3.14.2.3 Local

Oroville 2030 General Plan³⁸: According to the Noise Element of the Oroville 2030 General Plan, Table NOI-7, a noise impact from a non-transportation source would be considered significant if the Project exposes noise-

³⁸ Oroville 2030 General Plan. Noise Element. <http://www.cityoforoville.org/home/showdocument?id=12189> Accessed 12 November 2018.

sensitive land uses, such as residential homes, playgrounds, or parks to exterior noise levels in excess of 70 dB during daytime hours (7:00 am – 10:00 pm) or 65 dB during nighttime hours (10:00 pm – 7:00 am).

The Oroville 2030 General Plan sets forth the following goals and policies relating to noise, and which have potential relevance to the Project’s CEQA review:

Goal NOI-1: Minimize community exposure to excessive noise by ensuring compatible land uses relative to noise sources.

Policy P1.1: Include noise considerations in land use planning, transportation planning and project design decisions.

Policy P1.7: Only allow land uses to exceed the noise exposure standards in Tables NOI-6 and NOI-7 if the proposed use can be shown to serve the greater public interests of the citizens of Oroville.

Goal NOI-2: Reduce noise levels from sources such as domestic uses, construction, and mobile sources including motor vehicles and traffic.

Policy P2.2: Enforce provisions of the Community Noise Ordinance, which limits maximum permitted noise levels that cross property lines and impact adjacent land uses.

Policy P2.3: Limit noise generating construction activities located within 1,000 feet of residential uses to daytime hours between 7:00 am and 6:00 pm on weekdays and non-holidays.

Policy P2.4: Require the following standard construction noise control measures to be included as requirements at construction sites in order to minimize construction noise impacts:

- Equip all internal combustion engine driven equipment with intake and exhaust mufflers that are in good condition and appropriate for the equipment.
- Locate stationary noise generating equipment as far as possible from sensitive receptors when sensitive receptors adjoin or are near a construction project area.
- Utilize “quiet” air compressors and other stationary noise-generating equipment where appropriate technology exists and is feasible.
- The project sponsor shall designate a “noise coordinator” who would be responsible for responding to any local complaints about construction noise. The noise coordinator will determine the cause of the noise complaint (e.g. starting too early, bad muffler) and will require that reasonable measures warranted to correct the problem be implemented. The project sponsor shall also post a telephone number for excessive noise complaints in conspicuous locations in the vicinity of the project site. Additionally, the project sponsor shall send a notice to neighbors in the project vicinity with information on the construction schedule and the telephone number for noise complaints.

Policy P2.6: Support efforts to reduce vehicle and equipment noise, e.g. through fleet and equipment modernization or retrofits, use of alternative fuel vehicles and installation of mufflers or other noise reducing equipment.

Oroville Municipal Code³⁹: Chapter 9.20 of the Oroville Municipal Code contains the Noise Ordinance which places limits on noise levels and hours of construction.

3.14.3 Impact Assessment

a) Would the project result in generation of in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Less than Significant Impact. The construction phase of the Project would involve temporary noise sources, originating predominantly from off-road equipment such as backhoes, tractors, and excavators. Construction would be limited to daytime hours and noise generated would not exceed the standards established in the Noise Element of the Oroville 2030 General Plan or the Community Noise Ordinance. The Project is located within the South Oroville Industrial District in an area accustomed to noises associated with heavy machinery and industrial processes. Implementation of the Project would involve the continued operation of the existing WWTP by current staff and would not generate significant new noise. Any impacts would be mild and temporary, and therefore, less than significant.

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

Less than Significant Impact. The construction phase of the Project is expected to include excavation and grading, both of which have potential to produce ground borne noises or ground borne vibration. However, as mentioned above in Impact Assessment a), the Project is located in an area accustomed to noises associated with heavy machinery, commercial truck traffic, and industrial processes. Furthermore, construction would be temporary, and the noises generated onsite would not vary substantially from existing noise conditions created by industrial processes in the vicinity. Operation of the Project does not involve any processes expected to generate ground borne vibration or ground borne noise levels. Any impacts would be temporary and 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? and,

No Impact. The Project is not located within an airport land use plan or within two miles of a public airport or public use airport. The nearest airport to the Project is the Oroville Municipal Airport, located approximately 2.3 miles west of the site. There would be no impact.

³⁹ Oroville Municipal Code. <http://qcode.us/codes/oroville/> Accessed 12 November 2018.

3.15 Population and Housing

Table 3-21. Population and Housing Impacts

Population and Housing				
Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.15.1 Environmental Setting

The Project's setting is an existing WWTP, surrounded by ruderal vacant lots and industrial uses in the southern portion of Butte County in the Sacramento Valley, and more specifically, within the City of Oroville's South Oroville Industrial District. Although much of the Industrial District is undeveloped, with an expanse of vacant lots that are not served by utility connections or public streets, land uses in the vicinity include a variety of industrial businesses, such as machine rental shops, lumber yards, and metal shops. South Oroville Industrial District also includes some commercial businesses unrelated to industrial use, such as Feather River Cinemas, as well as several historic cemeteries. The site is zoned M-2 (Intensive Industrial) and PQ (Public Quasi Public). Corresponding General Plan land use designations for the site are Industrial and Public.

The population of the City of Oroville, according to 2020 Census data, was 20,042 people, an increase in of 4,496 people since 2010. As of 2016 to 2020, there was an estimated average of 6,591 households with 2.73 persons per household.⁴⁰

3.15.2 Regulatory Setting

3.15.2.1 Federal

There are no federal or State regulations, plans, programs, and guidelines associated with population or housing that are applicable to the Project.

3.15.2.2 State

There are no federal or State regulations, plans, programs, and guidelines associated with population or housing that are applicable to the Project.

3.15.2.3 Local

Oroville 2030 General Plan: The Oroville 2030 General Plan sets forth several goals and policies relating to population and housing, none of which are relevant to this Project's CEQA review.

⁴⁰ U.S. Census Quick Facts Data. <https://www.census.gov/quickfacts/fact/table/orovillecitycalifornia,US/PST045221> Accessed 4 April 2020.

3.15.3 Impact Assessment

a) Induce substantial 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)?

No Impact. The Project does not propose additional housing or any related habitable housing infrastructure nor serve to promote population growth. Therefore, the Project would not encourage population growth directly or indirectly beyond that previously analyzed by the Census Bureau.

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

No Impact. The Project would not encourage population growth directly or indirectly. No housing or habitable structures would be built, nor will any be removed. Implementation of the Project would not result in displacement of people or existing housing. Therefore, there would be no impact.

3.16 Public Services

Table 3-22. Public Services Impacts

Public Services				
Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.16.1 Environmental Setting

Fire Protection: The Project area is served by the City of Oroville Fire Department, which is comprised one station at 2055 Lincoln Street, approximately 1.5 miles north-northeast of the Project site. However, the California Department of Forestry and Fire Protection/ Butte County Fire Department and El Medio Fire Protection District provide additional emergency services as part of an Automatic Aid Agreement with the City of Oroville Fire Department. The Oroville Fire Department, which is comprised one station at 2055 Lincoln Street, approximately 1.9 miles north-northeast of the Project site.

Police Protection: Police protection is provided by the City of Oroville Police Department, which is comprised of one station at 2055 Lincoln Street, approximately 1.5 miles north-northeast of the Project site.

Schools: The City of Oroville is served by three elementary school districts: Oroville City Elementary, Thermalito Union, Palermo Union; and two unified school districts: Oroville Union High, and Biggs Unified. The Project site is located within the Oroville City Elementary School District and the Oroville Union High School District. The nearest school to the Project is Oakdale Heights Elementary School, which is located approximately 1.0 mile south-southeast of the site.

Parks: The Oroville Parks Commission has adopted a standard of providing a minimum of three acres of neighborhood and community parks per 1,000 residents. Oroville has many recreational open space resources that are protected by State agencies or conservation trusts. For instance, the 12,000-acre Oroville Wildlife Refuge, which intersects the Oroville City limits, is a riparian forest that serves both as habitat and as a recreational destination for hiking, bird watching, canoeing, fishing, and seasonal hunting. Regional and State parks offer additional open space preserves and recreational wildlife-viewing opportunities. The City of Oroville

Department of Parks and Trees works with the Feather River Recreation and Park District and the California Department of Parks and Recreation to coordinate open space corridor connections where possible and provide regional recreation opportunities in the Oroville area. The largest park in the City is the 210-acre Riverbend Park, which is located along the Feather River. Riverbend Park includes four pavilions, public restrooms, paved trails, play areas, dog park, boat dock, and fishing ponds. The park is currently undergoing major restorations after many of its facilities were damaged during the Oroville Spillway Incident in 2017.

Riverbend Park, which includes the Pat Alley Memorial Dog Park, is the nearest park, located approximately 1.2 miles north-northwest of the Project site.

Landfills: The nearest landfill to the Project site is the Neal Road Recycling and Waste Facility, located approximately 15.5 miles to the north-northwest.

3.16.2 Regulatory Setting

3.16.2.1 Federal

There are no federal or State regulations applicable to this Project.

3.16.2.2 State

There are no federal or State regulations applicable to this Project.

3.16.2.3 Local

Oroville 2030 General Plan: The Oroville 2030 General Plan sets forth several goals and policies relating to public services, none of which are relevant to this Project's CEQA review.

3.16.3 Impact Assessment

a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

No Impact. The Project would not require the addition or alteration of any public services. The site is within the City of Oroville and would utilize existing services provided by the City. There would be no impact.

Fire Protection – The existing WWTP would continue to be served by the City of Oroville Fire Department, which is comprised one station at 2055 Lincoln Street, approximately 1.9 miles north-northeast of the Project site, and the California Department of Forestry and Fire Protection/ Butte County Fire Department and El Medio Fire Protection District would continue to provide additional emergency services as part of an Automatic Aid Agreement with the City of Oroville Fire Department. The existing WWTP is currently equipped with fire hydrants and fire extinguishers. Furthermore, all site improvements related to fire protection would be performed pursuant to the Uniform Fire Code and NFPA 820: Standard for Fire Protection in Wastewater Treatment Collection Facilities. There would be no impact to public fire services.

Police Protection – The City of Oroville Police Department would continue to provide police protection to the existing WWTP upon implementation of the proposed improvements. Emergency response is adequate to the Project site. The closest police station is located at 2055 Lincoln Street, approximately 1.5 miles north-northeast of the Project site. No residential or office construction is proposed for this Project and no additional police protection would be required. There would be no impact.

Schools – The nearest school to the Project is Oakdale Heights Elementary School, which is located approximately 1.0 mile south-southeast of the site. The Project would not result in an increase of population that would require additional school facilities; therefore, there would be no impact.

Parks and other public facilities –As the Project would not induce population growth, directly or indirectly, the Project would not create a need for additional park or recreational services. Riverbend Park, which includes the Pat Alley Memorial Dog Park, is the nearest park, located approximately 1.2 miles north-northwest of the Project site. No parks or additional public facilities would be impacted by this Project.

3.17 Recreation

Table 3-23. Recreation Impacts

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

3.17.1 Environmental Setting

The Oroville Parks Commission has adopted a standard of providing a minimum of three acres of neighborhood and community parks per 1,000 residents. Oroville has many recreational open space resources that are protected by State agencies or conservation trusts. For instance, the 12,000-acre Oroville Wildlife Refuge, which intersects the Oroville City limits, is a riparian forest that serves both as habitat and as a recreational destination for hiking, bird watching, canoeing, fishing, and seasonal hunting. Regional and State parks offer additional open space preserves and recreational wildlife-viewing opportunities. The City of Oroville Department of Parks and Trees works with the Feather River Recreation and Park District and the California Department of Parks and Recreation to coordinate open space corridor connections where possible and provide regional recreation opportunities in the Oroville area. The largest park in the City is the 210-acre Riverbend Park, which is located along the Feather River. Riverbend Park includes four pavilions, public restrooms, paved trails, play areas, dog park, boat dock, and fishing ponds. The park is currently undergoing major restorations after many of its facilities were damaged during the Oroville Spillway Incident in 2017.

Riverbend Park, which includes the Pat Alley Memorial Dog Park, is the nearest park, located approximately 1.2 miles north-northwest of the Project site.

3.17.2 Regulatory Setting

3.17.2.1 Federal

There are no federal, State or local regulations, plans, programs, or guidelines associated with recreation that are applicable to the Project.

3.17.2.2 State

There are no federal, State or local regulations, plans, programs, or guidelines associated with recreation that are applicable to the Project.

3.17.2.3 Local

There are no federal, State or local regulations, plans, programs, or guidelines associated with recreation that are applicable to the Project.

3.17.3 Impact Assessment

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

No Impact. The Project involves improvements to an existing WWTP. No population growth would be associated with the Project, and therefore, it would not increase the demand for recreational facilities or put a strain on the existing recreational facilities. There would be no impact.

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

No Impact. The Project does not include recreational facilities. As there is no population growth associated with the Project, construction or expansion of nearby recreational facilities would not be necessary. There would be no impact.

3.18 Transportation

Table 3-24. Transportation Impacts

Transportation				
Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that result in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

3.18.1 Environmental Setting

Oroville’s existing roadway system serves local and regional travel, with local streets primarily serving residential commuter trips and Highways 70 and 162 serving regional travel. Traffic congestion typically occurs on arterials and collectors. Highways 70 and 162 are the primary transportation corridors extending through Oroville. Highway 162 serves regional travel to Highway 99 to the west and local trips to and from the commercial businesses along the transportation corridor.

The Oroville General Plan calculates the Level of Service (LOS) for each roadway in the circulation system in order to evaluate the quality of existing traffic conditions. LOS is a general measure of traffic operating conditions, which assigns as letter grade from A (least congested) to F (most congested). LOS A represents

free-flow travel with an excellent level of comfort, convenience, and freedom to maneuver. LOS F exists when the volume of traffic exceeds the capacity of the roadway, often resulting in a bottleneck or stop-and-go traffic.⁴¹

The existing WWTP located in the South Oroville Industrial District. Primary access to the site would be through the entrance on South Fifth Avenue, which is approximately 0.6 miles east of State Route 70 and 0.4 miles west of the Union Pacific Railroad. South Fifth Avenue is a two-lane collector street with a Level of Service of D, which represent high-density, but stable flow. Construction access will be provided by a construction driveway from South Fifth Avenue just south of the plant facilities within the APE.

Vehicle miles traveled (VMT) Travel to and from the site after the Project is completed would remain consistent with baseline VMT since the Project does not propose any new habitable structures or an increase in operational or maintenance staff as a result of the Project. VMT traveled may increase slightly during construction related to contractor employee and equipment trips, however, this slight increase would be transient and temporary, and as noted above VMT would return to baseline existing conditions after construction is complete.

3.18.2 Regulatory Setting

3.18.2.1 Federal

There are no federal laws or regulations that apply to the Project.

3.18.2.2 State

There are no State laws or regulations that apply to the Project.

3.18.2.3 Local

Oroville 2030 General Plan: The Oroville 2030 General Plan sets forth several goals and policies relating to transportation and traffic, none of which are relevant to this Project's CEQA review.

3.18.3 Impact Assessment

a) Would the project 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 10564.3, subdivision (b)?

Less than Significant Impact. The Project involves improvements to an existing WWTP located in the South Oroville Industrial District. Primary access to the site would be through the entrance on Fifth Avenue, which is approximately 0.6 miles east of State Route 70 and 0.4 miles west of the Union Pacific Railroad. Fifth Avenue is a two-lane collector street with a Level of Service of D, which represent high-density, but stable flow. Construction traffic associated with the Project would be minimal and temporary, lasting approximately 18 months. Although construction would temporarily result in an increase in worker vehicle trips, Project activities do not propose any lane closures or traffic diversions. Operations would not require additional staffing or maintenance, and therefore operational traffic will be unchanged from existing conditions. There would not be a significant adverse effect to existing roadways in the area.

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

Less than Significant Impact. The Project does propose a new access road that would be paved and traverse around the north side of existing main plant building. The design and construction of this access road would

⁴¹ City of Oroville General Plan. <http://www.cityoforoville.org/home/showdocument?id=12188> Accessed 9 November 2018.

not increase hazards to to any unordinary features such as sharp curves or dangerous intersections. Any impacts would be considered less than significant.

d) Would the project result in inadequate emergency access?

Less than Significant Impact. The Project proposes to construct a new access road that would be paved and traverse around the north side of existing main plant building, however no existing main roads would be modified as part of the Project that would result in inadequate emergency access in the surrounding areas. Although construction would temporarily result in an increase in worker vehicle trips, Construction traffic associated with the Project would be minimal and temporary, lasting approximately 18 months. Furthermore, Project activities do not propose any lane closures or traffic diversions that would impact emergency access. The impacts to emergency access would be considered less than significant.

3.19 Tribal Cultural Resources

Table 3-25. Tribal Cultural Resources Impacts

Tribal Cultural Resources				
Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
i. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ii. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3.19.1 Environmental Setting

The Project lies within Oroville which is the ancestral homeland of the Maidu people. The Maidu have been divided into three primary groups: the Nisenan; the Mountain Maidu; and the KonKow. The KonKow continued to reside in the Oroville area at the time of Euro-American contact and were likely the final native occupants of lands within the Project area. Villages were most intensely occupied during winter months and frequently located on flats adjoining streams and on ridges above rivers and creeks. The Oroville area provided an abundance of year-round food sources in the form of seasonal harvests as well as hunting, gathering, and fishing.

Upon the discovery of gold, there was a rapid influx of Euro-Americans and native tribal populations dwindled. Disturbance caused by dredging and other intensive mining techniques substantially affected pre-historic sites in the area.

Presently, the most common type of prehistoric site found in Oroville and surrounding areas are milling stations, followed by temporary campsites, habitation sites, burial locations, and rock features. There have been 33 prehistoric sites recorded within the Oroville area, including two known Native American burials.⁴²

3.19.1.1 Records Search

A records search from the NEIC of CHRIS, located at California State University, Chico was conducted in January 2020. The NEIC records search includes a review of all recorded archaeological and built-environment

⁴² Oroville 2030 General Plan. <http://www.cityoforoville.org/home/showdocument?id=12188> Accessed 12 December 2018.

resources as well as a review of cultural resource reports on file. In addition, the California Points of Historical Interest (SPHI), the California Historical Landmarks (SHL), the California Register of Historical Resources (CAL REG), the NRHP, and the California State Built Environment Resources Directory (BERD) listings were reviewed for the above referenced APE and an additional ¼-mile radius. Due to the sensitive nature of cultural resources, archaeological site locations are not released. ([Appendix C](#)).

In addition to the official records and maps for archaeological sites and surveys in Butte County, the following historic references were also reviewed: Historic Property Data File for Butte County (OHP 2012); The National Register Information System (National Park Service [NPS] 2020); Office of Historic Preservation, California Historical Landmarks (OHP 2020); California Historical Landmarks (OHP 1996 and updates); California Points of Historical Interest (OHP 1992 and updates); Directory of Properties in the Historical Resources Inventory (1999); Caltrans Local Bridge Survey (Caltrans 2019); Caltrans State Bridge Survey (Caltrans 2018); and Historic Spots in California (Kyle 2002). Further discussion and details of the research efforts and references can be found in [Appendix C](#)

3.19.1.2 Native American Outreach

The NAHC in Sacramento was also contacted in January 2020. They were provided with a brief description of the Project and a map showing its location and requested that the NAHC perform a search of the Sacred Lands File to determine if any Native American resources have been recorded in the immediate APE. The NAHC identifies, catalogs, and protects Native American cultural resources -- ancient places of special religious or social significance to Native Americans and known ancient graves and cemeteries of Native Americans on private and public lands in California. The NAHC is also charged with ensuring California Native American tribes' accessibility to ancient Native American cultural resources on public lands, overseeing the treatment and disposition of inadvertently discovered Native American human remains and burial items, and administering CalNAGPRA, among many other powers and duties. NAHC provide a current list of Native American Tribal contacts to notify of the project. The four tribal representatives identified by NAHC were contacted in writing via United States Postal Service in a letter mailed January 15, 2020, informing each Tribe of the Project. A follow up call was made February 4, 2020. Further discussion and details of the outreach efforts can be found in [Appendix C](#).

3.19.1.3 Field Survey

On January 23, 2020, ECORP conducted an initial intensive pedestrian survey under the guidance of the Secretary of the Interior's Standards for the Identification of Historic Properties (NPS 1983) using transects spaced 15 meters apart. An additional intensive pedestrian survey of the expanded APE was conducted on August 4, 2021 (See [Appendix C](#)). During both surveys, the ground surface was examined for indications of surface or subsurface cultural resources. The general morphological characteristics of the ground surface were inspected for indications of subsurface deposits that may be manifested on the surface, such as circular depressions or ditches. Whenever possible, the locations of subsurface exposures caused by such factors as rodent activity, water or soil erosion, or vegetation disturbances were examined for artifacts or for indications of buried deposits. No subsurface investigations or artifact collections were undertaken during the pedestrian survey. The field methods employed for the pedestrian survey and impact evaluations are described in detail and the full report can be found in [Appendix C](#).

3.19.1.4 Project Site Existing Conditions

The Project area consists entirely of the existing WWTP. The ground surface has been heavily disturbed by previous grading and the development of existing facilities. No archaeological resources were identified by the ECORP archaeologists during their field surveys. The origin of all existing structures can be traced to 1959-1961 or 1974 to present. Original structures, constructed during 1959-1961, were evaluated for historical significance, and according to the Cultural Resources Inventory Reports ([Appendix C](#)), none of the existing structures were deemed eligible for inclusion in the California Register of Historical Resources under any of

the relevant criteria. No part of the site is considered a significant historical resource or unique archaeological resource.

3.19.2 Regulatory Setting

3.19.2.1 Federal

There are no federal regulations, plans, programs, or guidelines associated with tribal cultural resources that are applicable to the Project.

3.19.2.2 State

Assembly Bill 52 (PRC Section 21080.3.1): The Project is subject to consultation with California Native American Indian Tribes, if required pursuant to California Public Resources Code Section 21080.3.1 (AB 52). The PRC requires the lead agency must, within 14 days of determining that an application for a project is complete, notify any California Native American Tribe in writing that has previously requested such notification about the project from the lead agency and inquire whether the Tribe wishes to initiate formal consultation. Tribes have 30 days from receipt of said notification to request formal consultation; tribal consultation is required only with those tribes that formally request consultation, in writing. The lead agency then has 30 days to initiate the consultation, which then continues until the parties come to an agreement regarding necessary mitigation for impacts to Tribal Cultural Resources or agree that no mitigation is needed, or one or both parties determine that negotiation occurred in good faith, but no agreement will be made.

As mentioned above in **Section 3.19.1.3**, four local Tribes, as identified by NAHC, were contacted in writing by ECORP Consulting in January 2020. The Mooretown Rancheria of Maidu Indians sent a response letter indicating that they wanted to be notified in the event there were tribal cultural resources found on the Project site. The three tribes that did not respond to the written contact were telephoned in February 2020. No additional comments were received.

California Environmental Quality Act (PRC 21000, *et seq.*) and the CEQA Guidelines (CCR Title 14, Chapter 3, Section 15000. *et seq.*):

CEQA is applicable to discretionary actions by State or local lead agencies. Under CEQA, lead agencies must analyze impacts to cultural resources, generally (see Section 3.6) and Tribal Cultural Resources (TCR), specifically (this section) which analyzes impacts to tribal cultural resources directly related to California Native American Tribes geographically affiliated with the Project area. The distinction for TCR analysis versus the broader topic of “Cultural” impacts in Section 3.5 is that TCRs are described as a site, feature, place, or cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with tribal cultural values specific to a California Native American Tribe.

3.19.2.3 Local

There are no local regulations, plans, programs, or guidelines associated with tribal cultural resources that are applicable to the Project.

3.19.3 Impact Assessment

- a) **Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:**

a-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)? and,

a-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, the lead agency shall consider the significance of the resource to a California Native American tribe?

Less than Significant Impact with Mitigation Incorporated. SC-OR, as a public lead agency, has not received any formal requests for notification from any State tribes, pursuant to AB52. Nonetheless cultural resources inventories/pedestrian surveys/cultural evaluation reports for the Project area, were conducted by qualified archaeological consultants: ECORP in December of 2019 with subsequent updating in February 2021. A record search at the Northeast Center of the California Historical Resources Information System, California State University, Chico. In addition, a record search of the NAHC Sacred Lands File were also conducted by ECORP, which resulted in declarations that no sacred sites or tribal cultural resources are known to exist within the Project site or in the vicinity.

In addition to the searches of the Sacred Lands File, NAHC provided each a list of local Native American Tribes. A list of four local Native American Tribes to ECORP in November 2019. These tribes are anticipated by NAHC to have knowledge of cultural resources specific to each tribe in the vicinity of the Project.

The NAHC provided the following list of four Native American Tribes to ECORP on January 8, 2020. The following four tribes were contacted by ECORP in a letter dated January 15, 2020.

1. *KonKow Valley Band of Maidu, Jessica Lopez, Chairperson*
2. *Mechoopda Indian Tribe, Dennis Ramirez, Chairperson*
3. *Mooretown Rancheria of Maidu Indians, Guy Taylor*
4. *Mooretown Rancheria of Maidu Indians, Benjamin Clark, Chairperson*

ECORP Consulting received one comment letter from the Mooretown Rancheria Tribe requesting they be notified in the event any information, human remains or other tribal cultural items are found so they can process them according to tribal custom. A copy of Tribal correspondence can be found within the Cultural Resources Inventory Survey prepared by ECORP (**Appendix C**).

No archaeological resources were identified as documented in either of the cultural surveys/evaluations contained in **Appendix C**. Therefore, it is concluded, barring evidence to the contrary, that there is little or no chance the Project will cause a substantial adverse change to the significance of a tribal cultural resource as defined.

3.19.3.1 Mitigation

In the event potential tribal cultural resources or suspected tribal human remains are discovered during site disturbing activities it is recommended that Mitigation Measures **CUL-1a, b, and c**, described above in Section **3.6**, would mitigate potential impacts to less than significant.

3.20 Utilities and Service Systems

Table 3-26. Utilities and Service Systems Impacts

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

3.20.1 Environmental Setting

The Project site is located within the City of Oroville, Butte County, which is served by the existing WWTP. The site and surrounding area is essentially fully developed with urban residential, commercial and industrial uses. The site is already served by existing utility services as described below.

3.20.1.1 Water Supply

The Project site is located within the northern portion of the Wyandotte Creek subbasin of the Sacramento Valley Groundwater Basin, as defined by the California Department of Water Resources Groundwater Bulletin 118. Declines in groundwater basin storage and groundwater overdraft are recurring problems throughout California. Wyandotte Creek subbasin is identified by DWR as a Medium Priority subbasin.

The Project area is served by California Water Service, Oroville District, and according to the 2015 Urban Water Management Plan⁴³, “the Oroville District has surplus water in most years.” Furthermore, Cal Water, the local domestic water purveyor, has made the determination that “the combined surface water and groundwater supply of the Oroville District is projected to be able to serve all demands under all hydrologic conditions.”⁴⁴

⁴³ CalWater-Oroville. Urban Water Management Plan.

[https://www.calwater.com/docs/uwmp2015/oro/2015_Urban_Water_Management_Plan_Final_\(ORO\).pdf](https://www.calwater.com/docs/uwmp2015/oro/2015_Urban_Water_Management_Plan_Final_(ORO).pdf) Accessed 9 November 2018.

⁴⁴ Ibid.

3.20.1.2 Wastewater Collection and Treatment

The Project involves improvements to an existing WWTP intended to meet increasingly stringent waste discharge requirements. The Project would beneficially impact the City's wastewater collection and treatment and would not adversely affect the facilities.

3.20.1.3 Landfills

The closest landfill to the Project site is the Neal Road Recycling and Waste Facility located approximately 15.5 miles north-northwest of the site.

3.20.2 Regulatory Setting

3.20.2.1 Federal

Clean Water Act: The Clean Water Act (CWA) is intended to restore and maintain the chemical, physical, and biological integrity of the nation's waters (33 CFR 1251). The regulations implementing the CWA protect waters of the U.S. including streams and wetlands (33 CFR 328.3). The CWA requires states to set standards to protect, maintain, and restore water quality by regulating point source and some non-point source discharges. Under Section 402 of the CWA, the National Pollutant Discharge Elimination System (NPDES) permit process was established to regulate these discharges.

3.20.2.2 State

State Water Resources Control Board's Waste Discharge Requirement (WDR) Program: State regulations pertaining to the treatment, storage, processing, or disposal of solid waste are found in Title 27, CCR, Section 20005, *et seq.* (hereafter Title 27). In general, the Waste Discharge Requirements (WDRs) Program (sometimes also referred to as the "Non Chapter 15 (Non 15) Program") regulates point discharges that are exempt pursuant to Subsection 20090 of Title 27 and not subject to the Water Pollution Control Act. Exemptions from Title 27 may be granted for nine categories of discharges (e.g., sewage, wastewater, etc.) that meet, and continue to meet, the preconditions listed for each specific exemption. The scope of the WDRs Program also includes the discharge of wastes classified as inert, pursuant to Section 20230 of Title 27.

Assembly Bill 2882: AB 2882 relates to water conservation programs and authorizes any public entity that supplies water at retail or wholesale for the benefit of persons within the service area or area of jurisdiction of the public entity to adopt and enforce, by ordinance or resolution, a water conservation program to reduce the quantity of water used by those persons for the purpose of conserving the water supplies of the public entity.

This bill authorizes a public entity to adopt allocation-based conservation water pricing meeting certain requirements. The bill would require that revenues derived from allocation-based conservation water pricing not exceed the reasonable cost of water service, including basic costs and incremental costs, as defined.

California Green Building Standards Code: Part 11 of Title 24, CCR, is the California Green Building Standards Code, also known as the CAL Green Code. CAL Green applies to the planning, design, operation, construction, use, and occupancy of every newly-constructed building or structure on a statewide basis, including additions and alterations to existing buildings which increase the building's conditioned area, interior volume, or size. The purpose of CAL Green is to improve public health, safety, and general welfare through enhanced design and construction of buildings using concepts which reduce negative impacts and promote those principles which have a positive environmental impact and encourage sustainable construction practices.

CAL Green also specifies requirements for applications regulated by the California Building Standards Commission, California Energy Commission, Division of the State Architect, Department of Public Health, Office of Statewide Health Planning and Development, and the Department of Water Resources.

Section 5.408 of Cal Green requires a minimum of 65% of nonhazardous construction and demolition waste be recycled and/or salvaged for reuse.

3.20.2.3 Local

Oroville 2030 General Plan⁴⁵: The Oroville 2030 General Plan sets for the following goals and policies regarding utilities and service systems and which have potential relevance to the Project's CEQA review:

Policy P16.7: Encourage new development to use construction materials that have been recycled or contain recycled content.

Policy P17.7: New development shall comply with Green Building Standards adopted by the California Building Standards Commission at the time of building permit application.

Policy P6.10: Encourage the use of drought-resistant landscaping and the use of reclaimed wastewater for agriculture and landscape irrigation supply water. Ensure that all reclaimed wastewater complies with State wastewater treatment and reclamation regulations and standards.

Policy P6.11: Support all efforts to encourage water conservation by Oroville residents and businesses, and public agencies, including working with water providers, to implement water conservation programs and incentives that facilitate conservation efforts.

Goal PUB-7: Collect, treat, and dispose of wastewater in ways that are safe, sanitary, environmentally acceptable, and financially sound.

Policy P7.1: Ensure that adequate wastewater collection and wastewater treatment services continue to be available to developed properties throughout the Planning Area.

Policy P7.9: Encourage SCOR to begin planning and implementing expansions to the existing Regional Wastewater Treatment Master Plan to meet future demand for wastewater treatment generated by this General Plan at least four years prior to reaching the capacity of existing facilities.

Goal PUB-8: Collect, store, and dispose of stormwater in ways that are safe, sanitary, environmentally acceptable, and financially sound.

Policy P8.1: Use a site-specific stormwater drainage plan or the stormwater drainage master plan to be prepared under A8.1 to determine whether to require storm drainage analysis for projects within the Planning Area, and, if necessary, make storm drainage improvements a condition of development approval.

Policy P8.2: Encourage project design that minimizes the potential for wind and water erosion to occur. Where necessary, require the preparation and implementation of a soil erosion plan, including soil erosion mitigation during construction.

Policy P8.3: Encourage the utilization of Best Engineering Practices for stormwater collection and disposal.

Policy P8.9: Require installation of temporary drainage facilities as necessary during construction activities in order to adequately mitigate stormwater impacts.

⁴⁵ Oroville 2030 General Plan. <http://www.cityoforoville.org/home/showdocument?id=12187> Accessed 23 October 2018.

Goal PUB-9: Collect, store, transport, recycle and dispose of solid waste in ways that are safe, sanitary, and environmentally acceptable, while striving to reduce the overall generation of solid waste.

Policy P9.3: Reduce the use of non-biodegradable and non-recyclable materials by encouraging Oroville residents, businesses, and industries to seek waste reduction at the source, including reduced use of packaging and use of reusable, rather than disposable products.

Policy P9.4: Support innovative programs that recognize local businesses', agencies' and organizations' efforts to reduce waste.

3.20.3 Impact Assessment

a) Would the project require or result in the construction of new water or wastewater treatment or storm water drainage, electric power, natural gas or telecommunication facilities the construction or expansion of which could cause significant environmental effects?

Less than Significant Impact. The Project involves improvements to an existing WWTP and does not propose any uses that would create additional demand for domestic water, nor would the Project result in an increase in wastewater. Furthermore, the Project would not require the construction of new water or wastewater treatment facilities or the expansion of existing facilities. There is no population increase associated with Project and operations will not require additional staffing or maintenance. Therefore, Project-related impacts to water or wastewater treatment facilities would be less than significant.

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

No Impact. The Project involves improvements to the existing WWTP. The Project would have sufficient water supplies and be available to serve the project future development during normal, dry and multiple dry years. Impacts would be less than significant.

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

No Impact. The Project involves improvements to the existing WWTP. There is no population increase associated with Project and operations would not require additional staffing or maintenance. There would be no impact.

d) Would the project generate solid waste in excess of State or local standards in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

Less than Significant Impact. The construction phase of the Project would generate solid waste in the form of construction debris. However, the Project would comply with Section 5.408 of the California Green Building Standards Code, which requires a minimum of 65% of nonhazardous construction and demolition waste be recycled and/or salvaged for reuse. The operational phase of the Project would continue to produce biosolids, which are transferred to Neal Road Recycling and Waste Facility after treatment. The Project involves improvements to an existing WWTP in order to meet increasingly stringent waste discharge requirements. Operation of the proposed improvements would not increase the output of biosolids in quantity or frequency. Furthermore, operations would not require additional staffing or maintenance, and therefore solid waste associated with employees and vendors onsite would be unchanged from existing conditions. Any Project-related impacts associated with landfill capacity and solid waste disposal would be less than significant.

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

No Impact. The Project would continue to comply with all federal, State, and local statutes and regulations related to solid waste. Therefore, there would be no impact.

3.21 Wildfire

Table 3-27. Wildfire Impacts

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

3.21.1 Environmental Setting

The Project is located within the southern portion of Butte County in the Sacramento Valley within the City of Oroville and its South Oroville Industrial District. The Project site comprises the existing WWTP in the South Oroville Industrial District abutting South 5th Avenue. The Project is surrounded by land planned and zoned for industrial use. Pursuant to Government Code 51175-89, CAL FIRE identifies areas of VHFHSZ and publishes maps illustrating these locations. As shown on **Figure 3-10**, the Project site is not within such a zone.

The site does straddle Moderate and Urban Local Responsibility Zones, also shown on **Figure 3-10**. The responsibility for the prevention and suppression of fires within these zones belongs to the City Fire Department and pursuant to any mutual aid agreements with the Butte County Fire Department and CAL FIRE.

3.21.2 Regulatory Settings

3.21.2.1 Federal

There are no federal regulations, plans, programs, or guidelines associated with wildfires that are applicable to the Project.

3.21.2.2 State

Given the project is not located in a High Fire Hazard Severity Zone, there are no state regulations, plans, programs, or guidelines associated with wildfires that are applicable to the Project.

3.21.2.3 Local

Oroville 2030 General Plan⁴⁶: The Oroville 2030 General Plan sets for the following goals and policies regarding wildfires and which have potential relevance to the Project's CEQA review since the Project is not located in or near a Fire Hazard Safety Zone (FHSZ):

Policy HS-P11.1: Fire hazards shall be considered in all land use and zoning decisions, environmental review, subdivisions review and the provision of public services.

Policy HS-P11.2: Create communities that are resistant to wildfire by supporting the implementation of community wildfire protection plans and wildfire fuel load reduction measures in coordination with the appropriate government, community group, or non-profit organization and CAL FIRE.

Policy HS-P11.3: The County supports the Wildfire Mitigation Action Plan, the Butte County Local Hazard Mitigation Plan, and the Butte Unit Community Wildfire Protection Plan prepared by CAL FIRE and will cooperate with the Butte County Fire Department and the Butte County Fire Safe Council in implementing these plans.

Goal HS-11: Reduce risks from wildland and urban fire.

3.21.3 Impact Assessment

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? and,**
- 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? and,**
- 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? and,**
- 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 Impacts. The nearest FHSZ, according to CAL FIRE⁴⁷, is located approximately 1.4-miles northeast of the Project (see **Figure 3-10**). Therefore, the site is at minimal risk to wildland type fires. The existing WWTP is located within the City of Oroville's urban area of responsibility for fire suppression and prevention but is situated on a flat site that is not subject to downslope instability or landslides. The Project does not include any residential components and is not located within a flood zone (see **Figure 3-7**) that would subject it to post-fire run-off or debris flow related to flooding. The Project would be subject to local building permit approvals including compliance with the California Fire Code requirements applicable to the facilities being constructed. This impact would be less than significant.

⁴⁶ Oroville 2030 General Plan. <http://www.cityoforoville.org/home/showdocument?id=12187> Accessed 23 October 2018.

⁴⁷ CAL FIRE. Butte County FHSZ Map. http://fire.ca.gov/fire_prevention/fhsz_maps_butte Accessed 28 November 2018.

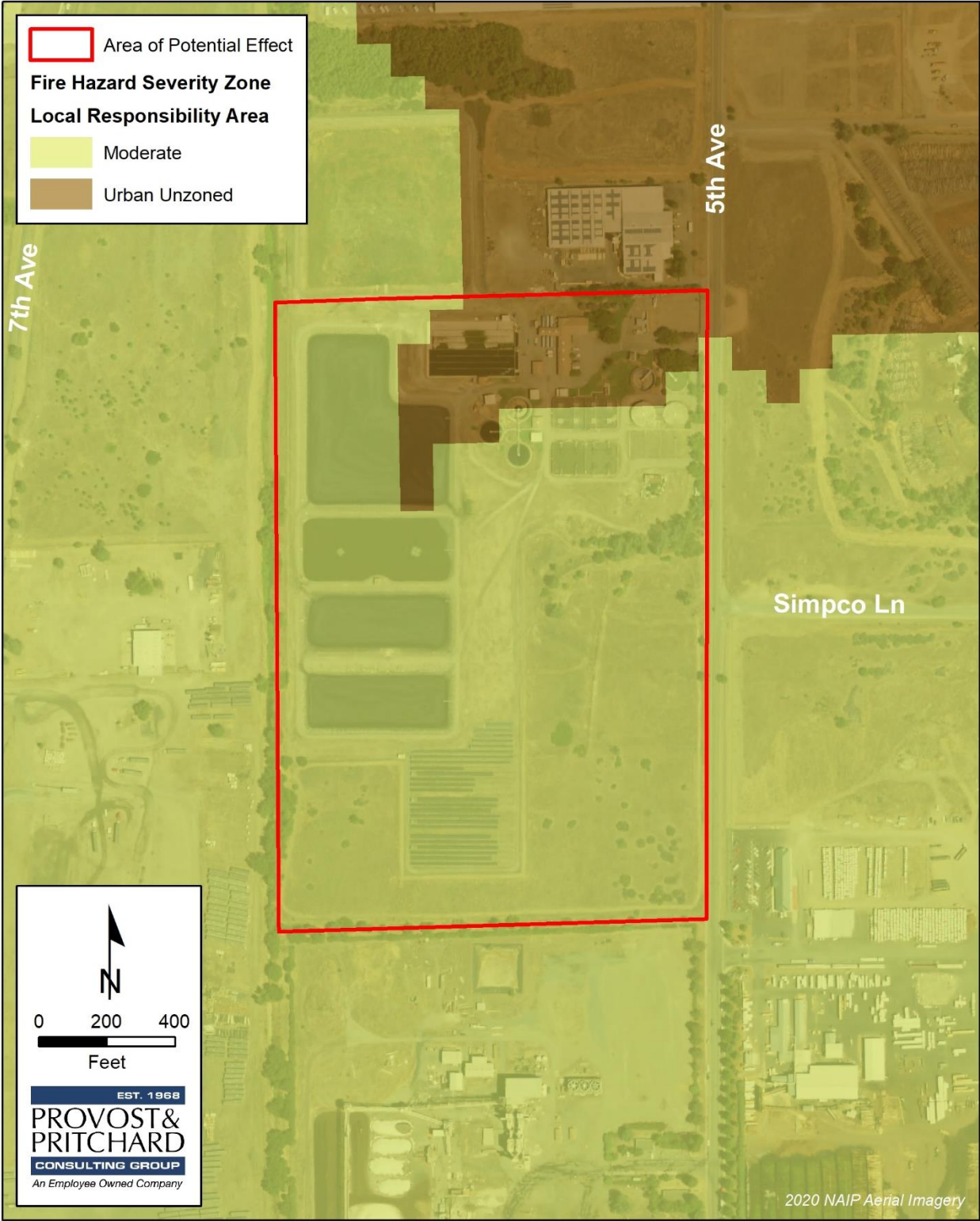


Figure 3-10. Fire Hazard Severity Zone Map

3.22 CEQA Mandatory Findings of Significance

Table 3-28. Mandatory Findings of Significance Impacts

Mandatory Findings of Significance				
Does the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a) Have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

3.22.1 Impact Assessment

- a) **Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of 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 Incorporated. The analysis conducted in this Initial Study/Mitigated Negative Declaration results in a determination that the Project, with incorporation of mitigation measures, would have a less than significant effect on the environment. The potential for impacts to biological resources and cultural resources from the implementation of the Project would be less than significant with the incorporation of the mitigation measures discussed in **Chapter 4**. Accordingly, the Project would involve no potential for significant impacts through the degradation of the quality of the environment, the reduction in the habitat or population of fish or wildlife, including endangered plants or animals, the elimination of a plant or animal community or example of a major period of California history or prehistory.

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

Less than Significant Impact. CEQA Guidelines Section 15064(i) States that a Lead Agency shall consider whether the cumulative impact of a project is significant and whether the effects of the project are cumulatively considerable. The assessment of the significance of the cumulative effects of a project must, therefore, be conducted in connection with the effects of past projects, other current projects, and probable future projects. The Project involves improvements to the existing WWTP in order to upgrade and replace aged or obsolete equipment, improve the quality of effluent discharged into the Feather River, and to reduce odors associated with the wastewater treatment process. No additional roads would be constructed as a result of the Project, nor would any additional public services be required. The Project is intended to improve the municipal wastewater treatment process and would not result in direct or indirect population growth. Therefore, implementation of the Project would not result in significant cumulative impacts and all potential impacts would be reduced to less than significant through the implementation of mitigation measures and basic regulatory requirements incorporated into future Project design.

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

Less than Significant Impact. The Project would involve improvements to the existing WWTP. The Project in and of itself would not create a significant hazard to the public or the environment. On the contrary, implementation of the Project would improve the quality of effluent discharged into the Feather River and mitigate odors associated with the wastewater treatment process. Construction-related air quality/dust exposure impacts could occur temporarily as a result of construction. However, implementation of basic regulatory requirements identified in this IS/MND would ensure that impacts are less than significant. Therefore, the Project would not have any direct or indirect adverse impacts on humans. This impact would be less than significant.

Chapter 4 Mitigation Monitoring and Reporting Program

This Mitigation Monitoring and Reporting Program (MMRP) has been formulated based upon the findings of the Initial Study/Mitigated Negative Declaration (IS/MND) for the existing SC-OR Wastewater Treatment Plant (WWTP) Upgrade Project (Project) in the City of Oroville. The MMRP lists mitigation measures recommended in the IS/MND for the proposed Project and identifies monitoring and reporting requirements.

Table 4-1 presents the mitigation measures identified for the proposed Project. Each mitigation measure is numbered with a symbol indicating the topical section to which it pertains, a hyphen, and the impact number. For example, AIR-2 would be the second mitigation measure identified in the Air Quality analysis of the IS/MND.

The first column of **Table 4-1** identifies the mitigation measure. The second column, entitled “When Monitoring is to Occur,” identifies the time the mitigation measure should be initiated. The third column, “Frequency of Monitoring,” identifies the frequency of the monitoring of the mitigation measure. The fourth column, “Agency Responsible for Monitoring,” names the party ultimately responsible for ensuring that the mitigation measure is implemented. The last columns will be used by the County to ensure that individual mitigation measures have been complied with and monitored.

Table 4-1. Mitigation Monitoring and Reporting Program

Mitigation Monitoring and Reporting Program					
Mitigation Measures	When Monitoring is to Occur	Frequency of Monitoring	Agency Responsible for Monitoring	Method to Verify Compliance	Verification of Compliance
Biological Resources					
Valley Elderberry Beetle					
BIO 1a Fencing and Avoidance Areas					
All areas to be avoided during construction activities shall be fenced and/or flagged as close to construction limits as possible. This includes the required 20-foot no-disturbance buffers around elderberry shrubs, as well as any other areas within 165 feet of the shrub clusters that may feasibly be avoided. Fencing would be inspected by a qualified biologist prior to the start of work.	Prior to construction and during construction	Daily	SC-OR		
BIO-1b Worker Education					
Prior to the start of work a qualified biologist shall provide training for all contractors, work crews, and any onsite personnel on the status of the VELB, its host plant and habitat, the need to avoid damaging the APE's elderberry shrubs, and the possible penalties for non-compliance.	Prior to the start of construction	One training prior to the start of construction	SC-OR		
BIO 1c Timing					
As much as feasible, all activities occurring within 165 feet of an elderberry shrub shall be conducted outside of the flight season of the VELB (March-July).	During construction activities	Daily from March through July	SC-OR		
BIO 1d Chemical Usage					
Throughout the operational life of the project, herbicides shall not be used within the dripline of elderberry shrubs, and insecticides shall not be used within 100 feet of an elderberry shrub. All chemicals shall be applied using a backpack sprayer or similar direct application method.	Prior to construction and during construction	Daily	SC-OR		
Burrowing Owl					
BIO-2a Take Avoidance Surveys					
Take avoidance surveys for burrowing owls shall be conducted by a qualified biologist within 30 days prior to the start of construction activities in the APE's disturbed	Within 30 days prior to the start of construction	One survey conducted within 30 days	SC-OR		

Mitigation Monitoring and Reporting Program					
Mitigation Measures	When Monitoring is to Occur	Frequency of Monitoring	Agency Responsible for Monitoring	Method to Verify Compliance	Verification of Compliance
savanna habitat. The surveys shall be conducted according to methods described in the Staff Report on Burrowing Owl Mitigation (CDFG 2012). The survey shall cover proposed work areas and adjacent lands within 200 meters, where potential nesting or roosting habitat is present ("survey area").	activities in the APE's disturbed savanna habitat.	prior to the start of construction			
BIO-2b Avoidance of Nest Burrows					
During the burrowing owl breeding season (February 1-August 31), any active nest burrows that are identified shall be avoided by a minimum distance of 200 meters. The avoidance areas shall be enclosed with temporary fencing to prevent encroachment by construction equipment and workers. Buffers shall remain in place for the duration of the breeding season, unless otherwise arranged with CDFW. After the breeding season, passive relocation of any remaining owls may take place as described below.	Prior to construction and during construction	During the burrowing owl breeding season (February 1-August 31)	SC-OR		
BIO-2c Avoidance or Passive Relocation of Resident Owls					
During the non-breeding season (September 1-January 31), resident owls occupying burrows in the APE's disturbed savanna habitat shall either be avoided or passively relocated to alternative habitat. If avoidance is elected, a 50-meter no-disturbance buffer shall be established around the occupied burrows, to remain in place until a qualified biologist determines that the burrows are no longer active. If the applicant chooses to passively relocate resident owls, this activity shall be conducted in accordance with a relocation plan prepared by a qualified biologist.	Prior to construction and during construction	During the non-breeding season (September 1-January 31)	SC-OR		
Nesting Raptors and Migratory Birds					
BIO-3a: Avoidance of Nesting Birds					
In order to avoid impacts to nesting raptors and migratory birds, construction shall occur, where possible, outside the nesting season, or between September 1st and January 31st.	During construction activities	Daily, during construction activities	SC-OR	Written record of starts/stops/resumptions of all construction periods.	

Mitigation Monitoring and Reporting Program					
Mitigation Measures	When Monitoring is to Occur	Frequency of Monitoring	Agency Responsible for Monitoring	Method to Verify Compliance	Verification of Compliance
BIO-3b: Pre-Construction Nesting Bird Survey					
If construction must occur during the nesting season (February 1 – August 31), a qualified biologist shall conduct pre-construction surveys for active raptor and migratory bird nests within 30 days of the onset of these activities. Nest surveys shall include all areas on and within 500 feet of the APE, where accessible. If no active nests are found within the survey area, no further mitigation is required.	Within 30 days prior to the start of work performed from February 1 to August 31	Once at the beginning of any construction and again after any 30-day period of construction suspension.	SC-OR	Written documentation by qualified biologist submitted to and approved by SCOR.	
BIO-3c: Establish Buffers					
Should any active nests be discovered in or near proposed construction zones, the biologist would identify a suitable construction-free buffer around the nest. This buffer would be identified on the ground with flagging or fencing and would be maintained until a qualified biologist has determined that the young have fledged.	On discovery of active nests	Once, per nest	SC-OR	Written documentation by qualified biologist submitted to and approved SCOR	
Roosting Bats including the Townsend's Big-eared Bat					
BIO 4a Temporal Avoidance					
To avoid potential impacts to maternity bat roosts, tree removal and building demolition/relocation shall occur outside of the period between April 1 and September 30, the time frame within which colony-nesting bats generally assemble, give birth, nurse their young, and ultimately disperse.	Tree removal and building demolition/relocation should occur outside of the period between April 1 and September 30	Daily between April 1 and September 30	SC-OR		
BIO-4b Preconstruction Surveys					
If tree removal or building demolition/relocation must occur between April 1 and September 30, then within 30 days prior to these activities, a qualified biologist shall survey the affected features for roosting bats. The biologist shall look for individuals, guano, and staining, and shall listen for bat vocalizations. If necessary, the biologist shall wait for nighttime emergence of bats from roost sites. If no bats are	Within 30 days prior to the start of work performed from April 1 to September 30	One survey conducted within 30 days prior to the start of construction activities occurring	SC-OR		

Mitigation Monitoring and Reporting Program					
Mitigation Measures	When Monitoring is to Occur	Frequency of Monitoring	Agency Responsible for Monitoring	Method to Verify Compliance	Verification of Compliance
observed to be roosting or breeding, then no further action would be required, and the activities could proceed.		between April 1 and September 30			
BIO-4c Minimization					
If a non-breeding bat colony is detected in any of the trees or buildings to be removed, the individuals shall be humanely evicted under the direction of a qualified biologist to ensure that bats are not harmed by these activities.	Prior to construction and during construction	Daily prior to and during construction activities	SC-OR		
BIO-4d Avoidance of Maternity Roosts					
If a maternity colony is detected in any of the trees or buildings to be removed, the biologist shall identify a suitable disturbance-free buffer around the colony. The buffer shall remain in place until the biologist determines that the nursery is no longer active.	Prior to construction and during construction	Daily prior to and during construction activities	SC-OR		
Degradation of Water Quality in Seasonal Drainages and Downstream Waters					
BIO-5a: Erosion Control Measures					
The applicant shall define the limits of any construction within the Project area. Wattles or other appropriate erosion controls shall be placed between ground-disturbing activities and areas where sedimentation could flow out of the site.	Prior to construction and during construction	Daily, during ground-disturbing activities	SC-OR	Written/photographic evidence retained in the project file.	
BIO-5b: Storm Water Pollution Prevention Plan					
The applicant shall arrange for the preparation of a Storm Water Pollution Prevention Plan (SWPPP) that identifies measures to prevent erosion and sedimentation from construction activities and measures to prevent contaminants from entering downstream waters. The SWPPP shall be implemented in full during project construction.	Prior to construction and during construction	Daily, during construction activities	SC-OR	Retention of approved SWPPP in the file.	

Mitigation Monitoring and Reporting Program					
Mitigation Measures	When Monitoring is to Occur	Frequency of Monitoring	Agency Responsible for Monitoring	Method to Verify Compliance	Verification of Compliance
BIO-5c: Use of Best Management Practices					
Best Management Practices (BMPs) shall be implemented as appropriate. BMP's may include measures in BIO-5a and BIO-5b above, and may include any number of additional measures appropriate for this particular site and this particular project, including, but not-limited to, grease traps in staging areas, regular site inspections for pollutants that could be carried by runoff into natural drainages, etc.	During construction	Daily, during construction	SC-OR	Retention of written/photographic documentation of all BMPs utilized and maintained throughout construction.	
Cultural Resources					
CUL-1a: : Subsurface Deposits					
If subsurface deposits believed to be cultural or human in origin are discovered during construction, all work shall halt within a 100-foot radius of the discovery. A qualified professional archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards for pre-contact and historic archaeologist, shall be retained to evaluate the significance of the find, and shall have the authority to modify the no-work radius as appropriate, using professional judgment. The following notifications shall apply, depending on the nature of the find. If the professional archaeologist determines that the find does not represent a cultural resource, work may resume immediately, and no agency notifications are required.	In the event subsurface deposits believed to be cultural or human in origin	During excavation or construction activities	SC-OR	Written reports by qualified archaeologist documenting actions and methodologies taken for mitigation if cultural artifacts are discovered.	
CUL-1b: Archaeological Resources					
If the professional archaeologist determines that the find does represent a cultural resource from any time period or cultural affiliation, he or she shall immediately notify SC-OR and USDA. The agencies shall consult on a finding of eligibility and implement appropriate treatment measures if the find is determined to be a Historical Resource under CEQA or a Historic Property under Section 106. Work may not resume within the no-work radius until the lead agencies, through consultation as appropriate, determine that the site either: 1) is not a Historical Resource under CEQA or Historic Property under Section 106; or 2) that the	In the event that the find does represent a cultural resource from any time period or cultural affiliation	During excavation or construction activities	SC-OR	Written reports by qualified archaeologist, coroner, or tribal representatives documenting actions and methodologies taken for mitigation if human remains are discovered.	

Mitigation Monitoring and Reporting Program					
Mitigation Measures	When Monitoring is to Occur	Frequency of Monitoring	Agency Responsible for Monitoring	Method to Verify Compliance	Verification of Compliance
treatment measures have been completed to their satisfaction.					
CUL-1c: Human or potentially human remains					
<p>If the find includes human remains, or remains that are potentially human, he or she shall ensure reasonable protection measures are taken to protect the discovery from disturbance (AB 2641). The archaeologist shall notify the Butte County Coroner (per § 7050.5 of the Health and Safety Code). The provisions of § 7050.5 of the California Health and Safety Code, § 5097.98 of the California PRC and AB 2641 will be implemented. If the Coroner determines the remains are Native American and not the result of a crime scene, the Coroner will notify the NAHC, who then will designate a Native American Most Likely Descendant (MLD) for the project (§ 5097.98 of the PRC). The designated MLD will have 48 hours from the time access to the property is granted to make recommendations concerning treatment of the remains. If the landowner does not agree with the recommendations of the MLD, the NAHC may mediate (§ 5097.94 of the PRC). If no agreement is reached, the landowner must rebury the remains where they will not be further disturbed (§ 5097.98 of the PRC). This will also include either recording the site with the NAHC or the appropriate Information Center; using an open space or conservation zoning designation or easement; or recording a reinterment document with the county in which the property is located (AB 2641). Work may not resume within the no-work radius until the lead agencies, through consultation as appropriate, determine that the treatment measures have been completed to their satisfaction.</p>	In the event that human remains, or remains that are potentially human are found	During excavation or construction activities	SC-OR	Written reports by qualified archaeologist, coroner, or tribal representatives documenting actions and methodologies taken for mitigation if human remains are discovered.	

Mitigation Monitoring and Reporting Program					
Mitigation Measures	When Monitoring is to Occur	Frequency of Monitoring	Agency Responsible for Monitoring	Method to Verify Compliance	Verification of Compliance
Hazards and Hazardous Materials					
HAZ-1a (Renovation/Demolition involving materials containing asbestos)					
Prior to proceeding with planned renovation and/or demolition operations involving specified portions of the referenced commercial property, have all building materials identified as containing asbestos in amounts (>0.1%) which would be impacted by planned work operations removed by a qualified, licensed abatement contractor with a demonstrated history of similar projects and regulatory compliance. Ensure that all work operations are conducted in accordance with applicable EPA and OSHA requirements. The Contractor would be required to document evidence of current training, licensing, and asbestos specific insurance coverage.	Prior to construction and during construction	Daily, during ground-disturbing activities	SC-OR		
HAZ-1b (Asbestos – Non-Friable to Friable conditions)					
Compliance with the notification requirements of Cal-OSHA and the air district and pay fees (if required). Wait the required ten (10) working-days after filing the notification before proceeding with regulated renovation activities exceeding the threshold amount (>160 s.f. or 260 l.f.) of RACM, and/or any non-friable ACM which becomes friable, or “any” demolition based on NESHAP and NESHAP requirements.	Prior to construction and during construction	Daily, during ground-disturbing activities	SC-OR		
HAZ-1c (Hazard Communication Training - Lead)					
Upon commencing work operations involving disturbance of lead, the Contractor engaged in the work shall conduct an “Initial Exposure Assessment” for each planned “trigger task” in accordance with Cal/OSHA regulations to determine potential lead exposures to workers. Prior to commencing such operations, the Contractor must assume workers would be exposed to airborne levels above the Permissible Exposure Limit and must provide workers with Hazard Communication Training, and personal protective equipment, including HEPA-equipped respirators. A hand-washing facility must be present at the worksite.	Prior to construction and during construction	Daily, during ground-disturbing activities	SC-OR		

Mitigation Monitoring and Reporting Program					
Mitigation Measures	When Monitoring is to Occur	Frequency of Monitoring	Agency Responsible for Monitoring	Method to Verify Compliance	Verification of Compliance
HAZ-1d (Disposal – Lead Containing Paint)					
Prior to Disposal of lead-containing paint or elements which include lead-containing paint, the State of California requires that representative sample(s) of the waste stream waste (along with the substrate where bonded) be submitted to an accredited laboratory and that a Total Threshold Limit Concentration (TTLC) test be performed to determine the total lead content.	Prior to construction and during construction	Daily, during ground-disturbing activities	SC-OR		
HAZ-1e (Toxicity Characteristic Leaching Procedure)					
Dependent upon the result, a SW846 (STLC) may be required to determine the amount of leachable lead. These tests would determine transportation and disposal requirements and may greatly impact the ultimate cost of the work. Due to potential delays associated with conducting the analysis of the waste, it is recommended that the waste characterization be initiated prior to soliciting bids for the work.	Prior to construction and during construction	Daily, during ground-disturbing activities	SC-OR		
Hydrology and Water Quality					
HYD-1a: Erosion Control Measures					
The applicant shall define the limits of any construction within the APE. Wattles or other appropriate erosion controls will be placed between ground-disturbing activities and areas where sedimentation could flow out of the APE.	Prior to construction and during construction	Daily, during ground-disturbing activities	SC-OR	Retention of written/photographic documentation of all BMPs utilized and maintained throughout construction.	
HYD-1b: Storm Water Pollution Prevention Plan					
The applicant shall arrange for the preparation of a Storm Water Pollution Prevention Plan (SWPPP) that identifies measures to prevent erosion and sedimentation from construction activities and measures to prevent contaminants from entering downstream waters. The SWPPP shall be implemented in full during project construction.	Prior to construction and during construction	Daily, during construction activities	SC-OR	Retention of approved SWPPP in the file.	

Mitigation Monitoring and Reporting Program					
Mitigation Measures	When Monitoring is to Occur	Frequency of Monitoring	Agency Responsible for Monitoring	Method to Verify Compliance	Verification of Compliance
HYD-1c: Use of Best Management Practices					
BMPs shall be implemented as appropriate. BMP's may include measures in a and b above, and may include any number of additional measures appropriate for this particular site and this particular project, including, but not limited to, grease traps in staging areas, regular site inspections for pollutants that could be carried by runoff into natural drainages, etc.	During construction	Daily, during construction	SC-OR	Retention of written/photographic documentation of all BMPs utilized and maintained throughout construction.	

Appendix A

CalEEMod Output Files

SC-OR WWTP Upgrade Project - Butte County, Annual

SC-OR WWTP Upgrade Project
Butte County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	87.00	1000sqft	2.00	87,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	71
Climate Zone	3			Operational Year	2023
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

SC-OR WWTP Upgrade Project - Butte County, Annual

Project Characteristics -

Land Use - Estimate 2 acres of ground disturbance

Construction Phase - Estimated construction period= 18 months.

Off-road Equipment -

Off-road Equipment - updated per project description

Off-road Equipment - Updated per project description

Off-road Equipment - updated per project description

Off-road Equipment - updated per project description

Off-road Equipment - Added estimated equipment based on project design.

Trips and VMT -

Demolition -

Grading - Total estimated area of ground disturbance 2 acres

Architectural Coating - Project proposes development of small buildings to house infrastructure.

Energy Use -

Construction Off-road Equipment Mitigation -

Stationary Sources - User Defined -

Vehicle Trips - No increase in trips or VMT.

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	43,500.00	10,000.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	130,500.00	10,000.00
tblConstructionPhase	NumDays	20.00	40.00
tblConstructionPhase	NumDays	4.00	80.00
tblConstructionPhase	NumDays	2.00	60.00
tblGrading	AcresOfGrading	40.00	2.00
tblGrading	AcresOfGrading	90.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00

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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	PhaseName		Site Preparation
tblOffRoadEquipment	PhaseName		Grading
tblOffRoadEquipment	PhaseName		Site Preparation
tblOffRoadEquipment	PhaseName		Grading
tblOffRoadEquipment	PhaseName		Site Preparation
tblOffRoadEquipment	PhaseName		Site Preparation
tblOffRoadEquipment	PhaseName		Grading
tblOffRoadEquipment	PhaseName		Site Preparation
tblOffRoadEquipment	PhaseName		Grading
tblVehicleTrips	CC_TL	10.52	0.00
tblVehicleTrips	CC_TTP	28.00	0.00
tblVehicleTrips	CNW_TL	10.52	0.00
tblVehicleTrips	CNW_TTP	13.00	0.00
tblVehicleTrips	CW_TL	10.52	0.00
tblVehicleTrips	CW_TTP	59.00	0.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00

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tblVehicleTrips	PR_TP	92.00	0.00
tblVehicleTrips	ST_TR	1.32	0.00
tblVehicleTrips	SU_TR	0.68	0.00
tblVehicleTrips	WD_TR	6.97	0.00

2.0 Emissions Summary

SC-OR WWTP Upgrade Project - Butte County, Annual

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	6-1-2021	8-31-2021	0.9248	0.9248
2	9-1-2021	11-30-2021	1.1116	1.1116
3	12-1-2021	2-28-2022	0.9177	0.9177
4	3-1-2022	5-31-2022	0.8157	0.8157
5	6-1-2022	8-31-2022	0.8151	0.8151
6	9-1-2022	9-30-2022	0.2658	0.2658
		Highest	1.1116	1.1116

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.4407	1.0000e-005	8.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.5500e-003	1.5500e-003	0.0000	0.0000	1.6600e-003
Energy	9.7900e-003	0.0890	0.0748	5.3000e-004		6.7600e-003	6.7600e-003		6.7600e-003	6.7600e-003	0.0000	320.1201	320.1201	0.0120	3.8600e-003	321.5706
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	21.8987	0.0000	21.8987	1.2942	0.0000	54.2530
Water						0.0000	0.0000		0.0000	0.0000	6.3828	31.6694	38.0521	0.6570	0.0158	59.1783
Total	0.4505	0.0890	0.0756	5.3000e-004	0.0000	6.7600e-003	6.7600e-003	0.0000	6.7600e-003	6.7600e-003	28.2814	351.7911	380.0725	1.9631	0.0196	435.0036

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2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.4407	1.0000e-005	8.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.5500e-003	1.5500e-003	0.0000	0.0000	1.6600e-003
Energy	9.7900e-003	0.0890	0.0748	5.3000e-004		6.7600e-003	6.7600e-003		6.7600e-003	6.7600e-003	0.0000	320.1201	320.1201	0.0120	3.8600e-003	321.5706
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	21.8987	0.0000	21.8987	1.2942	0.0000	54.2530
Water						0.0000	0.0000		0.0000	0.0000	6.3828	31.6694	38.0521	0.6570	0.0158	59.1783
Total	0.4505	0.0890	0.0756	5.3000e-004	0.0000	6.7600e-003	6.7600e-003	0.0000	6.7600e-003	6.7600e-003	28.2814	351.7911	380.0725	1.9631	0.0196	435.0036

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

SC-OR WWTP Upgrade Project - Butte County, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	6/1/2021	7/26/2021	5	40	
2	Site Preparation	Site Preparation	7/27/2021	10/18/2021	5	60	
3	Grading	Grading	10/19/2021	2/7/2022	5	80	
4	Building Construction	Building Construction	2/8/2022	11/14/2022	5	200	
5	Paving	Paving	11/15/2022	11/28/2022	5	10	
6	Architectural Coating	Architectural Coating	11/29/2022	12/12/2022	5	10	

Acres of Grading (Site Preparation Phase): 2

Acres of Grading (Grading Phase): 2

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 10,000; Non-Residential Outdoor: 10,000; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Air Compressors	1	6.00	78	0.48
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Generator Sets	1	4.00	84	0.74
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Site Preparation	Air Compressors	1	6.00	78	0.48
Site Preparation	Dumpers/Tenders	2	6.00	16	0.38
Site Preparation	Excavators	2	6.00	158	0.38
Site Preparation	Generator Sets	1	4.00	84	0.74
Site Preparation	Graders	1	8.00	187	0.41

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Site Preparation	Off-Highway Trucks	2	4.00	402	0.38
Site Preparation	Scrapers	1	8.00	367	0.48
Site Preparation	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Grading	Air Compressors	1	6.00	78	0.48
Grading	Dumpers/Tenders	2	6.00	16	0.38
Grading	Generator Sets	1	4.00	84	0.74
Grading	Graders	1	8.00	187	0.41
Grading	Off-Highway Trucks	2	4.00	402	0.38
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Building Construction	Air Compressors	1	6.00	78	0.48
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Forklifts	2	7.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Off-Highway Trucks	2	4.00	402	0.38
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Paving	Generator Sets	1	4.00	84	0.74
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

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Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	0.00	12.54	10.52	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	12	30.00	0.00	0.00	12.54	10.52	20.00	LD_Mix	HDT_Mix	HHDT
Grading	10	25.00	0.00	0.00	12.54	10.52	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	11	37.00	14.00	0.00	12.54	10.52	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	18.00	0.00	0.00	12.54	10.52	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	7.00	0.00	0.00	12.54	10.52	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0441	0.4182	0.3178	5.5000e-004		0.0221	0.0221		0.0209	0.0209	0.0000	47.4418	47.4418	9.6500e-003	0.0000	47.6831
Total	0.0441	0.4182	0.3178	5.5000e-004	0.0000	0.0221	0.0221	0.0000	0.0209	0.0209	0.0000	47.4418	47.4418	9.6500e-003	0.0000	47.6831

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3.2 Demolition - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6100e-003	1.4000e-003	0.0132	3.0000e-005	2.7400e-003	2.0000e-005	2.7600e-003	7.3000e-004	2.0000e-005	7.5000e-004	0.0000	2.4307	2.4307	1.1000e-004	0.0000	2.4334
Total	1.6100e-003	1.4000e-003	0.0132	3.0000e-005	2.7400e-003	2.0000e-005	2.7600e-003	7.3000e-004	2.0000e-005	7.5000e-004	0.0000	2.4307	2.4307	1.1000e-004	0.0000	2.4334

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0441	0.4182	0.3178	5.5000e-004		0.0221	0.0221		0.0209	0.0209	0.0000	47.4418	47.4418	9.6500e-003	0.0000	47.6830
Total	0.0441	0.4182	0.3178	5.5000e-004	0.0000	0.0221	0.0221	0.0000	0.0209	0.0209	0.0000	47.4418	47.4418	9.6500e-003	0.0000	47.6830

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3.2 Demolition - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6100e-003	1.4000e-003	0.0132	3.0000e-005	2.7400e-003	2.0000e-005	2.7600e-003	7.3000e-004	2.0000e-005	7.5000e-004	0.0000	2.4307	2.4307	1.1000e-004	0.0000	2.4334
Total	1.6100e-003	1.4000e-003	0.0132	3.0000e-005	2.7400e-003	2.0000e-005	2.7600e-003	7.3000e-004	2.0000e-005	7.5000e-004	0.0000	2.4307	2.4307	1.1000e-004	0.0000	2.4334

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.0600e-003	0.0000	1.0600e-003	1.1000e-004	0.0000	1.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0950	0.9674	0.7583	1.6700e-003		0.0406	0.0406		0.0379	0.0379	0.0000	145.5857	145.5857	0.0423	0.0000	146.6428
Total	0.0950	0.9674	0.7583	1.6700e-003	1.0600e-003	0.0406	0.0417	1.1000e-004	0.0379	0.0380	0.0000	145.5857	145.5857	0.0423	0.0000	146.6428

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3.3 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.8300e-003	4.2000e-003	0.0394	8.0000e-005	8.2200e-003	7.0000e-005	8.2900e-003	2.1900e-003	6.0000e-005	2.2500e-003	0.0000	7.2922	7.2922	3.2000e-004	0.0000	7.3003
Total	4.8300e-003	4.2000e-003	0.0394	8.0000e-005	8.2200e-003	7.0000e-005	8.2900e-003	2.1900e-003	6.0000e-005	2.2500e-003	0.0000	7.2922	7.2922	3.2000e-004	0.0000	7.3003

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					4.8000e-004	0.0000	4.8000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0950	0.9674	0.7583	1.6700e-003		0.0406	0.0406		0.0379	0.0379	0.0000	145.5855	145.5855	0.0423	0.0000	146.6427
Total	0.0950	0.9674	0.7583	1.6700e-003	4.8000e-004	0.0406	0.0411	5.0000e-005	0.0379	0.0379	0.0000	145.5855	145.5855	0.0423	0.0000	146.6427

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3.3 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.8300e-003	4.2000e-003	0.0394	8.0000e-005	8.2200e-003	7.0000e-005	8.2900e-003	2.1900e-003	6.0000e-005	2.2500e-003	0.0000	7.2922	7.2922	3.2000e-004	0.0000	7.3003
Total	4.8300e-003	4.2000e-003	0.0394	8.0000e-005	8.2200e-003	7.0000e-005	8.2900e-003	2.1900e-003	6.0000e-005	2.2500e-003	0.0000	7.2922	7.2922	3.2000e-004	0.0000	7.3003

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1637	0.0000	0.1637	0.0895	0.0000	0.0895	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0794	0.7907	0.4698	1.1100e-003		0.0355	0.0355		0.0331	0.0331	0.0000	96.9597	96.9597	0.0270	0.0000	97.6357
Total	0.0794	0.7907	0.4698	1.1100e-003	0.1637	0.0355	0.1991	0.0895	0.0331	0.1226	0.0000	96.9597	96.9597	0.0270	0.0000	97.6357

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3.4 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.6200e-003	3.1500e-003	0.0296	6.0000e-005	6.1700e-003	5.0000e-005	6.2100e-003	1.6400e-003	5.0000e-005	1.6900e-003	0.0000	5.4692	5.4692	2.4000e-004	0.0000	5.4752
Total	3.6200e-003	3.1500e-003	0.0296	6.0000e-005	6.1700e-003	5.0000e-005	6.2100e-003	1.6400e-003	5.0000e-005	1.6900e-003	0.0000	5.4692	5.4692	2.4000e-004	0.0000	5.4752

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0737	0.0000	0.0737	0.0403	0.0000	0.0403	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0794	0.7907	0.4698	1.1100e-003		0.0355	0.0355		0.0331	0.0331	0.0000	96.9596	96.9596	0.0270	0.0000	97.6356
Total	0.0794	0.7907	0.4698	1.1100e-003	0.0737	0.0355	0.1091	0.0403	0.0331	0.0733	0.0000	96.9596	96.9596	0.0270	0.0000	97.6356

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3.4 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.6200e-003	3.1500e-003	0.0296	6.0000e-005	6.1700e-003	5.0000e-005	6.2100e-003	1.6400e-003	5.0000e-005	1.6900e-003	0.0000	5.4692	5.4692	2.4000e-004	0.0000	5.4752
Total	3.6200e-003	3.1500e-003	0.0296	6.0000e-005	6.1700e-003	5.0000e-005	6.2100e-003	1.6400e-003	5.0000e-005	1.6900e-003	0.0000	5.4692	5.4692	2.4000e-004	0.0000	5.4752

3.4 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0794	0.0000	0.0794	0.0432	0.0000	0.0432	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0331	0.3194	0.2159	5.4000e-004		0.0139	0.0139		0.0130	0.0130	0.0000	46.6882	46.6882	0.0130	0.0000	47.0131
Total	0.0331	0.3194	0.2159	5.4000e-004	0.0794	0.0139	0.0933	0.0432	0.0130	0.0561	0.0000	46.6882	46.6882	0.0130	0.0000	47.0131

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3.4 Grading - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6200e-003	1.3600e-003	0.0129	3.0000e-005	2.9700e-003	2.0000e-005	2.9900e-003	7.9000e-004	2.0000e-005	8.1000e-004	0.0000	2.5419	2.5419	1.0000e-004	0.0000	2.5444
Total	1.6200e-003	1.3600e-003	0.0129	3.0000e-005	2.9700e-003	2.0000e-005	2.9900e-003	7.9000e-004	2.0000e-005	8.1000e-004	0.0000	2.5419	2.5419	1.0000e-004	0.0000	2.5444

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0357	0.0000	0.0357	0.0194	0.0000	0.0194	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0331	0.3194	0.2159	5.4000e-004		0.0139	0.0139		0.0130	0.0130	0.0000	46.6882	46.6882	0.0130	0.0000	47.0131
Total	0.0331	0.3194	0.2159	5.4000e-004	0.0357	0.0139	0.0496	0.0194	0.0130	0.0324	0.0000	46.6882	46.6882	0.0130	0.0000	47.0131

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3.4 Grading - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6200e-003	1.3600e-003	0.0129	3.0000e-005	2.9700e-003	2.0000e-005	2.9900e-003	7.9000e-004	2.0000e-005	8.1000e-004	0.0000	2.5419	2.5419	1.0000e-004	0.0000	2.5444
Total	1.6200e-003	1.3600e-003	0.0129	3.0000e-005	2.9700e-003	2.0000e-005	2.9900e-003	7.9000e-004	2.0000e-005	8.1000e-004	0.0000	2.5419	2.5419	1.0000e-004	0.0000	2.5444

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2589	2.0026	1.9526	4.1200e-003		0.0930	0.0930		0.0889	0.0889	0.0000	349.2402	349.2402	0.0793	0.0000	351.2216
Total	0.2589	2.0026	1.9526	4.1200e-003		0.0930	0.0930		0.0889	0.0889	0.0000	349.2402	349.2402	0.0793	0.0000	351.2216

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3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.6200e-003	0.1820	0.0336	5.3000e-004	0.0132	5.9000e-004	0.0138	3.8100e-003	5.6000e-004	4.3800e-003	0.0000	50.7203	50.7203	4.0500e-003	0.0000	50.8216
Worker	0.0184	0.0155	0.1469	3.2000e-004	0.0338	2.6000e-004	0.0341	8.9900e-003	2.4000e-004	9.2300e-003	0.0000	28.9380	28.9380	1.1800e-003	0.0000	28.9675
Total	0.0241	0.1975	0.1805	8.5000e-004	0.0470	8.5000e-004	0.0478	0.0128	8.0000e-004	0.0136	0.0000	79.6583	79.6583	5.2300e-003	0.0000	79.7891

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2589	2.0026	1.9526	4.1200e-003		0.0930	0.0930		0.0889	0.0889	0.0000	349.2398	349.2398	0.0793	0.0000	351.2212
Total	0.2589	2.0026	1.9526	4.1200e-003		0.0930	0.0930		0.0889	0.0889	0.0000	349.2398	349.2398	0.0793	0.0000	351.2212

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3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.6200e-003	0.1820	0.0336	5.3000e-004	0.0132	5.9000e-004	0.0138	3.8100e-003	5.6000e-004	4.3800e-003	0.0000	50.7203	50.7203	4.0500e-003	0.0000	50.8216
Worker	0.0184	0.0155	0.1469	3.2000e-004	0.0338	2.6000e-004	0.0341	8.9900e-003	2.4000e-004	9.2300e-003	0.0000	28.9380	28.9380	1.1800e-003	0.0000	28.9675
Total	0.0241	0.1975	0.1805	8.5000e-004	0.0470	8.5000e-004	0.0478	0.0128	8.0000e-004	0.0136	0.0000	79.6583	79.6583	5.2300e-003	0.0000	79.7891

3.6 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.5300e-003	0.0540	0.0677	1.1000e-004		2.8100e-003	2.8100e-003		2.6200e-003	2.6200e-003	0.0000	9.1680	9.1680	2.5200e-003	0.0000	9.2312
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	5.5300e-003	0.0540	0.0677	1.1000e-004		2.8100e-003	2.8100e-003		2.6200e-003	2.6200e-003	0.0000	9.1680	9.1680	2.5200e-003	0.0000	9.2312

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3.6 Paving - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.5000e-004	3.8000e-004	3.5700e-003	1.0000e-005	8.2000e-004	1.0000e-005	8.3000e-004	2.2000e-004	1.0000e-005	2.2000e-004	0.0000	0.7039	0.7039	3.0000e-005	0.0000	0.7046
Total	4.5000e-004	3.8000e-004	3.5700e-003	1.0000e-005	8.2000e-004	1.0000e-005	8.3000e-004	2.2000e-004	1.0000e-005	2.2000e-004	0.0000	0.7039	0.7039	3.0000e-005	0.0000	0.7046

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.5300e-003	0.0540	0.0677	1.1000e-004		2.8100e-003	2.8100e-003		2.6200e-003	2.6200e-003	0.0000	9.1680	9.1680	2.5200e-003	0.0000	9.2312
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	5.5300e-003	0.0540	0.0677	1.1000e-004		2.8100e-003	2.8100e-003		2.6200e-003	2.6200e-003	0.0000	9.1680	9.1680	2.5200e-003	0.0000	9.2312

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3.6 Paving - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.5000e-004	3.8000e-004	3.5700e-003	1.0000e-005	8.2000e-004	1.0000e-005	8.3000e-004	2.2000e-004	1.0000e-005	2.2000e-004	0.0000	0.7039	0.7039	3.0000e-005	0.0000	0.7046
Total	4.5000e-004	3.8000e-004	3.5700e-003	1.0000e-005	8.2000e-004	1.0000e-005	8.3000e-004	2.2000e-004	1.0000e-005	2.2000e-004	0.0000	0.7039	0.7039	3.0000e-005	0.0000	0.7046

3.7 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.1159					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.0200e-003	7.0400e-003	9.0700e-003	1.0000e-005		4.1000e-004	4.1000e-004		4.1000e-004	4.1000e-004	0.0000	1.2766	1.2766	8.0000e-005	0.0000	1.2787
Total	0.1169	7.0400e-003	9.0700e-003	1.0000e-005		4.1000e-004	4.1000e-004		4.1000e-004	4.1000e-004	0.0000	1.2766	1.2766	8.0000e-005	0.0000	1.2787

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3.7 Architectural Coating - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.7000e-004	1.5000e-004	1.3900e-003	0.0000	3.2000e-004	0.0000	3.2000e-004	9.0000e-005	0.0000	9.0000e-005	0.0000	0.2737	0.2737	1.0000e-005	0.0000	0.2740
Total	1.7000e-004	1.5000e-004	1.3900e-003	0.0000	3.2000e-004	0.0000	3.2000e-004	9.0000e-005	0.0000	9.0000e-005	0.0000	0.2737	0.2737	1.0000e-005	0.0000	0.2740

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.1159					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.0200e-003	7.0400e-003	9.0700e-003	1.0000e-005		4.1000e-004	4.1000e-004		4.1000e-004	4.1000e-004	0.0000	1.2766	1.2766	8.0000e-005	0.0000	1.2787
Total	0.1169	7.0400e-003	9.0700e-003	1.0000e-005		4.1000e-004	4.1000e-004		4.1000e-004	4.1000e-004	0.0000	1.2766	1.2766	8.0000e-005	0.0000	1.2787

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3.7 Architectural Coating - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.7000e-004	1.5000e-004	1.3900e-003	0.0000	3.2000e-004	0.0000	3.2000e-004	9.0000e-005	0.0000	9.0000e-005	0.0000	0.2737	0.2737	1.0000e-005	0.0000	0.2740
Total	1.7000e-004	1.5000e-004	1.3900e-003	0.0000	3.2000e-004	0.0000	3.2000e-004	9.0000e-005	0.0000	9.0000e-005	0.0000	0.2737	0.2737	1.0000e-005	0.0000	0.2740

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.536621	0.031900	0.176387	0.109893	0.028679	0.005751	0.018192	0.081833	0.001567	0.001354	0.005498	0.001215	0.001111

5.0 Energy Detail

Historical Energy Use: N

SC-OR WWTP Upgrade Project - Butte County, Annual

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	223.2280	223.2280	0.0101	2.0900e-003	224.1027
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	223.2280	223.2280	0.0101	2.0900e-003	224.1027
NaturalGas Mitigated	9.7900e-003	0.0890	0.0748	5.3000e-004		6.7600e-003	6.7600e-003		6.7600e-003	6.7600e-003	0.0000	96.8921	96.8921	1.8600e-003	1.7800e-003	97.4679
NaturalGas Unmitigated	9.7900e-003	0.0890	0.0748	5.3000e-004		6.7600e-003	6.7600e-003		6.7600e-003	6.7600e-003	0.0000	96.8921	96.8921	1.8600e-003	1.7800e-003	97.4679

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	1.81569e+006	9.7900e-003	0.0890	0.0748	5.3000e-004		6.7600e-003	6.7600e-003		6.7600e-003	6.7600e-003	0.0000	96.8921	96.8921	1.8600e-003	1.7800e-003	97.4679
Total		9.7900e-003	0.0890	0.0748	5.3000e-004		6.7600e-003	6.7600e-003		6.7600e-003	6.7600e-003	0.0000	96.8921	96.8921	1.8600e-003	1.7800e-003	97.4679

SC-OR WWTP Upgrade Project - Butte County, Annual

5.2 Energy by Land Use - Natural Gas

Mitigated

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	1.81569e+006	9.7900e-003	0.0890	0.0748	5.3000e-004		6.7600e-003	6.7600e-003		6.7600e-003	6.7600e-003	0.0000	96.8921	96.8921	1.8600e-003	1.7800e-003	97.4679
Total		9.7900e-003	0.0890	0.0748	5.3000e-004		6.7600e-003	6.7600e-003		6.7600e-003	6.7600e-003	0.0000	96.8921	96.8921	1.8600e-003	1.7800e-003	97.4679

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	767340	223.2280	0.0101	2.0900e-003	224.1027
Total		223.2280	0.0101	2.0900e-003	224.1027

SC-OR WWTP Upgrade Project - Butte County, Annual

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	767340	223.2280	0.0101	2.0900e-003	224.1027
Total		223.2280	0.0101	2.0900e-003	224.1027

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.4407	1.0000e-005	8.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.5500e-003	1.5500e-003	0.0000	0.0000	1.6600e-003
Unmitigated	0.4407	1.0000e-005	8.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.5500e-003	1.5500e-003	0.0000	0.0000	1.6600e-003

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6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1008					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.3398					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	7.0000e-005	1.0000e-005	8.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.5500e-003	1.5500e-003	0.0000	0.0000	1.6600e-003
Total	0.4407	1.0000e-005	8.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.5500e-003	1.5500e-003	0.0000	0.0000	1.6600e-003

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1008					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.3398					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	7.0000e-005	1.0000e-005	8.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.5500e-003	1.5500e-003	0.0000	0.0000	1.6600e-003
Total	0.4407	1.0000e-005	8.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.5500e-003	1.5500e-003	0.0000	0.0000	1.6600e-003

7.0 Water Detail

SC-OR WWTP Upgrade Project - Butte County, Annual

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	38.0521	0.6570	0.0158	59.1783
Unmitigated	38.0521	0.6570	0.0158	59.1783

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	20.1187 / 0	38.0521	0.6570	0.0158	59.1783
Total		38.0521	0.6570	0.0158	59.1783

SC-OR WWTP Upgrade Project - Butte County, Annual

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	20.1187 / 0	38.0521	0.6570	0.0158	59.1783
Total		38.0521	0.6570	0.0158	59.1783

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	21.8987	1.2942	0.0000	54.2530
Unmitigated	21.8987	1.2942	0.0000	54.2530

SC-OR WWTP Upgrade Project - Butte County, Annual

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	107.88	21.8987	1.2942	0.0000	54.2530
Total		21.8987	1.2942	0.0000	54.2530

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	107.88	21.8987	1.2942	0.0000	54.2530
Total		21.8987	1.2942	0.0000	54.2530

9.0 Operational Offroad

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

SC-OR WWTP Upgrade Project - Butte County, Annual

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number
----------------	--------

11.0 Vegetation

Appendix B

Biological Evaluation



LIVE OAK ASSOCIATES, INC.

an Ecological Consulting Firm

**BIOLOGICAL EVALUATION FOR CEQA AND FESA COMPLIANCE
SEWERAGE COMMISSION-OROVILLE REGION
WASTEWATER TREATMENT PLANT UPGRADE PROJECT
OROVILLE, BUTTE COUNTY, CALIFORNIA**

Prepared by:

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December 9, 2021

PN 2311-02

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EXECUTIVE SUMMARY

Live Oak Associates, Inc. (LOA) conducted an investigation of the biological resources of the Sewerage Commission-Oroville Region (SC-OR) wastewater treatment plant (WWTP) project site, or Area of Potential Effects (APE), in Butte County, California, and evaluated likely impacts to such resources resulting from project implementation pursuant to the California Equality Act (CEQA) and Section 7 of the federal Endangered Species Act. The project will entail various improvements within an approximately 34-acre area that is within the boundaries of the existing WWTP facility, including replacement of aged and obsolete equipment, increasing capability to handle peak wet weather flow, and reduction of specific discharges into the air. An approximately 20-acre area of vacant land to the south of the existing WWTP may be used during construction for staging, materials laydown, and temporary storage of relocated buildings.

On November 7, 2018 and August 18, 2021, LOA ecologist Geoffrey Cline surveyed the APE for its biotic habitats, the plants and animals occurring in those habitats, and potentially significant habitat values that may be protected by state and federal law. At the time of the field surveys, habitats/land uses identified within the APE included ruderal/developed habitat associated with the existing WWTP facility and disturbed savanna associated with the vacant land to the south. Both habitats/land uses have had some level of human disturbance or modification, but the disturbed savanna is of much higher quality for native wildlife, including several special status species.

Potentially significant impacts associated with project implementation include construction-related mortality of the valley elderberry longhorn beetle (VELB); construction-related mortality or disturbance of burrowing owls, nesting raptors and migratory birds including the special-status Swainson's hawk, white-tailed kite, northern harrier, and loggerhead shrike, and roosting bats including the special-status Townsend's big-eared bat; and degradation of water quality in downstream waters. These impacts will be reduced to a less than significant level under CEQA by implementing a variety of avoidance and minimization measures for the VELB, conducting preconstruction surveys, avoiding active nests and roosts, and implementing erosion control measures, a stormwater pollution and prevention plan, and best management practices to minimize sedimentation.

No other biological resources would be significantly impacted by the project as defined by CEQA. Impacts associated with project implementation would be less than significant for 15 locally occurring special status plant species; 16 special status animal species absent from or unlikely to use the APE; six special status animal species that could use the APE for foraging habitat but would breed elsewhere; wildlife movement corridors; Waters of the U.S. and state; designated critical habitat; and sensitive natural communities. Loss of habitat for special status animal species would also be considered less than significant. The project does not appear to conflict with the goals and policies of the Butte County General Plan or City of Oroville General Plan. The project is not subject to the Butte Regional Conservation Plan because the plan has not been adopted yet. Should the plan be adopted in the near future, the project may be subject to several additional avoidance and minimization measures for biological resources.

The project will have no effect on most regionally-occurring federally-listed species because these species have no appreciable potential to occur within the APE. However, the federally-threatened VELB and federal candidate monarch butterfly have some potential to occur on site, and may be affected, but are not likely to adversely be affected, by the project.

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1.0 INTRODUCTION

The Sewerage Commission-Oroville Region (SC-OR) proposes to upgrade the existing wastewater treatment plant (WWTP) that serves the City of Oroville and surrounding areas (“project”). The project will entail various improvements within an approximately 54-acre Area of Potential Effect (APE) confined to the existing WWTP property. The APE is located south of Cal Oak Road, west of 5th Avenue, north of Georgia Pacific Way, and east of 7th Avenue, within the limits of the City of Oroville, in Butte County, California (Figure 1). The APE can be found on the *Palermo* quadrangle in the center of Section 19 of Township 19 north, Range 4 east; Mount Diablo Base and Meridian (Figure 2).

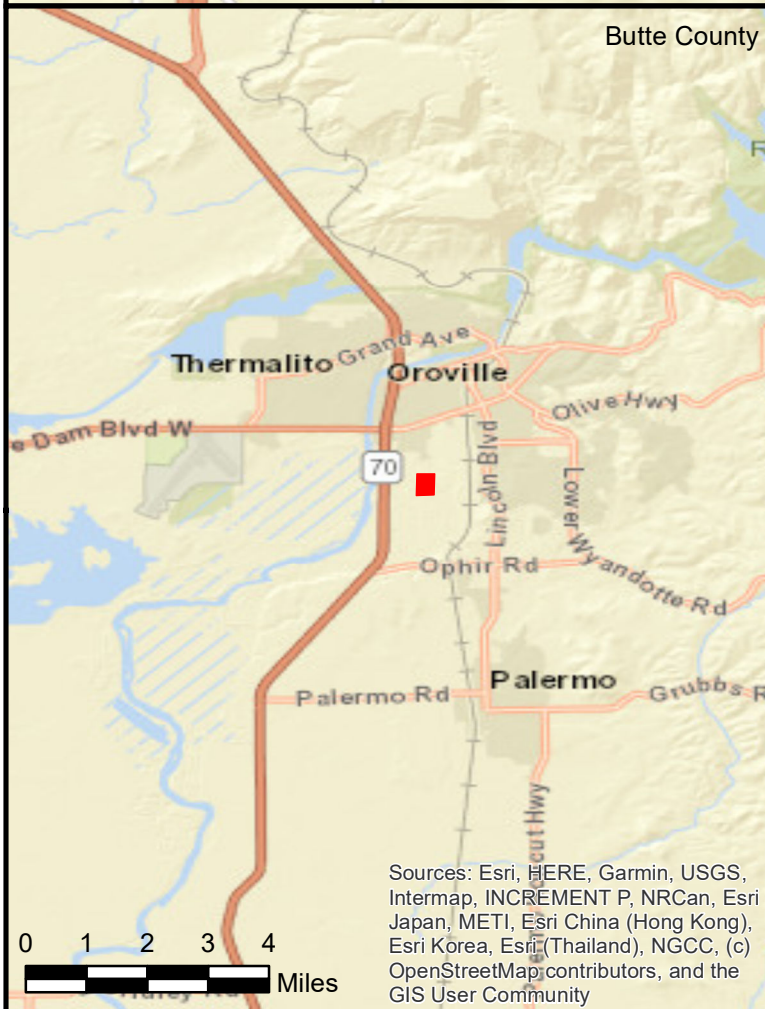
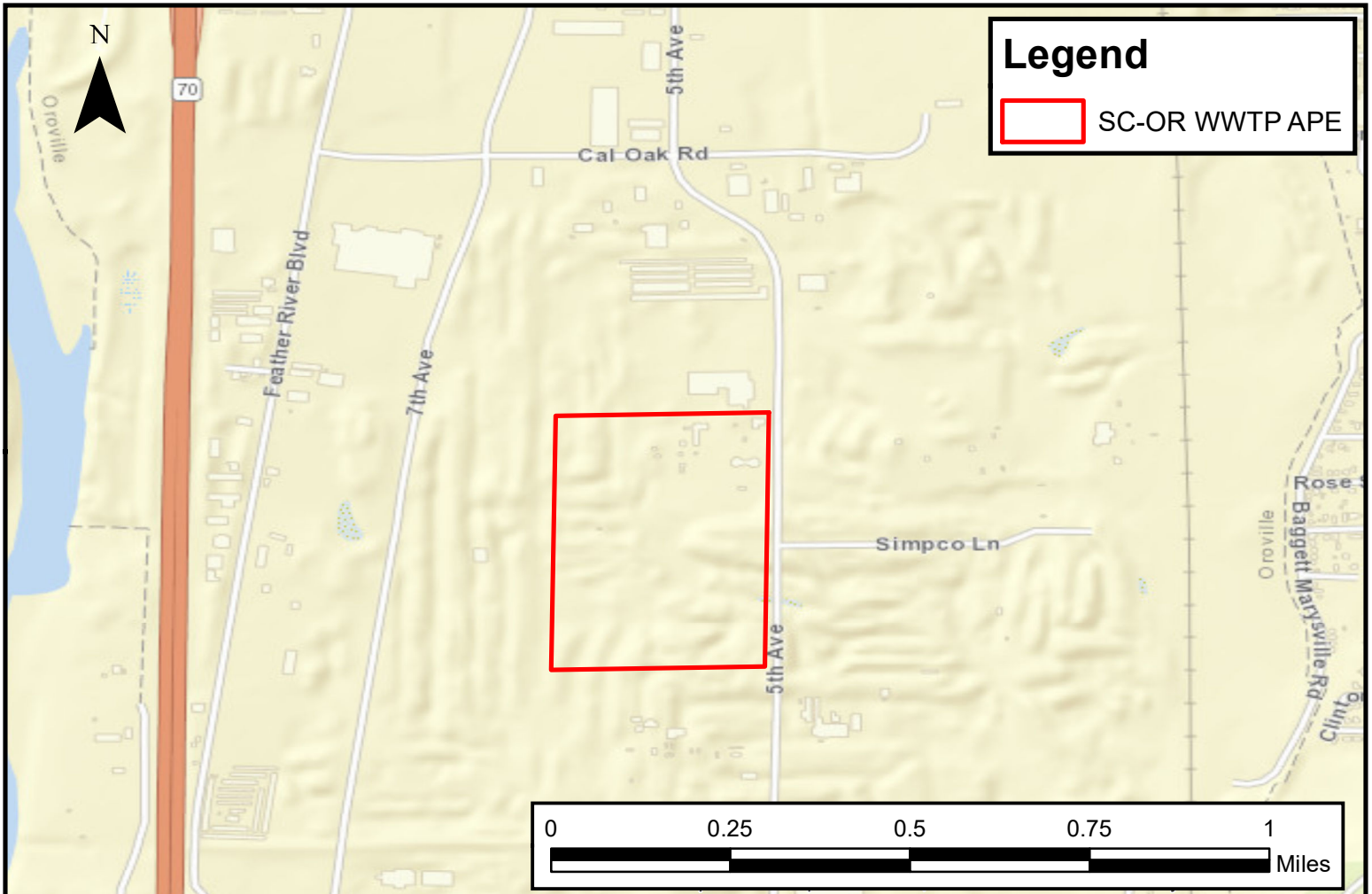
This technical report, prepared in compliance with the California Environmental Quality Act (CEQA) and Section 7 of the federal Endangered Species Act, describes the biotic resources of the APE and evaluates potential impacts to those resources that could result from the project.

1.1 PROJECT DESCRIPTION

The main objectives of the project are to replace aged and obsolete equipment, increase the WWTP’s capability to handle peak wet weather flow, reduce odorous discharges, and improve the quality of water discharged to the Feather River. Project components can be generally grouped into four categories: (1) proposed improvements, (2) proposed demolition and off-site disposal, (3) proposed relocation, and (4) construction staging/access. These components are summarized below.


Proposed Improvements

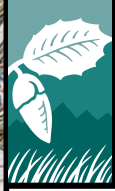
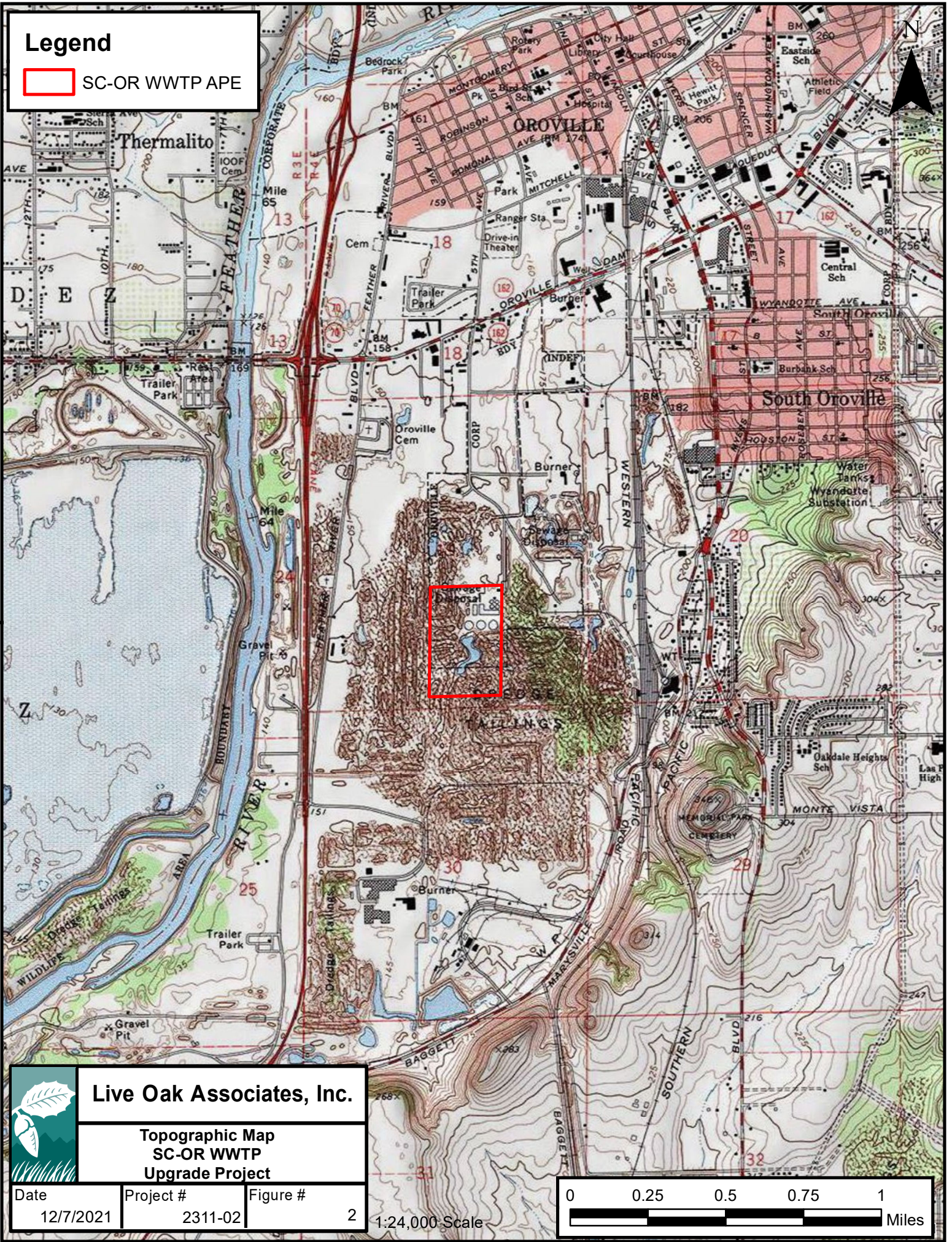
- **Influent Pump Station**
 - Construct a new primary influent pump station with a designed pumping capacity of 16 million gallons per day (MGD); the new station will consist of four submersible 60-hp raw sewage pumps.
- **Grit Removal**
 - Install a new grit washer and replace the existing, obsolete, and leaking grit pump with a self-priming non-clog pump.



	Live Oak Associates, Inc.		
	Vicinity Map SC-OR WWTP Upgrade Project		
Date	Project #	Figure #	
12/7/2021	2311-02	1	

Legend

 SC-OR WWTP APE

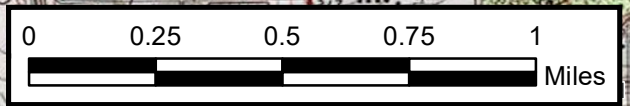


Live Oak Associates, Inc.

**Topographic Map
SC-OR WWTP
Upgrade Project**

Date	Project #	Figure #
12/7/2021	2311-02	2

1:24,000 Scale



- **Odor Management**
 - Install an odor control system, employing a biofilter, to treat odorous air from rag removal and the new influent pump station.
- **Aeration Basins**
 - Convert the existing aerobic digesters to aeration basins (no more than 10-feet in depth), effectively doubling the aeration basin capacity.
 - Replace the existing surface aerators with fine-bubble diffusers supplied by turbo blowers housed in a new blower building.
 - Modify the layout by splitting each aeration basin into four zones, three aerobic and one anoxic, to target nitrogen removal. Install a hyperbolic mixer in each anoxic zone for mixing and nitrified recycle pumps to recycle flow from the third aerobic zone back to the anoxic zone.
 - Construct an aeration basin splitter box to divide flow between the two basins.
 - Construct a mixed liquor distribution box to divide mix liquor flow between the basins and discharge waste activated sludge to the thickening building.
- **Secondary Clarification**
 - Construct one new secondary clarifier to accommodate anticipated 15MGD peak wet weather flows through the plant and acceptable hydraulic loading rates.
 - Volumes of wet-weather flows exceeding 15MGD will be sent to the equalization ponds.
 - Modify the mixed-liquor distribution box to ensure even flow split among the four secondary clarifiers.
- **Filtration**
 - Install four new filter supply pumps and two new No. 2 Water (2W) supply pumps adjacent to the existing chlorine contact basin.
 - Modify the flow path so that secondary effluent is the new filter influent, following the discontinuation of the chlorine disinfection system.
 - Modify the backwash system to be supplied from a new backwash water supply tank (using the existing chlorine contact basin), including two new backwash water

supply pumps, located adjacent to the existing chlorine contact basin. This tank will be supplied with final effluent and a chlorine dose.

- **Disinfection**

- Install a new, open-channel ultraviolet (UV) disinfection system inside the existing chlorine contact basins. Install a sodium hypochlorite system to provide chlorination for return-activated sludge (RAS) bulking, 2W, and backwash water.

- **Solids Handling**

- Install a rotary drum thickener (RDT) to thicken waste activated sludge from the aeration basins. The RDT will pre-thicken waste-activated sludge (WAS) or recuperatively thicken digested sludge. Construct an RDT building to the southwest of the current aerobic digesters (to be converted to aeration basins). Install a polymer system with the RDT to maximize thickening.

- **Return Sludge Pump Station**

- Replace the existing RAS and WAS pumps with four new RAS pumps and a flow control valve to maintain the appropriate RAS/WAS flow split. WAS will have the option of flowing to the RDT or directly to the sludge ponds.

- **Flow Equalization**

- Install two new flow equalization pumps to transfer equalized flow or digested sludge between ponds. One pump will be located between the flow equalization pond and the North Sludge Pond and the other between the Middle and South Sludge Ponds. Each pump will be capable of drawing suction from two ponds and discharging to all four ponds.

- **Septage Receiving Station**

- Install a septage receiving station adjacent to humus ponds Nos. 1 and 2 to remove unwanted material prior to introduction into the ponds.

- **New Access Road**

- Construct a new paved access road that will traverse around the plant on the north side of the existing main plant building

Proposed Demolition and Off-Site Disposal

- Existing pressurized water tank used for potable water supply for main office
- Primary sludge pumps and building
- Two existing anaerobic digesters, no longer in use
- Two existing primary clarifiers
- Chemical feed equipment and piping inside CL2/SO2 room

Proposed Relocation

- Five metal sheds and outbuildings will be temporarily relocated during construction
- The WWTP recycled water irrigation system will be relocated and upgraded to accommodate the new access road. Equipment to be relocated/upgraded includes pumps, pressure tanks, and piping.

Construction Staging/Access

- SC-OR will use the space south of the plant for the construction contractor's yard and temporary storage of sheds and material during construction
- Construction access will be provided from the east

All blue elderberry (*Sambucus nigra* ssp. *caerulea*) shrubs within or adjacent to the APE will be protected during construction by a no-disturbance buffer of at least 20 feet, as measured from the shrub driplines (Figure 3). Buffers will be delineated with orange construction fencing.

The WWTP's existing discharge to the Feather River, located some five miles downstream of the APE, will not be modified.

1.2 REPORT OBJECTIVES

This report addresses issues related to: 1) sensitive biotic resources occurring on the APE; 2) the federal, state, and local laws regulating such resources; and 3) mitigation measures that may be required to reduce the magnitude of anticipated impacts and/or comply with permit requirements of state and federal resource agencies. The objectives of this report are to:

- Summarize all site-specific information related to existing biological resources.

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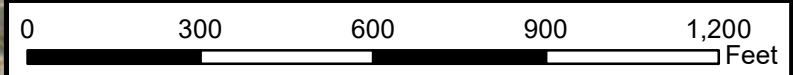
- SC-OR WWTP APE
- Elderberry Shrub Approx. Driplines
- Elderberry Shrub Dripline 20-foot Avoidance Buffer



Live Oak Associates, Inc.

**Aerial, Elderberry Shrub Locations,
and 20-foot Avoidance Buffers
SC-OR WWTP Project Update**

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- Make reasonable inferences about the biological resources that could occur onsite based on habitat suitability and the proximity of the site to a species' known range.
- Summarize all state and federal natural resource protection laws that may be relevant to possible future site development.
- Identify and discuss project impacts to biological resources likely to occur on the site within the context of CEQA, and any relevant state, federal, and local laws.
- Identify avoidance and mitigation measures that would reduce the magnitude of potential project impacts in a manner consistent with the requirements of CEQA and that are generally consistent with recommendations of the resource agencies regulating affected biological resources.
- Make effects determinations pursuant to Section 7 of the federal Endangered Species Act for federally listed species with the potential to occur in the project vicinity.

1.3 STUDY METHODOLOGY

LOA conducted an analysis of potential project impacts based on the known and potential biotic resources of the APE. Sources of information used in the preparation of this analysis included: (1) the *California Natural Diversity Data Base* (CDFW 2021), the U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) system (USFWS 2021), (3) the *Online Inventory of Rare and Endangered Vascular Plants of California* (CNPS 2021), and (4) manuals, reports, and references related to plants and animals of the Sacramento Valley region.

Field surveys of the APE were conducted on November 7, 2018 and August 18, 2021 by LOA ecologist Geoffrey Cline. The surveys consisted of walking throughout the APE while identifying the principal land uses and associated plant and animal species, and mapping suitable habitat for special status species and other sensitive biological resources. The surveys did not include a wetland delineation or focused surveys targeting special status species. The field surveys conducted were sufficient to generally describe those features of the APE that could be subject to the jurisdiction of the U.S. Army Corps of Engineers (USACE), California Department of Fish and Wildlife (CDFW), and/or the Regional Water Quality Control Board (RWQCB), and to assess the significance of possible biological impacts associated with project implementation.

2.0 EXISTING CONDITIONS

2.1 REGIONAL SETTING

The APE is located in north central California in the northeastern portion of the Sacramento Valley. The Sacramento Valley makes up the northern portion of California's Central Valley. It is bordered by the Sacramento-San Joaquin River Delta to the south, the Sierra Nevada to the east, the Cascade Range to the north, and the Coastal Ranges to the west.

Like most of California, the Sacramento Valley has a Mediterranean climate. Warm dry summers are followed by cool moist winters. Summer temperatures commonly exceed 90 degrees Fahrenheit (F). Annual precipitation within the vicinity of the APE is about 31 inches, the majority of which falls between the months of October and April. Nearly all precipitation falls in the form of rain. Stormwater readily infiltrates the soils of and surrounding the APE.

The principal drainage in the project vicinity is the Feather River. The Feather River originates in the Sierra Nevada in four distinct forks which unite as arms of the Lake Oroville reservoir in the Sierra Nevada foothills five miles northeast of Oroville in eastern Butte County. The North Fork Feather River drains approximately 60% of the entire upper Feather River watershed. The main stem of the Feather River begins at Oroville Dam, the outlet of Lake Oroville, and flows generally south across the Sacramento Valley, east of the Sutter Buttes, past Oroville and Yuba City-Marysville. The APE is located less than one mile east of the main stem Feather River and approximately five and a half miles southwest of the Oroville Dam.

Since the completion of the Oroville Dam in 1968, flow of the Feather River below the dam has been highly regulated for hydroelectric power production, flood control, water supply, and fish and wildlife. The dam has confined fish migration up the Feather River, and the controlled flow of the river has affected riparian habitat. In an effort to mitigate negative effects from altered water flow, the Department of Water Resources collaborated with CDFW to build the Feather River Fish Hatchery. Since 1967, the Feather River Hatchery has raised Chinook salmon and steelhead along the Feather River and below Lake Oroville.

The APE is located in an area that has historically been used for mining and agriculture. It is within the Oroville Dredging District, an area in and around the Feather River that was dredged for gold between 1898 and 1952. Extensive dredge tailings remain in the APE and vicinity (see Figure 2). Current agricultural activities in the region include cropland, fruit and nut orchards, and livestock grazing.

The APE is adjoined on all sides by a mix of industrial uses and vacant land. A storage business is directly north of the APE and a firewood products business lies adjacent to the east with a railway just beyond. An agricultural processing plant is south of the APE. A short distance to the west of the APE is Highway 70 and just beyond, the main stem Feather River. The Oroville Wildlife Area, an 11,800-acre natural area operated by CDFW, is located approximately ½ mile west of the APE.

2.2 AREA OF POTENTIAL EFFECT

At the time of the August 2021 field survey, the APE consisted of approximately 34 acres of the existing WWTP facility and 20 acres of vacant land adjoining the facility to the south. The WWTP facility is enclosed by a 6-foot-tall chainlink fence topped with barbed wire, while the vacant land is unfenced. The APE is fairly level, with an average elevation of approximately 150 feet.

The APE contains two soil mapping units from two soil series: Xerorthents, tailings-Urban land complex, 0 to 2 percent slopes, and Thompsonflat-Oroville, 0 to 9 percent slopes. The Xerorthents soils are considered hydric, meaning that they tend to pond water consistently enough to support the growth of wetland vegetation.

2.3 LAND USES/BIOTIC HABITATS

Two land uses/biotic habitats have been identified on the APE: ruderal/developed and disturbed savanna (Figure 4). These land uses/habitats and their constituent plant and animal species are described in more detail in the following sections. A list of the vascular plant species observed within the APE and the terrestrial vertebrates using, or potentially using, the APE is provided in Appendices A and B, respectively. Selected photographs of the APE are presented in Appendix C.


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


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 SC-OR WWTP APE

Habitats

 Disturbed Savanna

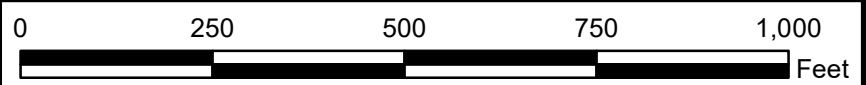
 Ruderal/Developed



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**Habitats/Land Uses Map
SC-OR WWTP
Upgrade Project**

Date	Project #	Figure #
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2.3.1 Ruderal/Developed

The APE includes a large portion of the existing WWTP facility, which at the time of the field surveys could best be characterized as ruderal/developed habitat. This habitat type consisted primarily of wastewater treatment infrastructure, including buildings, various types of treatment ponds, digesters, clarifiers, and other structures and equipment. It also included an approximately 3-acre solar field, paved and gravel access roads, landscaping, and gravel and hardpack open areas within the fenced facility. Landscaped areas were characterized by non-native lawn grasses, bur clover (*Medicago polymorpha*), oleander (*Nerium oleander*), mulberry (*Morus alba*), two ornamental scale-leaf conifers (likely incense cedar, *Calocedrus decurrens*, and/or giant sequoia, *Sequoiadendron giganteum*), and various other species. The gravel and hardpack open areas supported common weeds such as foxtail barley (*Hordeum murinum*), wild oats (*Avena fatua*), dove weed (*Croton setigerus*), yellow star-thistle (*Centaurea solstitialis*), and goat's head (*Tribulus terrestris*).

Ongoing WWTP operations and the preponderance of hardscape limit the wildlife value of the APE's ruderal/developed habitat; however, some wildlife species may certainly use this habitat. For example, common amphibians such as Pacific chorus frogs (*Pseudacris regilla*) and western toads (*Bufo boreas*) may breed in the treatment ponds and subsequently disperse across the WWTP facility. Because the treatment ponds are regularly drained as part of their operational cycle, they are not expected to support amphibians associated with permanent sources of water. Similarly, although terrestrial reptiles such as the western fence lizard (*Sceloporus occidentalis*) and Pacific gopher snake (*Pituophis catenifer catenifer*) may occur within the WWTP facility, the WWTP does not provide habitat for obligate aquatic species such as the western pond turtle (*Actinemys marmorata*).

The APE's ruderal/developed lands may be used by a number of avian species. Birds observed in or over these areas at the time of LOA's field surveys included the mourning dove (*Zenaidura macroura*), common raven (*Corvus corax*), Brewer's blackbird (*Euphagus cyanocephalus*), least sandpiper (*Calidris minutilla*), killdeer (*Charadrius vociferous*), northern mockingbird (*Mimus polyglottos*), black phoebe (*Sayornis nigricans*), western meadowlark (*Sturnella neglecta*), and European starling (*Sturnus vulgaris*). Wastewater treatment ponds commonly attract waterfowl

such as mallards (*Anas platyrhynchos*), ruddy ducks (*Oxyura jamaicensis*), and American coots (*Fulica americana*); these and other aquatic birds are expected to use the APE's ponds from time to time. Certain disturbance-tolerant birds may nest within the trees of the APE's ruderal/developed habitat; for example, the northern mockingbird and American robin (*Turdus migratorius*). Birds associated with the built environment, such as the house finch (*Haemorrhous mexicanus*) and black phoebe, may nest in and around WWTP buildings and structures. The killdeer, a common ground nesting species, has been observed by WWTP staff nesting in the gravel roads of this habitat. Raptors such as the red-tailed hawk (*Buteo jamaicensis*) and American kestrel (*Falco sparverius*) could periodically forage over the APE's ruderal/developed lands.

A few mammal species may also occur within the APE's ruderal/developed lands. Small mammals such as the deer mouse (*Peromyscus maniculatus*), house mouse (*Mus musculus*), and Norway rat (*Rattus norvegicus*) would occur in fluctuating numbers depending on the season and level of rodent control that is occurring; at the time of LOA's 2018 survey, bait stations were observed on the site to attract Norway rats. Burrowing mammals such as the Botta's pocket gopher (*Thomomys bottae*) and California ground squirrel (*Otospermophilus beecheyi*) may also occur in this habitat, particularly where vegetation- and ground-disturbing activities are infrequent. At the time of LOA's 2021 survey, several California ground squirrel burrows and one gopher burrow were observed within the fenced facility. Western gray squirrels (*Sciurus griseus*) have been observed by WWTP staff nesting in the mulberry trees on site (S. Koch, pers. comm.). Due to the perimeter fencing, use of the APE's ruderal/developed habitat by larger mammals would be minimal, if it occurs at all.

2.3.2 Disturbed Savanna

The APE contains approximately 20 acres of vacant land that can best be described as disturbed savanna. This area is characterized by extremely rocky soils associated with dredge tailings, and widespread evidence of past ground disturbance such as vegetated berms and stockpiles. At the time of the 2021 field survey, the vegetative community comprised non-native grasses and forbs including wild oats (*Avena fatua*), filaree (*Erodium* sp.), yellow star-thistle (*Centaurea solstitialis*), and black mustard (*Brassica nigra*), and scattered trees and shrubs including foothill pine (*Pinus*

sabiniana), live oak (*Quercus* sp.), willow (*Salix* sp.), Himalayan blackberry (*Rubus armeniacus*), blue elderberry, and poison oak (*Toxicodendron diversilobum*).

Despite its history of anthropogenic use, the site's disturbed savanna has the potential to be used by a variety of wildlife species. Pacific chorus frogs and western toads may disperse across this habitat from nearby breeding habitat associated with ditches and, to the north, the WWTP's treatment ponds. Reptiles expected to occur in the disturbed savanna include the forest alligator lizard (*Elgaria multicarinata multicarinata*), western fence lizard, Pacific gopher snake, and California kingsnake (*Lampropeltis californiae*), among others.

A variety of avian species are expected to use the APE's disturbed savanna. With the exception of the waterfowl, all birds listed for the site's ruderal/developed lands may also occur in the disturbed savanna. Additionally, this habitat is likely to support tree-associated species like the Bullock's oriole (*Icterus bullockii*), Bewick's wren (*Thryomanes bewickii*), white-breasted nuthatch (*Sitta carolinensis*), oak titmouse (*Baeolophus inornatus*), and Nuttall's woodpecker (*Picoides nuttallii*), and may also be used by species associated with grasslands and other open habitats, such as the loggerhead shrike (*Lanius ludovicianus*), western kingbird (*Tyrannus verticalis*), and northern harrier (*Circus hudsonius*).

Mammalian use of the disturbed savanna is likely to include a variety of rodents and other small mammals including the deer mouse, California vole (*Microtus californicus*), Audubon's cottontail (*Sylvilagus audubonii*), and black-tailed jackrabbit (*Lepus californicus*); an individual of the latter species was observed during LOA's 2021 survey. Burrowing mammals such as the Botta's pocket gopher and California ground squirrel may occur throughout this habitat, as was evidenced by scattered burrows observed during the 2021 survey. With no perimeter fence to block access, a variety of larger mammalian species may also be expected to occur in the APE's disturbed savanna. These include the raccoon, striped skunk (*Mephitis mephitis*), coyote (*Canis latrans*), gray fox (*Urocyon cinereoargenteus*), and mule deer (*Odocoileus hemionus*). At the time of the 2021 survey, mule deer scat was observed in this habitat.

2.4 SPECIAL STATUS PLANTS AND ANIMALS

Several species of plants and animals within the state of California have low populations and/or limited distributions. Such species may be considered “rare” and are vulnerable to extirpation as the state’s human population grows and the habitats these species occupy are converted to agricultural and urban uses. As described more fully in Section 3.2, state and federal laws have provided the USFWS and CDFW with a mechanism for conserving and protecting the diversity of plant and animal species native to the state. A sizable number of native plants and animals have been formally designated as “threatened” or “endangered” under state and federal endangered species legislation. Others have been designated as candidates for such listing. Still others have been designated as “species of special concern” by CDFW. The California Native Plant Society (CNPS) has developed its own set of lists of native plants considered rare, threatened, or endangered (CNPS 2021). Collectively, these plants and animals are referred to as “special status species.”

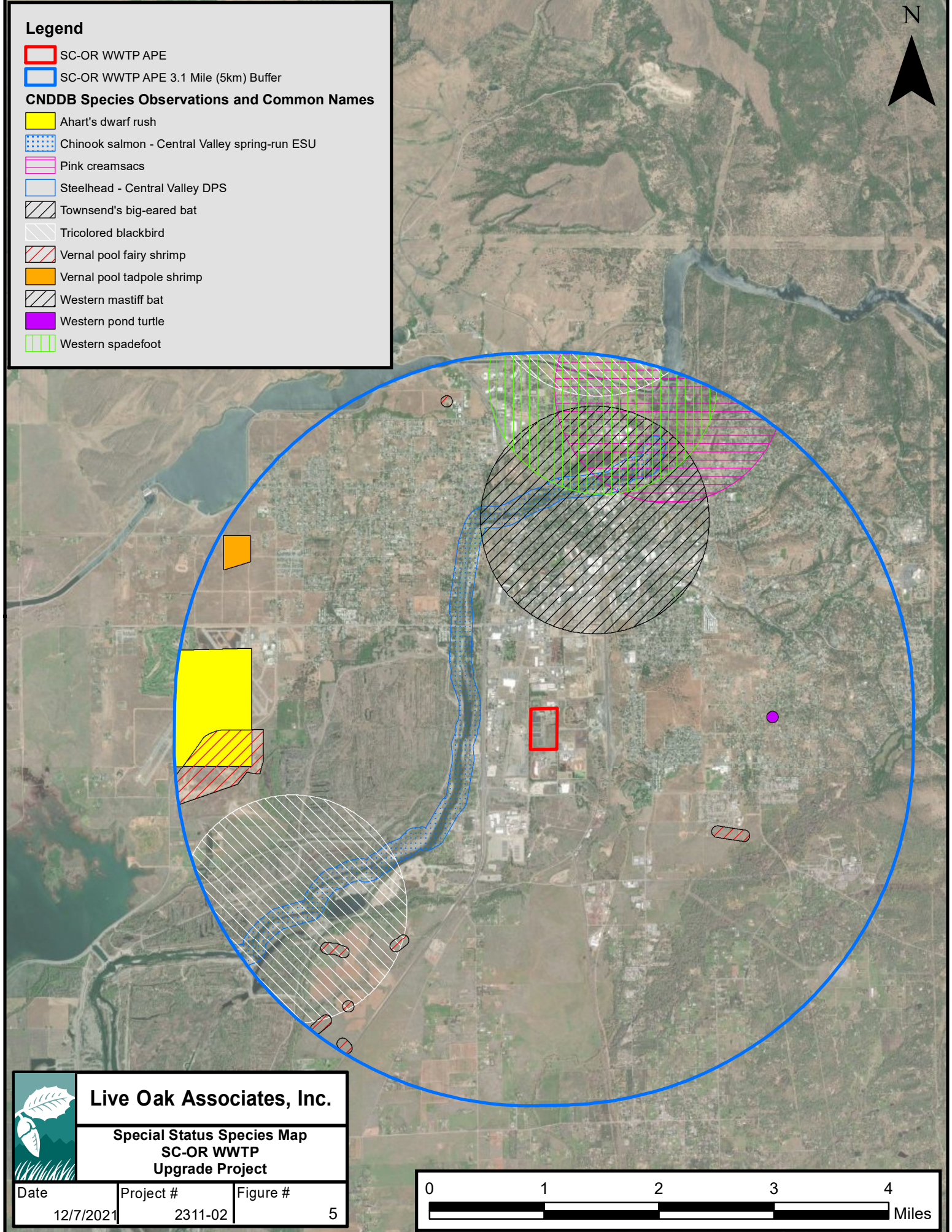
The CNDDDB (CDFW 2021) was queried for special status species occurrences in the nine USGS 7.5-minute quadrangles containing and immediately surrounding the APE (*Palermo, Shippee, Oroville, Oroville Dam, Biggs, Bangor, Gridley, Honcut, and Loma Rica*), and the IPaC system (USFWS 2021) was queried for federally listed species with the potential to be affected by the proposed project. The resultant species, and their potential to occur on the APE, are listed in Table 1 on the following pages. Sources of information for this table included *California’s Wildlife, Volumes I, II, and III* (Zeiner et. al 1988), *The Jepson Manual: Vascular Plants of California, second edition* (Baldwin et al. 2012), *The California Native Plant Society’s Inventory of Rare and Endangered Vascular Plants of California* (CNPS 2021), Calflora.org, and eBird.org. Special status species occurrences recorded in the CNDDDB within 3.1 miles (5 kilometers) of the APE are depicted in Figure 5.

Legend

- SC-OR WWTP APE
- SC-OR WWTP APE 3.1 Mile (5km) Buffer

CNDBB Species Observations and Common Names

- Ahart's dwarf rush
- Chinook salmon - Central Valley spring-run ESU
- Pink creamsacs
- Steelhead - Central Valley DPS
- Townsend's big-eared bat
- Tricolored blackbird
- Vernal pool fairy shrimp
- Vernal pool tadpole shrimp
- Western mastiff bat
- Western pond turtle
- Western spadefoot



Live Oak Associates, Inc.
Special Status Species Map
SC-OR WWTP
Upgrade Project

Date	Project #	Figure #	
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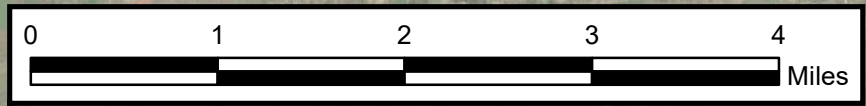


TABLE 1. LIST OF SPECIAL STATUS SPECIES THAT COULD OCCUR IN THE PROJECT VICINITY

PLANTS (adapted from CDFW 2021, CNPS 2021, and USFWS 2021)

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

Species	Status	Habitat/Range	Occurrence on the APE
Butte County Meadowfoam (<i>Limnanthes floccosa ssp. californica</i>)	FE, CE, CNPS 1B	Occurs along vernal pool edges and freshwater wetlands, typically at elevations below 1,000 feet. Blooms March-May.	Absent. Suitable habitats for this species are absent from the APE.
Slender Orcutt Grass (<i>Orcuttia tenuis</i>)	FT, CE, CNPS 1B	Occurs in vernal pools of valley grassland, foothill woodland, freshwater wetlands, and wetland-riparian habitats at elevations between 650 and 3,600 feet. Blooms May-October.	Absent. Suitable habitats for this species are absent from the APE and the APE is well below the elevation range of this species.
Greene's Tuctoria (<i>Tuctoria greenei</i>)	FE, CR, CNPS 1B	Occurs in vernal pools of valley grassland, freshwater wetlands, and wetland-riparian habitats, typically at elevations below 3,450 feet. Blooms May-September.	Absent. Suitable habitats for this species are absent from the APE.

CNPS-Listed Plants

Big-scale Balsamroot (<i>Balsamorhiza macrolepis</i>)	CNPS 1B	Occurs on open grassy or rocky slopes in valley grassland and foothill woodland habitat, between 150 and 5,100 feet in elevation. Blooms March-July.	Unlikely. The APE is situated at the lower limit of this species' elevation distribution, and consists largely of an active wastewater treatment facility that would not support this or other sensitive plant species. Although the APE's disturbed savanna may theoretically offer suitable habitat for big-scale balsamroot, past ground disturbance associated with gold dredging would greatly limit its potential to occur here. Moreover, there are no known occurrences of this species in the project vicinity. The closest CNDDDB record is more than 9 miles from the APE, documented in 1897.
Pink Creamsacs (<i>Castilleja rubicundula var. rubicundula</i>)	CNPS 1B	Occurs in serpentinite rock of chaparral, cismontane woodland, meadows and seeps, and valley and foothill grassland habitat at elevations between 65 and 3,000 feet. Blooms April-June.	Absent. Suitable soils for this species are absent from the APE.
Mosquin's Clarkia (<i>Clarkia mosquinii</i>)	CNPS 1B	Occurs in dry, rocky places like foothill woodland at elevations of 600-4,000 feet. Blooms June-July.	Absent. Suitable habitats for this species are absent from the APE and the APE is well below the elevation range of this species.
Recurved Larkspur (<i>Delphinium recurvatum</i>)	CNPS 1B	Occurs on alkaline soils in shadscale scrub, valley grassland, and foothill woodland habitats, usually in non-wetlands but occasionally in wetlands at elevations of 100-2,000 feet. Blooms March-June.	Absent. Suitable soils for this species are absent from the APE.

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

PLANTS (cont'd)

CNPS-Listed Plants

Species	Status	Habitat/Range	Occurrence on the APE
Adobe-lily (<i>Fritillaria pluriflora</i>)	CNPS 1B	Occurs in adobe, general serpentine soils of chaparral, valley grassland, and foothill woodland habitats, typically at elevations below 3,000 feet. Blooms February-April.	Absent. Suitable soils for this species are absent from the APE.
Wooly Rose-mallow (<i>Hibiscus lasiocarpus var occidentalis</i>)	CNPS 1B	Occurs in freshwater wetlands, wet banks, and marshes, typically below 330 feet in elevation. Blooms June-November.	Absent. Suitable habitats for this species are absent from the APE.
Ahart's Dwarf Rush (<i>Juncus leiospermus var. ahartii</i>)	CNPS 1B	Occurs in mesic valley foothill and grassland habitats at the margins of vernal pools and swales, sometimes on gopher mounds. Typically found at elevations of 100-300 feet. Blooms March-May.	Absent. Suitable wetland habitat is absent from the APE.
Red Bluff Dwarf Rush (<i>Juncus leiospermus var. leiospermus</i>)	CNPS 1B	Occurs in vernal pool margins, wet places in chaparral, and woodland habitats at elevations of 900-1,700 feet. Blooms March-June.	Absent. Suitable habitats for this species are absent from the APE and the APE is well below the elevation range of this species.
Baker's Navarretia (<i>Navarretia leucocephala ssp. bakeri</i>)	CNPS 1B	Occurs in vernal pools and wetlands of yellow pine forest, northern oak woodland, foothill woodland, valley grassland, freshwater wetlands, and wetland-riparian habitats, typically at elevations below 5,600 feet. Blooms April-July.	Absent. Suitable habitats for this species are absent from the APE.
Ahart's Paronychia (<i>Paronychia ahartii</i>)	CNPS 1B	Occurs in well-drained rocky outcrops, vernal pool edges, and volcanic upland areas of valley grassland, foothill woodland, and freshwater wetland habitat, typically at elevations below 1,650 feet. Blooms March-June.	Absent. Suitable habitats for this species are absent from the APE.
Sanford's Arrowhead (<i>Sagittaria sanfordii</i>)	CNPS 1B	Occurs in ponds and ditches of freshwater wetlands and wetland-riparian habitats, typically at elevations below 1,000 feet. Blooms May-October.	Absent. Suitable habitats for this species are absent from the APE.
Butte County Golden Clover (<i>Trifolium jokerstii</i>)	CNPS 1B	Occurs in vernal pools, typically at elevations below 1,350 feet. Blooms March-May.	Absent. Suitable habitats for this species are absent from the APE.

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

ANIMALS (adapted from CDFW 2021 and USFWS 2021)

Species Listed as Threatened or Endangered under the State and/or Federal Endangered Species Act, and/or as California Fully Protected

Species	Status	Habitat/Range	Occurrence on the APE
Valley Elderberry Longhorn Beetle (<i>Desmocerus californicus dimorphus</i>)	FT	Lives in mature elderberry shrubs of California’s Central Valley and Sierra foothills.	Possible. Blue elderberry shrubs are located along the APE’s southern and western boundary in six distinct clusters (Figure 3). These shrubs may support VELB. This species is known from the Oroville Wildlife Area, 3 to 5 miles southwest of the APE.
Monarch Butterfly (<i>Danaus plexippus</i>)	FC	The western North American population of monarch butterfly overwinters along the California coast. In the spring, individuals migrate north and east over to the Pacific Northwest and toward the Rockies, producing multiple generations en route. In the fall, adults enter reproductive diapause and return to the coast. Milkweed, the obligate host plant of this species, is required during spring migration, when breeding occurs. Trees are used as roost sites during fall migration. Nectar resources from both milkweed and other flowering plants are important year-round.	Possible. Monarchs have the potential to migrate through the APE, and may occasionally forage or roost on site. Milkweed has not been detected during LOA’s field surveys, so it appears unlikely that the APE would support breeding by this species.
Vernal Pool Fairy Shrimp (<i>Branchinecta lynchi</i>)	FT	Occurs in vernal pools, clear to tea-colored water in grass or mud-bottomed swales, and basalt depression pools.	Absent. Suitable habitat in the form of vernal pools is absent from the APE. The nearest CNDDDB observation is approximately 1.5 miles to the southeast, and is from 2006.
Vernal Pool Tadpole Shrimp (<i>Lepidurus packardii</i>)	FE	Occurs in vernal pools, clear to tea-colored water in grass or mud-bottomed swales, and basalt depression pools.	Absent. Suitable habitat in the form of vernal pools is absent from the APE. The nearest CNDDDB observation is approximately 3 miles to the northwest, and is from 2005.
Delta Smelt (<i>Hypomesus transpacificus</i>)	FT	This slender-bodied fish is endemic to the San Francisco Bay and Sacramento-San Joaquin Delta upstream through Contra Costa, Sacramento, San Joaquin, Solano, and Yolo Counties.	Absent. Suitable habitats for this species are absent from the APE.
Steelhead – Central Valley DPS (<i>Oncorhynchus mykiss irideus pop. 11</i>)	FT	Cold-water streams with adequate dissolved oxygen and gravel substrates free of excessive silt for spawning in coastal streams and tributaries of San Francisco and San Pablo Bays.	Absent. Suitable habitats for this species are absent from the APE.
Chinook Salmon – Central Valley spring-run ESU (<i>Oncorhynchus tshawytscha pop. 6</i>)	FT, CT	Salmon of this run begin to migrate up the Sacramento River in the spring. They hold in cool water tributaries through the summer, and spawn in the fall in gravel beds in riffle areas. Juveniles migrate soon after emergence as young-of-the year, or remain in freshwater and migrate as yearlings.	Absent. Suitable habitats for this species are absent from the APE.

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

ANIMALS (cont'd)

Species Listed as Threatened or Endangered under the State and/or Federal Endangered Species Act, and/or as California Fully Protected

Species	Status	Habitat/Range	Occurrence on the APE
Foothill Yellow-Legged Frog (<i>Rana boylei</i>)	CCT, CSSC	Frequents rocky streams and rivers with open, sunny banks in forests, chaparral, and woodlands. Occurs from sea level to 2,040 meters in elevation.	Absent. Suitable habitats for this species are absent from the APE.
California Red-legged Frog (<i>Rana draytonii</i>)	FT, CSSC	Perennial rivers, creeks and stock ponds of the Coast Range and northern Sierra foothills with overhanging vegetation.	Absent. Suitable habitats for this species are absent from the APE.
Giant Garter Snake (GGS) (<i>Thamnophis gigas</i>)	FT, CT	Occurs in marshes, sloughs, drainage canals, irrigation ditches, rice fields, and adjacent uplands. Prefers locations with emergent vegetation for cover and open areas for basking. GGS use small mammal burrows and soil crevices adjacent to aquatic habitats for overwintering and, in the summer, to escape excessive heat.	Absent. Suitable habitats for this species are absent from the APE. The nearest CNDDB observation is over four miles to the southwest, within the Feather River, and is from 2011.
Tricolored Blackbird (<i>Agelaius tricolor</i>)	CT	Nests colonially near fresh water in dense cattails or tules, or in thickets of willows or shrubs. In the San Joaquin Valley, has increasingly been documented nesting in wheat fields. Forages in grassland and cropland areas.	Possible. The APE's disturbed savanna habitat offers suitable foraging habitat for tricolored blackbirds. This species nests in large colonies that would not be supported by the site's isolated patches of willows and blackberry. The nearest known nesting occurrence is approximately 2.6 miles to the southwest, and is from 1971.
Greater Sandhill Crane (<i>Antigone canadensis tabida</i>)	CT, CFP	Winters in the Central Valley, where it frequents moist croplands with rice or corn stubble, irrigated pasture, emergent wetlands, and grassland habitat. Breeds in northeastern California and elsewhere.	Possible. Migrating or wintering greater sandhill cranes may occasionally forage in the APE's disturbed savanna habitat. Use of the site would be infrequent at best, given the APE's industrial setting and absence of cereal grain and wetland habitats likely to attract cranes. This species does not breed in Butte County.
Golden Eagle (<i>Aquila chrysaetos</i>)	CFP	Hunts over open terrain for rodents, lagomorphs and occasionally birds and reptiles. Nests on cliffs of all heights and in large trees in open areas.	Possible. Golden eagles may occasionally forage in the APE's disturbed savanna habitat, but nesting habitat is absent.
Swainson's Hawk (<i>Buteo swainsoni</i>)	CT	This breeding migrant to California nests in mature trees in riparian areas and oak savanna, and occasionally in lone trees at the margins of agricultural fields. Requires adjacent suitable foraging areas such as grasslands or alfalfa fields supporting rodent populations.	Possible. Swainson's hawks have the potential to nest in mature trees of the APE's disturbed savanna habitat, and to forage in that habitat's open areas. This species is unlikely to use the APE's ruderal/developed habitat, which is highly modified and frequently disturbed by WWTP operations. The closest known nesting occurrence of this species is approximately 5 miles to the southwest at Oroville Wildlife Area.

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

ANIMALS (cont'd)

Species Listed as Threatened or Endangered under the State and/or Federal Endangered Species Act, and/or as California Fully Protected

Species	Status	Habitat/Range	Occurrence on the APE
Western Yellow-billed Cuckoo (<i>Coccyzus americanus</i>)	FT, CE	Once a common breeding species in lowland California, the western yellow-billed cuckoo today breeds consistently only in large blocks of riparian habitat along the Sacramento and South Fork Kern Rivers. It winters in South America.	Absent. Suitable habitats for this species are absent from the APE.
White-Tailed Kite (<i>Elanus leucurus</i>)	CFP	Occurs in savanna, open woodlands, marshes, desert grassland, and cultivated fields. Prefer lightly grazed or ungrazed fields for foraging.	Possible. White-tailed kites may nest in mature trees of the APE's disturbed savanna habitat, and forage in that habitat's open areas. This species is not expected to use the highly modified and frequently disturbed habitats of the active WWTP facility.
Bald Eagle (<i>Haliaeetus leucocephalus</i>)	CE, CFP	In California, breeds in mountain and foothill forests near reservoirs, lakes, and rivers, and winters near Central Valley reservoirs. Primarily feeds on fish and waterfowl, and may also eat carrion.	Unlikely. This species may occasionally fly over the APE, but is unlikely to forage on site due to the marginal nature of the site's aquatic habitats and high levels of disturbance. The site would not support breeding by this species.
California Black Rail (<i>Laterallus jamaicensis coturniculus</i>)	CT, CFP	Prefers marshes, swamps, and wet meadows and is dependent on aquatic plants, insects, and crustaceans.	Absent. Suitable habitats for this species are absent from the APE.
Bank Swallow (<i>Riparia riparia</i>)	CT	Prefers riverbanks, creeks, seashores, and lakes. Nests in colonies in vertical streamside banks or cliffs.	Absent. Suitable habitats for this species are absent from the APE.
Least Bell's Vireo (<i>Vireo belii pusillus</i>)	FE, CE	Breeds in dense early successional riparian vegetation. Winters in Mexico and Central America.	Absent. Suitable habitats for this species are absent from the APE.

California Species of Special Concern

Western Spadefoot (<i>Spea hammondi</i>)	CSSC	Mainly occurs in grasslands of the Central Valley, where it breeds in vernal pools or other temporary wetlands and aestivates in underground refugia such as rodent burrows. Baumberger et al. (2019) recorded a maximum distance of around 890 feet between breeding and aestivation sites.	Unlikely. While the APE's disturbed savanna habitat is theoretically suitable for spadefoot aestivation, potential breeding habitat is absent from the APE and adjacent lands, greatly limiting the potential for this species to occur on site.
Coast Horned Lizard (<i>Phrynosoma blainvillii</i>)	CSSC	Occurs in the lower Sierra foothills and throughout the central and southern California coast in relatively open areas.	Unlikely. While the APE's disturbed savanna habitat is theoretically suitable for this species it is unlikely to have persisted in the project vicinity following widespread dredging activities, nor would it be expected to migrate into this industrial portion of Oroville. The closest known occurrence, historical or otherwise, is approximately 8 miles north of the APE at a CDFW ecological reserve.

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

ANIMALS (cont'd)

State Species of Special Concern

Species	Status	Habitat/Range	Occurrence on the APE
Western Pond Turtle (<i>Emys marmorata</i>)	CSSC	An aquatic turtle of ponds, marshes, slow-moving rivers, streams and irrigation ditches with aquatic vegetation. Needs basking sites and sandy banks or grassy open fields for egg laying.	Absent. The APE's treatment ponds would not support this species because they are not perennially inundated. The closest suitable aquatic habitat appears to be the Feather River, which, at ½ mile from the APE, is too distant to enable upland use of the site by individuals of this species.
Burrowing Owl (<i>Athene cunicularia</i>)	CSSC	Frequents open, dry annual or perennial grasslands, deserts, and scrublands characterized by low growing vegetation. Dependent upon burrowing mammals, most notably the California ground squirrel, for nest burrows.	Possible. This species has limited presence in the project vicinity, with only one known occurrence in a nearly 20-mile radius. However, the APE's disturbed savanna offers marginal roosting, nesting, and foraging habitat for the burrowing owl. Should this species occur in the vicinity, it could conceivably use this portion of the site. This species is not expected to use the highly modified and frequently disturbed habitats of the active WWTP facility.
Northern Harrier (<i>Circus cyaneus</i>)	CSSC	Frequents meadows, grasslands, open rangelands, freshwater emergent wetlands. Nests on ground, generally in marshes, although grassland and pasture habitat may also be used.	Possible. Northern harriers have the potential to forage and nest in the APE's disturbed savanna habitat. Its use of the APE's ruderal/developed habitat, if it occurs at all, would be limited to occasional foraging in open areas.
Loggerhead Shrike (<i>Lanius ludovicianus</i>)	CSSC	Frequents open habitats with sparse shrubs and trees, other suitable perches, bare ground, and low herbaceous cover. In the Central Valley, nests in riparian areas, desert scrub, and agricultural hedgerows.	Possible. This species may occasionally forage within the APE, and has the potential to nest in trees and shrubs of the APE's disturbed savanna habitat.
Yellow Warbler (<i>Setophaga petechia</i>)	CSSC	This summer migrant to California has largely been extirpated as a breeder in the Sacramento Valley, but continues to breed elsewhere in the state in riparian thickets of alder, willow and cottonwoods.	Possible. This species may pass through or forage within the APE's disturbed savanna habitat during migration, but would not breed on site or in the vicinity.
Townsend's Big-eared Bat (<i>Corynorhinus townsendii</i>)	CSSC	Primarily a cave-dwelling bat, but may also roost in tunnels, buildings, other human-made structures, and hollow trees. Occurs in a variety of habitats.	Possible. This species has the potential to roost in the APE's buildings and mature trees, and could forage on site.
Western Mastiff Bat (<i>Eumops perotis californicus</i>)	CSSC	Frequents open, semi-arid to arid habitats, including conifer, and deciduous woodlands, coastal scrub, grasslands, palm oasis, chaparral and urban. Roosts in cliff faces, high buildings, and tunnels.	Possible. This species may forage over the APE, but would not roost on site.

OCCURRENCE DESIGNATIONS AND STATUS CODES

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

STATUS CODES

FE	Federally Endangered	CE	California Endangered
FT	Federally Threatened	CT	California Threatened
FPE	Federally Proposed Endangered	CCE	California Candidate Endangered
FPT	Federally Proposed Threatened	CCT	California Candidate Threatened
FC	Federal Candidate	CFP	California Fully Protected
		CSSC	California Species of Special Concern

CNPS LISTING

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

2.5 JURISDICTIONAL WATERS

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

Potential jurisdictional waters are absent from the APE. The nearest potential jurisdictional water consists of ditches located adjacent to the west and south boundaries of the APE, which feed into the Feather River. These ditches would likely be considered jurisdictional waters because they are tributary to a Water of the U.S. The topographic map in Figure 2 shows a ponded area in the central portion of the APE. Examination of historical aerial imagery from 1998 to present shows no evidence of ponding. Additionally, hydrophytic vegetation was not observed during the 2018 or 2021 field visits and the site lacked depressions that would support ponding.

2.6 SENSITIVE NATURAL COMMUNITIES

California contains a wide range of natural communities, or unique assemblages of plants and animals. These communities have largely been classified and mapped by CDFW as part of its natural heritage program. Natural communities are assigned state and global ranks according to their rarity and the magnitude and trend of the threats they face. Any natural community with a state rank of 1 to 3 (on a 1 to 5 scale) is considered “sensitive” and must be considered in CEQA review. Examples of sensitive natural communities in the San Joaquin Valley are northern hardpan vernal pool, sycamore alluvial woodland, valley oak woodland, and valley sink scrub.

Sensitive natural communities are absent from the APE.

2.7 WILDLIFE MOVEMENT CORRIDORS

Wildlife movement corridors are routes that animals regularly and predictably follow during seasonal migration, dispersal from native ranges, daily travel within home ranges, and inter-population movements. Movement corridors in California are typically associated with valleys, ridgelines, and rivers and creeks supporting riparian vegetation. The APE does not contain features that would support regular wildlife movement. Additionally, the APE is situated in an industrial portion of Oroville with limited value to terrestrial wildlife. While deer may use the adjacent ditches as wildlife movement corridors, critical winter range habitat for Butte County’s three migratory deer herds (East Tehama, Bucks Mountain, and Mooretown) does not occur within the APE or in the immediate vicinity.

2.8 DESIGNATED CRITICAL HABITAT

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

Designated critical habitat is absent from the APE and adjacent lands. The nearest unit of critical habitat is located approximately four miles northwest of the site, and is designated for the protection of vernal pool tadpole shrimp (*Lepidurus packardi*).

3.0 IMPACTS AND MITIGATIONS

3.1 SIGNIFICANCE CRITERIA

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

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

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by CDFW or USFWS.
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by CDFW or USFWS.
- Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

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

- Substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, or substantially reduce the number or restrict the range of an endangered, rare or threatened species.
- Achieve short-term environmental goals to the detriment of long-term environmental goals.
- Produce environmental effects that are individually limited but cumulatively considerable, meaning that the incremental effects of the project are significant when viewed in connection with the effects of past projects, other current projects, and probable future projects.

3.2 RELEVANT GOALS, POLICIES, AND LAWS

3.2.1 General Plan Policies of the City of Oroville

In compliance with CEQA, the lead agency must consider conformance with applicable goals and policies of the General Plan of the City of Oroville. The City of Oroville General Plan was adopted in 2015, and has a planning horizon that extends through 2030. Its overall policy for biological resources is to protect habitat for special status species and to protect water quality. Refer to Appendix D for more details. Relevant implementation policies include:

- Preserve and protect all special status species, species that are candidates for federal or state listing, California species of special concern, and CNPS listed plant species.
- Protect areas of significant wildlife habitat and sensitive biological resources to maintain biodiversity among plant and animal species in the City of Oroville and the surrounding area.
- Protect riparian, riverine, and open water habitats.
- Protect water quality and quantity in creeks, lakes, natural drainages, and groundwater basins.
- Protect water quality and quantity in creeks, lakes, natural drainages, and groundwater basins.

3.2.2 Butte Regional Conservation Plan

The Butte Regional Conservation Plan (BRCP) consists of a federal Habitat Conservation Plan (HCP) and State Natural Community Conservation Plan (NCCP). The formal public draft BRCP became available November 2013, and the final BRCP and associated Environmental Impact Statement / Environmental Impact Report were submitted to the USFWS, CDFW, and National Marine Fisheries Service (NMFS) in June 2019 for final inspection and publication in the Federal Register. The BRCP is intended to establish and implement a comprehensive, coordinated, and efficient program to conserve ecologically important resources in the lowland and foothill region of Butte County including:

- Endangered, threatened, and other at-risk species and their habitats
- Natural communities and the ecological processes that support them
- Biodiversity
- Streams and ponds and the watersheds that support them
- Wetlands and riparian habitats
- Ecological corridors

3.2.3 Threatened and Endangered Species

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

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

3.2.4 Migratory Birds

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

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

3.2.5 Birds of Prey

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

3.2.6 Nesting Birds

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

3.2.7 Wetlands and Other Jurisdictional Waters

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

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

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

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

- All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce.
- All impoundments of waters otherwise defined as waters of the United States under the definition.
- Tributaries of waters identified in the bulleted items above.

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

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

Under the Porter-Cologne Water Quality Control Act of 1969, the State Water Resources Control Board has regulatory authority to protect the water quality of all surface water and groundwater in the State of California (“waters of the State”). Nine RWQCBs oversee water quality at the local and regional level. The RWQCB for a given region regulates discharges of fill or pollutants into waters of the State through the issuance of various permits and orders. Discharges into waters of the State that are also waters of the U.S. require a Section 401 Water Quality Certification from the RWQCB as a prerequisite to obtaining certain federal permits, such as a Section 404 Clean Water Act permit. Discharges into all waters of the State, even those that are not also waters of the U.S., require Waste Discharge Requirements (WDRs), or waivers of WDRs, from the

RWQCB. The RWQCB also administers the Construction Storm Water Program and the federal National Pollution Discharge Elimination System (NPDES) program. Projects that disturb one or more acres of soil must obtain a Construction General Permit under the Construction Storm Water Program. A prerequisite for this permit is the development of a Storm Water Pollution Prevention Plan (SWPPP) by a certified Qualified SWPPP Developer. Projects that discharge wastewater, storm water, or other pollutants into a water of the U.S. may require a NPDES permit.

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

3.3 POTENTIALLY SIGNIFICANT PROJECT IMPACTS/MITIGATION

The following analysis assumes that permanent project-related impacts will be confined to the existing WWTP facility, and that the approximately 20 acres of the APE that falls outside of the fenced facility will be subjected to temporary disturbance only. Temporary disturbance within this portion of the APE, identified throughout this document as the APE's disturbed savanna habitat, will include construction staging, materials laydown, and temporary storage of the metal sheds that are proposed for relocation.

3.3.1 Construction-Related Mortality of the Valley Elderberry Longhorn Beetle

Potential Impacts. As discussed, blue elderberry shrubs, the obligate habitat of the federally threatened valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*), are located along the APE's southern and western boundaries in six distinct clusters. These shrubs will be protected during construction with fenced no-disturbance buffers of at least 20 feet, as measured from the dripline. None of the shrubs are located within the fenced WWTP facility, where all improvements will be constructed. One cluster is located immediately outside of the WWTP

fenceline to the west of the treatment ponds, and the other five are located along the boundary of the APE's disturbed riparian habitat, which will only be used for construction staging and materials laydown. The risk to these shrubs and any resident valley elderberry longhorn beetles (VELB) is therefore considered to be low. Nevertheless, there is the potential for individual beetles to be harmed by nearby construction activities, particularly during the March-July flight season. Project-related injury or mortality of VELB individuals would violate the federal Endangered Species Act and be considered a significant impact of the project under CEQA.

Mitigation. The following measures adapted from the USFWS (2017) *Framework for Assessing Impacts to the Valley Elderberry Longhorn Beetle (Desmocerus californicus dimorphus)* will be implemented for the protection of the VELB.

Mitigation 3.3.1a (Fencing and Avoidance Areas). All areas to be avoided during construction activities will be fenced and/or flagged as close to construction limits as possible. This includes the required 20-foot no-disturbance buffers around elderberry shrubs, as well as any other areas within 165 feet of the shrub clusters that may feasibly be avoided. Fencing will be inspected by a qualified biologist prior to the start of work.

Mitigation 3.3.1b (Worker Education). Prior to the start of work a qualified biologist will provide training for all contractors, work crews, and any onsite personnel on the status of the VELB, its host plant and habitat, the need to avoid damaging the APE's elderberry shrubs, and the possible penalties for non-compliance.

Mitigation Measure 3.3.1c (Timing). As much as feasible, all activities occurring within 165 feet of an elderberry shrub will be conducted outside of the flight season of the VELB (March-July).

Mitigation Measure 3.3.1d (Chemical Usage). Throughout the operational life of the project, herbicides should not be used within the dripline of elderberry shrubs, and insecticides should not be used within 100 feet of an elderberry shrub. All chemicals will be applied using a backpack sprayer or similar direct application method.

Implementation of the above mitigation measures would reduce project-related impacts to the VELB to a less than significant level under CEQA, and enable a May Affect, Not Likely to Adversely Affect determination for this species under Section 7 of the Endangered Species Act.

3.3.2 Construction-Related Mortality/Disturbance of the Burrowing Owl

Potential Impacts. Although the burrowing owl (*Athene cunicularia*) is not common in the project vicinity, the APE's disturbed savanna offers marginal nesting, roosting, and foraging habitat for this species, and there is some potential for burrowing owl individuals to occur in this portion of the site. Project-related impacts in this area will be relatively minor, limited to temporary disturbance associated with construction staging and materials laydown activities. However, if burrowing owls are occupying burrows in this portion of the APE at the time of construction, owls could be vulnerable to project-related injury or mortality. Project-related injury, mortality, or disturbance of burrowing owls is considered a potentially significant impact under CEQA.

The highly maintained habitats of the fenced WWTP facility are not suitable for the burrowing owl, and no individuals of this species are expected to occur in this portion of the site.

Mitigation. The applicant will implement the following measures for construction activities occurring in the APE's disturbed savanna habitat:

Mitigation Measure 3.3.2a (Take Avoidance Surveys). Take avoidance surveys for burrowing owls shall be conducted by a qualified biologist within 30 days prior to the start of construction activities in the APE's disturbed savanna habitat. The surveys will be conducted according to methods described in the *Staff Report on Burrowing Owl Mitigation* (CDFG 2012). The survey will cover proposed work areas and adjacent lands within 200 meters, where potential nesting or roosting habitat is present ("survey area").

Mitigation Measure 3.3.2b (Avoidance of Nest Burrows). During the burrowing owl breeding season (February 1-August 31), any active nest burrows that are identified will be avoided by a minimum distance of 200 meters. The avoidance areas will be enclosed with temporary fencing to prevent encroachment by construction equipment and workers. Buffers will remain in place for the duration of the breeding season, unless otherwise arranged with CDFW. After the breeding season, passive relocation of any remaining owls may take place as described below.

Mitigation Measure 3.3.2c (Avoidance or Passive Relocation of Resident Owls). During the non-breeding season (September 1-January 31), resident owls occupying burrows in the APE's disturbed savanna habitat may either be avoided or passively relocated to alternative habitat. If avoidance is elected, a 50-meter no-disturbance buffer will be established around the occupied burrows, to remain in place until a qualified biologist determines that the burrows are no longer active. If the applicant chooses to passively relocate resident owls, this activity will be conducted in accordance with a relocation plan prepared by a qualified biologist.

Compliance with the above mitigation measures will reduce potential impacts to the burrowing owl from project-related injury, mortality, or disturbance to a less than significant level under CEQA, and will ensure that the project is in compliance with state and federal laws protecting this species.

3.3.3 Construction-Related Mortality/Disturbance of Nesting Raptors and Migratory Birds including the Northern Harrier, Swainson's Hawk, White-tailed Kite, and Loggerhead Shrike

Potential Impacts. The APE contains suitable nesting habitat for a number of avian species protected under the federal Migratory Bird Treaty Act and California Fish and Game Code. Black phoebes and house finches could nest in the WWTP's buildings and structures, while killdeer could nest on the ground in barren areas of the facility. Least sandpipers could nest in upland areas surrounding the WWTP treatment ponds. The WWTP's trees and shrubs could be used by disturbance-tolerant songbirds such as the Brewer's blackbird and northern mockingbird. Trees in the disturbed savanna habitat could be used by more sensitive songbirds and raptors, possibly including the special-status Swainson's hawk, white-tailed kite, and loggerhead shrike. The disturbed savanna may also support ground-nesting by species such as the western meadowlark, mourning dove, and northern harrier; the latter is a California Species of Special Concern. If birds were found to be nesting on or adjacent to the APE at the time of construction, project-related activities could result in the abandonment of active nests or direct mortality to these birds. Construction activities that adversely affect the nesting success of migratory birds and raptors or result in the mortality of individual birds would violate state and federal laws (see Sections 3.2.4 to 3.2.6) and would be considered a significant impact of the project under CEQA.

Mitigation. The applicant will implement the following measures to avoid and minimize the potential for project-related mortality/disturbance of nesting raptors and migratory birds.

Mitigation 3.3.3a (Avoidance). In order to avoid impacts to nesting raptors and migratory birds, construction will occur, where possible, outside the nesting season, or between September 1st and January 31st.

Mitigation 3.3.3b (Preconstruction Surveys). If construction must occur during the nesting season (February 1 - August 31), a qualified biologist will conduct pre-construction surveys

for active raptor and migratory bird nests within 10 calendar days of the onset of these activities. The surveys will encompass (1) suitable trees of the APE and surrounding lands within ¼ mile for nesting Swainson's hawks and white-tailed kites, and (2) suitable tree, shrub, ground, and structure habitat of the APE and surrounding lands within 500 feet for all other birds and raptors. If no active nests are found within the survey area, no further mitigation is required.

Mitigation 3.3.3c (Establish Buffers). The biologist will identify a suitable no-disturbance buffer around any active nests that are found during the preconstruction surveys. This buffer will be identified on the ground with flagging or fencing, and will be maintained until the biologist has determined that the young have fledged.

Compliance with the above mitigation measures would reduce impacts to nesting raptors and migratory birds to a less than significant level under CEQA, and ensure compliance with federal and state laws protecting these species.

3.3.4 Construction-Related Mortality of Roosting Bats including the Townsend's Big-eared Bat

Potential Impacts. The APE contains buildings and trees potentially suitable for roosting by a variety of native bat species including the Townsend's big-eared bat (*Corynorhinus townsendii*), a California Species of Special Concern. Project-related tree removal and building demolition/relocation have the potential to impact any bats roosting within. If bat maternity colonies are present, many individual bats could be killed. Such a mortality event would be considered a significant impact of the project under CEQA.

Mitigation. The applicant will implement the following measures to avoid and minimize the potential for project-related mortality/disturbance of roosting bats.

Mitigation Measure 3.3.4a (Temporal Avoidance). To avoid potential impacts to maternity bat roosts, tree removal and building demolition/relocation should occur outside of the period between April 1 and September 30, the time frame within which colony-nesting bats generally assemble, give birth, nurse their young, and ultimately disperse.

Mitigation Measure 3.3.4b (Preconstruction Surveys). If tree removal or building demolition/relocation must occur between April 1 and September 30, then within 30 days prior to these activities, a qualified biologist will survey the affected features for roosting bats. The biologist will look for individuals, guano, and staining, and will listen for bat vocalizations. If necessary, the biologist will wait for nighttime emergence of bats from

roost sites. If no bats are observed to be roosting or breeding, then no further action would be required, and the activities could proceed.

Mitigation Measure 3.3.4c (Minimization). If a non-breeding bat colony is detected in any of the trees or buildings to be removed, the individuals will be humanely evicted under the direction of a qualified biologist to ensure that bats are not harmed by these activities.

Mitigation Measure 3.3.4d (Avoidance of Maternity Roosts). If a maternity colony is detected in any of the trees or buildings to be removed, the biologist will identify a suitable disturbance-free buffer around the colony. The buffer will remain in place until the biologist determines that the nursery is no longer active.

Compliance with the above mitigation measures will reduce potential impacts to roosting bats from construction-related injury, mortality, or disturbance to a less than significant level under CEQA.

3.3.5 Degradation of Water Quality in Seasonal Drainages and Downstream Waters

Potential Impacts. Extensive ground disturbance associated with construction projects often leaves the soils of construction zones barren of vegetation and, therefore, vulnerable to erosion. Eroded soil is generally carried as sediment in surface runoff to be deposited in natural creek beds, canals, and adjacent wetlands. Runoff is often polluted with grease, oil, pesticide and herbicide residues, and/or heavy metals.

Currently, treated effluent at the WWTP facility is transported by a discharge pipe that emits effluent directly into the Feather River approximately five miles downstream of the APE. While the proposed upgrade project will increase the capability of the WWTP to handle peak wet weather flow, it will not increase discharge amounts. The upgrade may, however, improve discharge composition by reducing total nitrogen in the effluent to below 10mg/l.

The proposed project will decrease the nitrate levels of the treated effluent that enters the Feather River, thereby increasing the water quality downstream of the WWTP discharge location. However, water quality of downstream waters could be significantly impacted by construction activities occurring within the APE. Runoff could enter the ditches to the west and south of the site or make its way to this ditch system from other areas within the APE, and degrade water quality of the Feather River. Degradation of water quality in these downstream waters as a result of project construction would be considered a potentially significant impact under CEQA.

Mitigation. The applicant will implement the following measures to prevent sedimentation and degradation of downstream waters.

Mitigation Measure 3.3.5a (Erosion Control Measures). The applicant will define the limits of any construction within the APE. Wattles or other appropriate erosion controls will be placed between ground-disturbing activities and areas where sedimentation could flow out of the APE.

Mitigation Measure 3.3.5b. (Storm Water Pollution Prevention Plan). The applicant will arrange for the preparation of a Storm Water Pollution Prevention Plan (SWPPP) that identifies measures to prevent erosion and sedimentation from construction activities and measures to prevent contaminants from entering downstream waters. The SWPPP will be implemented in full during project construction.

Mitigation Measure 3.3.5c. (Use of Best Management Practices to control soil erosion and non-point source pollution). Best Management Practices (BMPs) will be implemented as appropriate. BMP's may include measures in 3.3.5a and 3.3.5b above, and may include any number of additional measures appropriate for this particular site and this particular project, including, but not-limited to, grease traps in staging areas, regular site inspections for pollutants that could be carried by runoff into natural drainages, etc.

Implementation of the above measures will reduce potential impacts to downstream water quality to a less than significant level under CEQA.

3.4 LESS THAN SIGNIFICANT PROJECT IMPACTS

3.4.1 Project Impacts to Special Status Plants

Potential Impacts. Fifteen special status vascular plant species are known to occur within the project vicinity (see Table 1). These species include Butte County meadowfoam (*Limnanthes floccosa* ssp. *californica*), Slender orcutt grass (*Orcuttia tenuis*), Greene's tuctoria (*Tuctoria greenei*), big-scale balsamroot, (*Balsamorhiza macrolepis*), pink creamsacs (*Castilleja rubicundula* var. *rubicundula*), Mosquin's clarkia (*Clarkia mosquinii*), recurved larkspur (*Delphinium recurvatum*), adobe-lily (*Fritillaria pluriflora*), wooly rose-mallow (*Hibiscus lasiocarpus* var. *occidentalis*), Ahart's dwarf rush (*Juncus leiospermus* var. *ahartii*), Red Bluff dwarf rush (*Juncus leiospermus* var. *leiospermus*), Baker's navarretia (*Navarretia leucocephala* ssp. *bakeri*), Ahart's paronychia (*Paronychia ahartii*), Sanford's arrowhead (*Sagittaria sanfordii*), and Butte County golden clover (*Trifolium jokerstii*). Due to the absence of suitable habitat and/or

the location of the site being outside a particular species' range, none of these species are expected to occur on site. Therefore, the proposed project would be unlikely to affect any of these species or their habitats, and impacts are considered less than significant as defined by CEQA.

Mitigation. Mitigation measures are not warranted.

3.4.2 Project Impacts to Special Status Animal Species Absent from or Unlikely to Occur on the APE

Potential Impacts. Of the 29 special status animal species that have the potential to occur in the project vicinity, 16 are considered absent or unlikely to occur on site due to past and ongoing disturbance of the site and surrounding lands, the absence of suitable habitat, and/or the distance of the site from the known distribution of the species. These species include the vernal pool fairy shrimp (*Branchinecta lynchi*), vernal pool tadpole shrimp (*Lepidurus packardii*), delta smelt (*Hypomesus transpacificus*), steelhead – Central Valley DPS (*Oncorhynchus mykiss irideus* pop. 11), chinook salmon – Central Valley spring-run ESU (*Oncorhynchus tshawytscha* pop. 6), foothill yellow-legged frog (*Rana boylei*), California red-legged frog (*Rana aurora draytonii*), giant garter snake (*Thamnophis gigas*), yellow-billed cuckoo (*Coccyzus americanus*), bald eagle (*Haliaeetus leucocephalus*), California black rail (*Laterallus jamaicensis coturniculus*), bank swallow (*Riparia riparia*), least Bell's vireo (*Vireo belii pusillus*), western spadefoot (*Spea hammondi*), coast horned lizard (*Phrynosoma blainvillii*), and western pond turtle (*Emys marmorata*) (see Table 1). Since there is little to no likelihood that these species would occur on the site, project implementation is not likely to adversely affect these species, and project impacts are considered less than significant under CEQA.

Mitigation. Mitigation measures are not warranted.

3.4.3 Project Impacts to Special Status Animal Species that May Occur on the APE as Occasional or Regular Foragers but Breed Elsewhere

Potential Impacts. Five special status animal species, the tricolored blackbird (*Agelaius tricolor*), greater sandhill crane (*Antigone canadensis tabida*), golden eagle (*Aquila chrysaetos*), yellow warbler (*Setophaga petechia*), and western mastiff bat (*Eumops perotis californicus*), have the

potential to forage on the site from time to time but are unlikely to breed, nest, or roost on-site (see Table 1). A sixth such species, the monarch butterfly (*Danaus plexippus*), may forage or roost on the APE during migration events, but would not breed or overwinter on site. None of these species would be vulnerable to construction-related injury or mortality because their use of the APE would be limited to activities in which they maintain a high level of mobility. Individuals of these species would be expected to avoid active construction zones.

Mitigation. Mitigation measures are not warranted.

3.4.4 Loss of Habitat for Special Status Animals

As discussed, the APE has the potential to be used in some form by a number of special status animal species. Although in some cases these animals may be vulnerable to construction-related injury or mortality (see Sections 3.3.1 through 3.3.4), the project will not result in substantial loss or degradation of habitat for any special status animal. Because the project will avoid blue elderberry shrubs by a minimum distance of 20 feet, no VELB habitat will be lost. The APE's disturbed savanna habitat, which may be used for nesting, roosting, and/or foraging by a variety of special status animals, will experience temporary disturbance associated with construction staging and materials laydown, but is expected to return to its former level of suitability after construction. For the few special status animals that have the potential to occur within the fenced WWTP facility, a small amount of low-quality habitat may be lost as a result of the project – for example, buildings presently suitable for roosting by the Townsend's big-eared bat may be removed – but similar or higher quality habitat will remain available elsewhere in the APE and project vicinity. For these reasons, project-related loss of special status animal habitat is considered a less than significant impact under CEQA.

Mitigation. Mitigation measures are not warranted.

3.4.5 Project Impacts to Wildlife Movement Corridors

Potential Impacts. The industrial area in which the APE is situated is characterized by low-quality, fragmented habitat that is generally not conducive to regular wildlife movement or establishment of important movement corridors. Critical winter range habitat for Butte County's

three migratory deer herds does not occur within the APE or in the immediate vicinity. Although portions of the APE may serve as stopover habitat for birds and other species migrating in flight through the vicinity, the project will have no effect on the Pacific Flyway; birds using the flyway will continue to do so during and following project implementation. The project is not expected to substantially interfere with wildlife movements or impede the use of wildlife movement corridors, and associated impacts are therefore considered less than significant under CEQA.

Mitigation. Mitigation measures are not warranted.

3.4.6 Project Impacts to Waters of the U.S. and State

Potential Impacts. The APE does not contain waters or wetlands that are likely to fall under the jurisdiction of the USACE, RWQCB, or CDFW. The ditches located to the west and south of the WWTP may be jurisdictional, but will not be impacted by the project. Although the existing WWTP facility discharges treated effluent into the Feather River, no modifications to the discharge structure or any other physical impacts to the river are proposed. Project impacts to Waters of the U.S. and State are considered less than significant under CEQA.

Mitigation. Mitigation measures are not warranted.

3.4.7 Project Impacts to Designated Critical Habitat and Sensitive Natural Communities

Potential Impacts. Designated critical habitat and sensitive natural communities are absent from the APE and adjacent lands. The project will have no impact on such resources.

Mitigation. Mitigation measures are not warranted.

3.4.8 Local Policies or Habitat Conservation Plans

Potential Impacts. With implementation of the mitigation measures presented in Section 3.3, the project appears to conform to the City of Oroville General Plan goals and policies that pertain to natural resources.

The Butte Regional Conservation Plan is not yet in effect. Should the BRCP be adopted in the near future, the project may be subject to BRCP avoidance and minimization measures for sensitive

biological resources, which in some cases are more rigorous than the mitigation measures presented in Section 3.3.

Mitigation. Mitigation measures are not warranted

3.5 SECTION 7 DETERMINATIONS FOR FEDERALLY LISTED SPECIES

The following table presents effect determinations for federally listed species that were returned in the project-specific IPaC and/or CNDDDB queries (USFWS 2021, CDFW 2021). The associated IPac Resource List is provided in Appendix F.

TABLE 2: SECTION 7 DETERMINATIONS FOR FEDERALLY LISTED SPECIES

Species	Determination	Rationale for the Determination
Butte County Meadowfoam* (<i>Limnanthes floccose</i> ssp. <i>californica</i>)	<i>No effect</i>	Habitat absent
Slender Orcutt Grass (<i>Orcuttia tenuis</i>)	<i>No effect</i>	Habitat absent
Green’s Tuctoria* (<i>Tuctoria greenei</i>)	<i>No effect</i>	Habitat absent
Valley Elderberry Longhorn Beetle (<i>Desmocerus californicus dimorphus</i>)	<i>May affect, not likely to adversely affect</i>	Project will not result in loss of habitat for this species, and avoidance and minimization measures consistent with USFWS (2017) will be implemented to avoid adverse effects to VELB.
Monarch Butterfly (<i>Danaus plexippus</i>)	<i>May affect, not likely to adversely affect</i>	Project will not result in loss of habitat for this species, and monarch butterflies are not expected to use the site for activities in which they would be vulnerable to take, such as breeding or overwintering.
Vernal Pool Fairy Shrimp (<i>Branchinecta lynchi</i>)	<i>No effect</i>	Habitat absent
Vernal Pool Tadpole Shrimp (<i>Lepidurus packardii</i>)	<i>No effect</i>	Habitat absent
Delta Smelt (<i>Hypomesus transpacificus</i>)	<i>No effect</i>	Habitat absent
Steelhead – Central Valley DPS* (<i>Oncorhynchus mykiss irideus</i> pop. 11)	<i>No effect</i>	Habitat absent
Chinook Salmon – Central Valley spring-run ESU* (<i>Oncorhynchus tshawytscha</i> pop. 6)	<i>No effect</i>	Habitat absent
California Red-legged Frog (<i>Rana draytonii</i>)	<i>No effect</i>	Habitat absent
Giant Garter Snake (GGS) (<i>Thamnophis gigas</i>)	<i>No effect</i>	Habitat absent
Yellow-billed Cuckoo (<i>Coccyzus americanus</i>)	<i>No effect</i>	Habitat absent
Least Bell’s Vireo* (<i>Vireo belii pusillus</i>)	<i>No effect</i>	Habitat absent

*Federally listed species that occur regionally based on CNDDB (CDFW 2021), but were not generated by the IPaC website (USFWS 2021).

4.0 LITERATURE REFERENCED

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APPENDIX A: VASCULAR PLANTS OF THE APE

The vascular plant species listed below were observed on the APE during site surveys conducted by Live Oak Associates, Inc. on November 7, 2018 and/or August 18, 2021. The U.S. Fish and Wildlife Service wetland indicator status of each plant has been shown following its common name.

OBL - Obligate
 FACW - Facultative Wetland
 FAC - Facultative
 FACU - Facultative Upland
 UPL - Upland
 NR - No review
 NA - No agreement
 NI - No investigation

ADOXACEAE – Moschatel Family		
<i>Sambucus nigra ssp. caerulea</i>	Blue Elderberry	FACU
ANACARDIACEAE – Cashew Family		
<i>Toxicodendron diversilobum</i>	Poison Oak	FACU
APOCYNACEAE – Dogbane Family		
<i>Nerium oleander</i>	Oleander	UPL
ASTERACEAE – Sunflower Family		
<i>Baccharis pilularis</i>	Coyote Brush	UPL
<i>Centaurea solstitialis</i>	Yellow Star-thistle	UPL
<i>Erigeron canadensis</i>	Canada Horseweed	FACU
<i>Holocarpa heermannii</i>	Heermann’s Tarweed	UPL
BRASSICACEAE – Mustard Family		
<i>Brassica nigra</i>	Black Mustard	UPL
CUPRESSACEAE – Cypress Family		
<i>Cedrus decurrens</i>	Incense Cedar	UPL
EUPHORBIACEAE – Spurge Family		
<i>Croton setigerus</i>	Doveweed	UPL
FABACEAE – Legume Family		
<i>Medicago polymorpha</i>	Bur Clover	FACU
FAGACEAE – Beech Family		
<i>Quercus sp.</i>	Live Oak sp.	UPL
GERANEACEAE - Geranium Family		
<i>Erodium sp.</i>	Filaree	UPL
JUGLANDACEAE – Walnut Family		
<i>Juglans nigra</i>	Black Walnut	UPL
MORACEAE – Mulberry Family		
<i>Morus alba</i>	Mulberry	UPL
PINACEAE – Conifer Family		

<i>Pinus sabiniana</i>	Foothill Pine	UPL
POACEAE – Grass Family		
<i>Avena fatua</i>	Wild Oats	UPL
<i>Hordeum murinum</i>	Foxtail Barley	FAC
ROSACEAE – Rose Family		
<i>Rubus armeniacus</i>	Himalayan Blackberry	FACU
SALICACEAE – Willow Family		
<i>Salix</i> sp.	Willow sp.	FACW
TAMARICACEAE – Tamarisk Family		
<i>Tamarix</i> sp.	Tamarisk sp.	FAC
SIMAROUBACEAE – Tree-of-Heaven Family		
<i>Ailanthus altissima</i>	Tree-of-Heaven	FACU
ZYGOPHYLLACEAE – Puncture Vine Family		
<i>Tribulus terrestris</i>	Puncture Vine/Goat’s head	UPL
VITACEAE – Grape Family		
<i>Vitis californica</i>	California Grape	FACU

APPENDIX B: TERRESTRIAL VERTEBRATE SPECIES THAT POTENTIALLY OCCUR ON THE APE

The species listed below are those that may reasonably be expected to use the habitats of the APE routinely or from time to time. The list was not intended to include birds that are vagrants or occasional transients. Terrestrial vertebrate species or their sign observed in or adjacent to the APE during the surveys conducted by Live Oak Associates, Inc. on November 7, 2018 and/or August 18, 2021 have been noted with an asterisk.

CLASS: AMPHIBIA (Amphibians)

ORDER: CAUDATA (Salamanders)

FAMILY: PLETHODONTIDAE (Lungless Salamanders)

California Slender Salamander (*Batrachoseps attenuates*)

ORDER: SALIENTIA (Frogs and Toads)

FAMILY: BUFONIDAE (True Toads)

Western Toad (*Bufo boreas*)

FAMILY: HYLIDAE (Treefrogs and relatives)

Pacific Tree Frog (*Pseudacris regilla*)

FAMILY: RANIDAE (True Frogs)

Bullfrog (*Lithobates catesbeianus*)

CLASS: REPTILIA (Reptiles)

ORDER: SQUAMATA (Lizards and Snakes)

SUBORDER: SAURIA (Lizards)

FAMILY: ANGUIDAE (Alligator Lizards & Allies)

Forest Alligator Lizard (*Elgaria multicarinata multicarinata*)

FAMILY: PHRYNOSOMATIDAE (Zebra-tailed, Earless, Fringe-toed, Spiny, Tree, Side-blotched, and Horned Lizards)

Northwestern Fence Lizard (*Sceloporus occidentalis occidentalis*)

FAMILY: SCINCIDAE (Skinks)

Gilbert's Skink (*Plestiodon gilberti*)

Skilton's Skink (*Plestiodon skiltonianus skiltonianus*)

FAMILY: TEIIDAE (Whiptails and Racerunners)

California Whiptail (*Aspidoscelis tigris munda*)

SUBORDER: SERPENTES (Snakes)

FAMILY: COLUBRIDAE (Colubrids)

Western Yellow-bellied Racer (*Coluber constrictor mormon*)

Common Sharp-tailed Snake (*Contia tenuis*)

Coral-bellied Ring-necked Snake (*Diadophis punctatus pulchellus*)

Pacific Gopher Snake (*Pituophis catenifer catenifer*)

California Kingsnake (*Lampropeltis californiae*)

Mountain Gartersnake (*Thamnophis elegans elegans*)

Valley Gartersnake (*Thamnophis sirtalis fitchi*)

FAMILY: VIPERIDAE (Vipers)

North Pacific Rattlesnake (*Crotalus oreganus oreganus*)

ORDER: TESTUDINES (Turtles)

FAMILY: EMYDIDAE (Pond Turtles)

CLASS: AVES (Birds)

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

FAMILY: ARDEIDAE (Hérons and Bitterns)

Great Blue Heron (*Ardea herodias*)

Great Egret (*Ardea alba*)

Snowy Egret (*Egretta thula*)

Cattle Egret (*Bubulcus ibis*)

Green Heron (*Butorides virescens*)

FAMILY: CATHARTIDAE (American Vultures)

*Turkey Vulture (*Cathartes aura*)

ORDER: ANSERIFORMES (Screamers, Ducks and Relatives)

FAMILY: ANATIDAE (Swans, Geese and Ducks)

Canada Goose (*Branta canadensis*)

Mallard (*Anas platyrhynchos*)

ORDER: FALCONIFORMES (Vultures, Hawks, and Falcons)

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

Golden Eagle (*Aquila chrysaetos*)

Red-tailed Hawk (*Buteo jamaicensis*)

Red-Shouldered Hawk (*Buteo lineatus*)

Northern Harrier (*Circus cyaneus*)

Swainson's Hawk (*Buteo swainsoni*)

FAMILY: FALCONIDAE (Caracaras and Falcons)

*American Kestrel (*Falco sparverius*)

ORDER: GALLIFORMES (Gallinaceous Birds)

FAMILY: ODONTOPHORIDAE (New World Quail)

*California quail (*Callipepla californica*)

ORDER: GRUIFORMES (Cranes, Rails, and Allies)

FAMILY: RALLIDAE (Rails, Gallinules, and Coots)

American Coot (*Fulica americana*)

Common Gallinule (*Gallinula galeata*)

ORDER: CHARADRIIFORMES (Shorebirds, Gulls, and relatives)

FAMILY: CHARADRIIDAE (Plovers and relatives)

*Killdeer (*Charadrius vociferus*)

FAMILY: COLOPACIDAE (Sandpipers and Relatives)

Greater Yellowlegs (*Tringa melanoleuca*)

*Least Sandpiper (*Calidris minutilla*)

FAMILY: LARIDAE (Skuas, Gulls, Terns and Skimmers)

Ring-billed Gull (*Larus delawarensis*)

California Gull (*Larus californicus*)

ORDER: COLUMBIFORMES (Pigeons and Doves)

FAMILY: COLUMBIDAE (Pigeons and Doves)
 *Rock Dove (*Columba livia*)
 Eurasian Collared Dove (*Streptopelia decaocto*)
 *Mourning Dove (*Zenaida macroura*)

ORDER: STRIGIFORMES (Owls)
FAMILY: TYTONIDAE (Barn Owls)
 Common Barn Owl (*Tyto alba*)
FAMILY: STRIGIDAE (Typical Owls)
 Burrowing Owl (*Athene cunicularia*)
 Great Horned Owl (*Bubo virginianus*)

ORDER: APODIFORMES (Swifts and Hummingbirds)
FAMILY: TROCHILIDAE (Hummingbirds)
 Anna's Hummingbird (*Calypte anna*)
 Rufous Hummingbird (*Selasphorus rufus*)
 Black-chinned Hummingbird (*Archilochus alexandri*)

ORDER: PICIFORMES (Woodpeckers and relatives)
FAMILY: PICIDAE (Woodpecker and Wrynecks)
 Acorn Woodpecker (*Melanerpes formicivorus*)
 Northern Flicker (*Colaptes chrysoides*)
 Nuttall's Woodpecker (*Picoides nuttallii*)

ORDER: PASSERIFORMES (Perching Birds)
FAMILY: TYRANNIDAE (Tyrant Flycatchers)
 *Black Phoebe (*Sayornis nigricans*)
 Western Wood-Pewee (*Contopus sordidulus*)
 Ash-throated Flycatcher (*Myiarchus cinerascens*)
 Western Kingbird (*Tyrannus verticalis*)
FAMILY: LANIIDAE (Shrikes)
 Loggerhead Shrike (*Lanius ludovicianus*)
FAMILY: CORVIDAE (Jays, Magpies, and Crows)
 Steller's Jay (*Cyanocitta stelleri*)
 Western Scrub Jay (*Aphelocoma coerulescens*)
 Yellow-billed Magpie (*Pica nutalli*)
 American Crow (*Corvus brachyrhynchos*)
 *Common Raven (*Corvus corax*)
FAMILY: ALAUDIDAE (Larks)
 Horned Lark (*Eremophila alpestris*)
FAMILY: HIRUNDINIDAE (Swallows)
 Tree Swallow (*Tachycineta bicolor*)
 Cliff Swallow (*Petrochelidon pyrrhonota*)
 Barn Swallow (*Hirundo rustica*)
FAMILY: PARIDAE (Titmice and Chickadees)
 Oak Titmouse (*Baeolophus inornatus*)
FAMILY: AEGITHALIDAE (Bushtits)
 Bushtit (*Psaltriparus minimus*)
FAMILY: SITTIDAE (Nuthatches)

White-breasted Nuthatch (*Sitta carolinensis*)
FAMILY: TROGLODYTIDAE (Wrens)
 House Wren (*Troglodytes aedon*)
 Bewick's Wren (*Thryomanes bewickii*)
FAMILY: REGULIDAE (Kinglets)
 Ruby-Crowned Kinglet (*Regulus calendula*)
FAMILY: TURDIDAE (Thrushes)
 Western Bluebird (*Sialia mexicana*)
 American Robin (*Turdus migratorius*)
FAMILY: MIMIDAE (Mockingbirds and Thrashers)
 *Northern Mockingbird (*Mimus polyglottos*)
FAMILY: STURNIDAE (Starlings)
 *European Starling (*Sturnus vulgaris*)
FAMILY: MOTACILLIDAE (Wagtails and Pipits)
 American Pipit (*Anthus rubescens*)
FAMILY: BOMBYCILLIDAE (Waxwings)
 Cedar Waxwing (*Bombycilla cedrorum*)
FAMILY: PARULIDAE (Wood Warblers and Relatives)
 Yellow-Rumped Warbler (*Dendroica coronata*)
 Yellow Warbler (*Setophaga petechia*)
FAMILY: EMBERIZIDAE (Emberizines)
 Spotted Towhee (*Pipilo maculatus*)
 California Towhee (*Melospiza crissalis*)
 Chipping Sparrow (*Spizella passerina*)
 Lark Sparrow (*Chondestes grammacus*)
 Fox Sparrow (*Passerella iliaca*)
 Song Sparrow (*Melospiza melodia*)
 Savanna Sparrow (*Passerculus sandwichensis*)
 White-Crowned Sparrow (*Zonotrichia leucophrys*)
 Golden-Crowned Sparrow (*Zonotrichia atricapilla*)
 Dark-Eyed Junco (*Junco hyemalis*)
FAMILY: ICTERIDAE (Blackbirds, Orioles and Allies)
 Red-winged Blackbird (*Agelaius phoeniceus*)
 *Western Meadowlark (*Sturnella neglecta*)
 Great-Tailed Grackle (*Quiscalus mexicanus*)
 *Brewer's Blackbird (*Euphagus cyanocephalus*)
 *Brown-headed Cowbird (*Molothrus ater*)
 Bullock's Oriole (*Icterus bullockii*)
FAMILY: FRINGILLIDAE (Finches)
 Purple Finch (*Haemorhous purpureus*)
 House Finch (*Carpodacus mexicanus*)
 Lesser Goldfinch (*Carduelis psaltria*)
 Lawrence's Goldfinch (*Spinus lawrencei*)
 American Goldfinch (*Spinus tristis*)
FAMILY: PASSERIDAE (Old World Sparrows)

House Sparrow (*Passer domesticus*)

CLASS: MAMMALIA (Mammals)

ORDER: DIDELPHIMORPHIA (Marsupials)

FAMILY: DIDELPHIDAE (Opossums)

Virginia Opossum (*Didelphis virginiana*)

ORDER: INSECTIVORA (Insectivores)

Ornate Shrew (*Sorex ornatus*)

FAMILY: TALPIDAE (Moles)

Broad-Footed Mole (*Scapanus latimanus*)

ORDER: CHIROPTERA (Bats)

FAMILY: VESPERTILIONIDAE (Evening Bats)

Yuma Myotis (*Myotis yumanensis*)

California Myotis (*Myotis californicus*)

Western Pipistrelle (*Pipistrellus hesperus*)

Big Brown Bat (*Eptesicus fuscus*)

Hoary Bat (*Lasiurus cinereus*)

Townsend's Big-eared Bat (*Corynorhinus townsendii*)

FAMILY: MOLOSSIDAE (Free-tailed Bat)

Mexican Free-tailed Bat (*Tadarida brasiliensis*)

ORDER: LAGOMORPHA (Rabbits, Hares, and Pikas)

FAMILY: LEPORIDAE (Rabbits and Hares)

*Audubon Cottontail Rabbit (*Sylvilagus audubonii*)

*Black-tailed Jackrabbit (*Lepus californicus*)

ORDER: RODENTIA (Rodents)

FAMILY: SCIURIDAE (Squirrels, Chipmunks, and Marmots)

*California Ground Squirrel (*Otospermophilus beecheyi*)

Western Gray squirrel (*Sciurus griseus*)

FAMILY: GEOMYIDAE (Pocket Gophers)

Botta's Pocket Gopher (*Thomomys bottae*)

FAMILY: HETEROMYIDAE (Pocket Mice and Kangaroo Rats)

California Kangaroo Rat (*Dipodomys californicus*)

FAMILY: MURIDAE (Old World Rats and Mice)

Western Harvest Mouse (*Reithrodontomys megalotis*)

Deer Mouse (*Peromyscus maniculatus*)

Norway Rat (*Rattus norvegicus*)

House Mouse (*Mus musculus*)

California Vole (*Microtus californicus*)

ORDER: ARTIODACTYLA (Even-toed Ungulates)

FAMILY: CERVIDAE (Deer, Elk and Relatives)

*Mule Deer (*Odocoileus hemionus*)

ORDER: CARNIVORA (Carnivores)

FAMILY: CANIDAE (Foxes, Wolves, and relatives)

Coyote (*Canis latrans*)

Feral Dog (*Canis lupus familiaris*)

Red Fox (*Vulpes vulpes*)

Gray fox (*Urocyon cinereoargenteus*)

FAMILY: PROCYONIDAE (Raccoons and relatives)

*Raccoon (*Procyon lotor*)

FAMILY: MEPHITIDAE (Skunks)

Striped Skunk (*Mephitis mephitis*)

Western Spotted Skunk (*Spilogale gracilis*)

FAMILY: FELIDAE (Cats)

Feral Cat (*Felis domesticus*)

Bobcat (*Lynx rufus*)

APPENDIX C: SELECTED PHOTOGRAPHS OF THE APE



Picture 1: Developed WWTP habitat (irrigated lawns, buildings, roads).



Picture 2: Ruderal WWTP habitat.



Picture 3: Developed WWTP habitat (sewage treatment lagoons).



Picture 4: Ruderal/developed habitat of the WWTP (solar field).



Picture 5: Disturbed savanna habitat.



Picture 6: California ground squirrel burrows in the APE's disturbed savanna.



Picture 7: Blue elderberry shrubs adjoining the APE's disturbed savanna.

**APPENDIX D: PAGES FROM THE CITY OF OROVILLE GENERAL
PLAN, BIOLOGICAL AND WATER RESOURCES ELEMENTS**

Use Map and other applicable policies, in accordance with the California Surface Mining and Reclamation Act (SMARA).

E. Biological Resources

1. Background Information

Biological communities in the Planning Area were significantly impacted beginning in the mid-1800s as the area was first hydraulically mined, and later dredged for gold, as well as developed for agriculture. Despite these human modifications to the natural environment, important biological resources continue to exist in and around Oroville.

Within the Planning Area, several regional parks and other protected public lands contain sensitive biological habitats (e.g. riparian, oak woodland and vernal pool) and may support State and federally listed species. These lands include the Thermalito Afterbay, Thermalito Forebay, Oroville Wildlife Area, and other natural lands managed by the California Department of Fish and Wildlife (DFW), California Department of Parks and Recreation (DPR), and the Feather River Recreation and Parks District. Although not in the Planning Area, nearby open space and wilderness areas such as the Plumas National Forest and North Table Mountain Wildlife Area provide important biological resources to the region. Wide-ranging wildlife species (e.g. black-tailed deer, osprey, golden eagle, bald eagle, and numerous species of migratory birds) within these areas could migrate through or forage in the Planning Area. Important biological resources in the Planning Area are described in greater detail below.

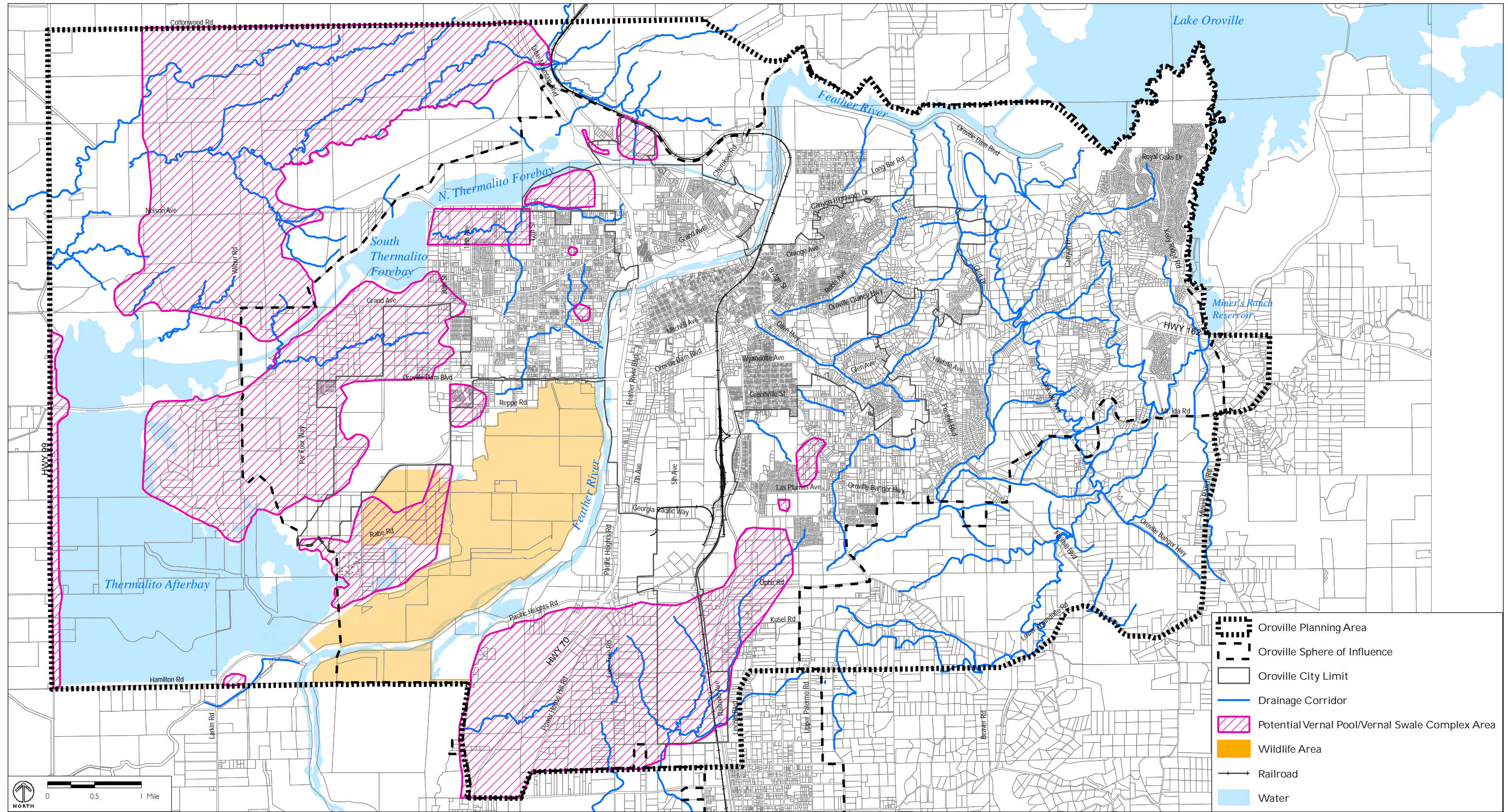
a. Biological Communities

Nine main types of biological communities occur in the Planning Area. These nine communities include:

- ◆ **Foothill Pine-Blue Oak Woodland.** Foothill pine-blue oak woodlands are scattered throughout the Planning Area but are concentrated in the eastern half of the Planning Area in a mostly rural setting, with extensive woodlands occurring around Lake Oroville.
- ◆ **Riparian Woodlands.** Riparian woodlands are common throughout the Planning Area and occur along portions of the Feather River, Thermalito Afterbay and Forebay, Thermalito Diversion Pool, and along numerous perennial and ephemeral drainages in the eastern portion of the Planning Area. Riparian

woodlands are also commonly associated with dredge tailings throughout the Planning Area.

- ◆ **Annual Grasslands.** Annual grasslands occur throughout the Planning Area. Large, open areas of annual grasslands occur primarily in the western half of the Planning Area and are typically grazing pastures for livestock. Annual grasslands also form the understory for foothill pine-blue oak woodland and occur on vacant parcels in developed areas.
- ◆ **Chaparral.** A small aggregation of chaparral occurs in the northern portion of the Planning Area on the south-facing slopes of South Table Mountain. Small scattered areas of chaparral are also present within the understory of woodlands throughout the Planning Area.
- ◆ **Agricultural Lands.** Areas used for agriculture are scattered throughout the Planning Area. Row crops and rice fields occur predominantly in mostly flat areas in the northwest portion of the Planning Area along Highway 99. Within the Planning Area small olive groves occur on hillsides in the southeastern portion and citrus orchards in the southwest corner.
- ◆ **Wetlands.** Wetlands are considered sensitive natural communities by several resource agencies and should be given special consideration in the Planning Area because they provide a variety of important ecological functions and essential habitat for wildlife resources. Natural wetland habitats are steadily declining compared to their historical distribution, as a result of land management practices and development activities. Four types of wetlands occur in the Planning Area.
- ◆ **Vernal Pools.** Vernal pools occur primarily in the western half of the Planning Area and are concentrated in the areas shown on Figure OPS-3. The largest area of vernal pools is located north and south of Cottonwood Road between Highways 99 and 70; these pools are northern volcanic mud flow vernal pools. Vernal pools in the Planning Area occur within annual grasslands and represent a variety of pool types, including northern hardpan and northern volcanic mudflow pools. Vernal pools may occur as individual pools with discrete boundaries or be connected with other vernal pools via vernal swales to form a vernal pool complex. Vernal swales consist of vernal pools that occur within shallow, linear depressions.



Source: City of Oroville GIS, 2005 and Butte County Association of Governments Draft Butte Regional Habitat Conservation Plan, 2007

Note: The information presented in this figure should be used for general planning purposes only. The boundaries of vernal pool areas shown on this figure are not precise and may not be inclusive of all vernal pool habitat in the Planning Area. Project level analysis will require individual review, including possible field surveys.

FIGURE OPS-3

VERNAL POOLS AND DRAINAGE CORRIDORS

- ◆ **Drainages.** Perennial and ephemeral drainages occur throughout the Planning Area and are shown in Figures OPS-3. These drainages are typically associated with riparian habitat described above and may support patches of freshwater marsh. Primary drainages within the Planning Area include the Feather River, Cottonwood Creek, Little Cottonwood Creek, Wyman Ravine, Wyndotte Creek, and the Western Canal.
- ◆ **Freshwater Marsh.** Freshwater marsh occurs in the northwest portion of the Planning Area along the margins of flooded rice fields adjacent to Highway 99. Drainages and open water habitats in the Planning Area may also support patches of freshwater marsh.
- ◆ **Reservoir.** The Thermalito Afterbay and Thermalito Forebay are large reservoirs located on the Feather River in the western portion of the Planning Area formed by earthen dams. The Thermalito Afterbay and Thermalito Forebay provide resting and foraging habitat for migratory waterfowl traveling along the Pacific Flyway. The Thermalito Afterbay is part of the larger Oroville Wildlife Area (shown on Figure OPS-3). The eastern portion of the preserve surrounding the Feather River contains numerous dredge tailings and borrows pits. The distribution of biological communities in the Planning Area is closely associated with topography and hydrology. Some of the flat valley area supports agricultural lands, the hilly portions support most of the remaining grassland and woodland communities and stream corridors support riparian communities.

b. Special-Status Species

Special-status species are plants and animals that are legally protected under the State and/or federal Endangered Species Act or other regulations, and species that are considered by the scientific community to be sufficiently rare to qualify for such listing. Special-status plants and animals are species in the following categories:

- ◆ Species that are candidates for possible future listing as threatened or endangered under the federal Endangered Species Act.
- ◆ Species listed or proposed for listing by the State of California as threatened or endangered under the California Endangered Species Act.
- ◆ Species that meet the definitions of rare or endangered under the California Environmental Quality Act (CEQA).
- ◆ Plants listed as rare, plants about which more information is needed to determine their status, plants of limited distribution that may be included as special-

status species on the basis of local significance or recent biological information, or plants considered to be “rare, threatened, or endangered in California,” under the California Native Plant Protection Act.

- ◆ Animals fully protected in California under the California Fish and Wildlife Code.
- ◆ Animal species of special concern to the Department of Fish and Wildlife.

i. Special-Status Plants

A total of 37 special-status plants have the potential to occur or are known to occur in the Planning Area. Of these 37 species, five species are federally and/or State listed: Hoover’s spurge (*Chamaesyce hooveri*), Butte County meadowfoam (*Limnanthes floccosa* ssp. *californica*), hairy Orcutt grass (*Orcuttia pilosa*), slender Orcutt grass (*Orcuttia tenuis*) and Greene’s tuctoria (*Tuctoria greenei*). Slender Orcutt grass has been reported twice within the Planning Area and Butte County meadowfoam has been reported on the western boundary of the Planning Area. The USFWS has designated critical habitat for Butte County meadowfoam in the northwestern portion of the Planning Area.

ii. Special-Status Wildlife

A total of 13 State and/or federally listed and 19 non-listed special-status wildlife species are known to occur or have the potential to occur in the Planning Area based on a review of existing information and presence of suitable habitat. USFWS has designated critical habitat in the northwestern portion of the Planning Area for vernal pool fairy shrimp and vernal pool tadpole shrimp.

iii. Special-Status Fish

Within the Planning Area, the Feather River and its tributaries provide habitat for fall/late fall and spring-run Chinook salmon, Central Valley steelhead, white sturgeon, green sturgeon and Pacific lamprey. Critical habitat for Central Valley steelhead and Central Valley spring-run Chinook salmon is designated in the Feather River from the confluence of the Yuba River upstream to Oroville Dam.

2. Goals, Policies, and Actions

Goal OPS-8	Preserve and protect all special-status species, species that are candidates for federal or State listing, State species of special concern, and CNPS listed plant species.
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Policies

- P8.1 Require a biological assessment of any proposed project site where federally-, or State-listed species or critical habitat may be present.
- P8.2 Require a habitat-based site assessment during the project design phase to determine the potential for special-status species to occur within a proposed project area. If potential habitat for special-status plant or animal species is identified, additional focused surveys may need to be conducted during the appropriate season.
- P8.3 Require agency consultation for proposed projects for which there is the potential to impact federal or State-listed species, or other appropriate agency assistance for non-listed special-status species.
- P8.4 Require proposed trail projects that have the potential to impact special-status species to coordinate trail planning and development with habitat preservation efforts.
- P8.5 Make information available to interested parties concerning the presence and condition of special-status species.
- P8.6 If special-status plant or animal species are found to be located within a development site, the developer shall mitigate project impacts in accordance with State and federal law. Examples of mitigation may include:
- ◆ Redesign the proposed project to avoid and minimize impacts.
 - ◆ Restrict construction to specific seasons based on project-specific special-status species issues (e.g. minimizing impacts to special-status nesting birds by constructing outside of the nesting season).
 - ◆ Confine construction disturbance to the minimum area necessary to complete the work.

- ◆ Mitigate for the loss of special-status species by purchasing credits at an approved conservation bank (if a bank exists for the species in question), funding restoration or habitat improvement projects at existing preserves in Butte County, or purchasing or donating mitigation lands.
- ◆ Maintain a minimum 100-foot buffer on each side of all riparian corridors, creeks and streams for special-status and common wildlife. Ruddy Creek would be an example of where this applies.
- ◆ Establish setbacks from the outer edge of special-status species habitat areas.
- ◆ Prohibit livestock grazing or drainage into the setback of special-status species habitat areas.
- ◆ Construction of barriers to prevent compaction damage by foot or vehicular traffic.

Actions

- A8.1 Work with BCAG to develop a regional Habitat Conservation Plan and Natural Community Conservation Plan and database, and subsequently update it as necessary, for the management and protection of sensitive biological resources such as wetlands, riparian corridors, and critical habitat areas. The plan should be developed in cooperation with the California Department of Fish and Wildlife, the U.S. Fish and Wildlife Service, and local interest groups, and should address all known critical habitat areas, special-status plant populations, wildlife movement corridors specifically including deer migration routes, and should prioritize areas for management and protection that are likely to be impacted by development.
- A8.2 Prepare and maintain an updated list of State and federally listed, threatened, and endangered species and species that are candidates for listing known or suspected to occur in the City of Oroville and its immediate vicinity, as well as other special status species identified by the California Department of Fish and Wildlife and the Mt. Lassen Chapter of the California Native

Plant Society. This list should be monitored and updated every two years.

- A8.3 Develop a set of guidelines for preservation of special-status species, including, if it is found to be feasible, a tiered approach that would prioritize protection of State and federally listed species. Such an approach may include identification of appropriate buffers for preservation of species identified on a development site, and appropriate avoidance and mitigation measures for special-status species determined to be affected by a proposed development.

Goal OPS-9 Protect areas of significant wildlife habitat and sensitive biological resources to maintain biodiversity among plant and animal species in the City of Oroville and the surrounding area.

Policies

- P9.1 Encourage the Department of Water Resources and Department of Fish and Wildlife to manage and maintain the Oroville Wildlife Refuge for multiple uses, while protecting property values on land adjacent to the refuge.
- P9.2 Minimize loss of wetland value or acreage consistent with the needs of wildlife and humans, to the extent practicable and as regulated by State and federal law.
- P9.3 Work with Butte County and the Department of Fish and Wildlife to support the protection of migratory and resident deer herds in the Planning Area, by preserving habitat and movement corridors.
- P9.4 Develop a program to preserve wildlife corridors that includes designing and constructing freeway and arterial street undercrossing areas at locations that currently serve as wildlife corridors.

- P9.5 Require the preparation of a site-specific tree management and preservation report by a certified arborist or urban forester for development proposals on sites that contain significant oak woodlands and related habitat. This report shall include recommendations for the retention of healthy mature trees wherever feasible and promote the concept of oak regeneration corridors within project design.
- P9.6 Protect sensitive plant and wildlife habitat from destruction and intrusion by incompatible land uses where appropriate. All efforts to protect sensitive habitats should consider:
- ◆ Sensitive habitat and movement corridors in the areas adjacent to development sites, as well as on the development site itself.
 - ◆ Prevention of habitat fragmentation and loss of habitat connectivity.
 - ◆ Use of appropriate protection measures for sensitive habitat areas such as non-disturbance easements and open space zoning.
 - ◆ On-site or off-site habitat restoration as a potential mitigation, with a no net loss of habitat policy.
 - ◆ Potential mitigation or elimination of impacts through mandatory clustering of development, and/or project redesign.
- P9.7 Protect native plant species in undisturbed portions of a development site and use native species for replanting in disturbed portions of the project site.
- P9.8 Support efforts to eradicate invasive and noxious weeds and vegetation on public and private property.
- P9.9 Monitor the on-going health of sensitive habitat resources in Oroville and ensure the continued effectiveness of General Plan policies intended to protect, preserve and enhance these resources.

- P9.10 Encourage the coordinated design of large projects to preserve on-site open space, cluster development (where feasible) and conserve natural communities and/or habitat for special-status species that have been identified in proposed project areas.
- P9.11 Utilize native plant species to landscape public open space areas to promote the unique local flora of the region and provide habitat for local species.
- P9.12 Preserve orchards, woodlands, and wetlands by clustering development in locations where the land supports fewer natural resources, and infrastructure is in or is close to the project site.

Actions

- A9.1 Work with Butte County to coordinate the maintenance of open space and habitat preservation at or near South Table Mountain.
- A9.2 Work to create and establish a mitigation bank designed to offset development impacts on wetlands.
- A9.3 Develop a plan to enhance individual oaks, oak woodlands and other native tree groups throughout the Planning Area. The plan will provide options for the management of oaks and other tree resources.
- A9.4 Develop guidelines and an education strategy for property owners about issues concerning development near or adjacent to sensitive communities or habitats that support special-status species. The guidelines should clearly define the range of activities allowed within buffer areas adjacent to sensitive habitats.
- A9.5 Develop a Greenway Program to preserve and connect wildlife and sensitive habitat corridors.

Goal OPS-10 Protect riparian, riverine, and open water habitats.

Policies

- P10.1 Require an appropriately sized buffer or setback, as determined by a qualified biologist, on each side of a riparian corridor, creeks, stream, wetland, or pond. Development shall be prohibited within established setback areas for these riparian corridors, creeks, stream, wetland, ponds, and waterways.
- P10.2 Support a multi-use concept for riparian corridors that incorporates open space, aesthetic, habitat and wildlife corridor values, while addressing social, cultural, flood control, and recreation needs.
- P10.3 Encourage the Department of Water Resources to maintain water levels in State Water Project facilities, including Lake Oroville, to optimize protection of fisheries and other biotic resources, preserve open water as open space, and maximize recreational opportunities per the Department of Water Resources Bulletin 117-6, while also allowing for power generation, flood control and water supply.
- P10.4 Work with the Department of Water Resources and Department of Fish and Wildlife to ensure the ongoing operation of the Feather River Fish Hatchery.
- P10.5 Work with the Department of Fish and Wildlife and Department of Water Resources to ensure the preservation and enhancement of species of resident and anadromous fish along the Feather River, in Lake Oroville, and throughout the Planning Area.
- P10.6 Support removal or relocation of levees on the west side of the Feather River south of Oro Dam Boulevard as a means to enhance habitat in and around the Oroville Wildlife Refuge.
- P10.7 Work with the Oroville Mosquito Abatement District and the Butte County Mosquito Abatement District to ensure that

preservation, pre-planning and design of water features is coordinated with acceptable disease vector control measures.

- P10.8 Consider the effects of mosquito abatement measures on other aquatic species and minimize these effects where known special-status species occur.

Actions

- A10.1 Search for and acquire State, federal, foundation, and private funding to preserve, promote, restore, protect and enhance riparian corridors throughout the Planning Area.
- A10.2 Continuously monitor the Department of Water Resources' compliance with its Federal Energy Regulatory Commission licensing agreements.

F. Water Quality

1. Background Information

The State Water Resources Control Board (SWRCB) has jurisdiction over nine Regional Water Quality Control Boards, whose charge it is to identify and implement water quality objectives. The Oroville area falls under the authority of the Central Valley Regional Water Quality Control Board (CVRWQCB), Region 5, and is located within the Sacramento River Basin (Basin SA). The Water Quality Control Plan (Basin Plan) which affects this hydrologic sub-basin was most recently revised in March 1990.

All land uses, whether undeveloped, agricultural, industrial or urban, have some type of water quality impacts. Water quality problems are typically characterized by erosion and sedimentation considerations, and concerns about contamination of ground or surface water. Major sources of chemical or toxic discharge within the Oroville region include agriculture, silviculture, municipalities, and industries.

Water quality is intimately tied to water supply, since adequate uncontaminated flows significantly mitigate the presence of contaminated flows, through dilution, flushing and general availability of alternate sources. Water supply is discussed further in the Public Facilities and Services Element of this General Plan. Dis-

charge requirements and pretreatment of industrial wastewater are also discussed in the Public Facilities and Services Element.

a. Erosion and Sedimentation

Lands that are preserved in agriculture are subject to surface water flows that carry particles away from a site. This erosive action results in downslope or downstream sedimentation, which can impair drinking water, as well as adversely affect fisheries and water-related habitat. In addition, toxic substances may bind to soil particles, which then distribute and circulate contaminants throughout the riparian, estuarine and marine systems. Given Oroville's position, primarily upslope and upstream of the intensive Central Valley agriculture, and the dispersed nature of agricultural operations throughout the Planning Area, it is unlikely that erosion and sedimentation within the Planning Area would be a significant concern.

Erosion and sedimentation can also result from timber harvesting practices, including road construction, logging and post-logging operations, and from the construction and operation of mines. The CVRWQCB has not identified any particular water quality problems within the Oroville area related to upstream timber harvesting or mining activities.

Land development and associated construction activities in steeper portions of the Planning Area might be expected to contribute regionally to erosion and sedimentation. The CVRWQCB encourages the submission of an erosion plan for construction in steeper areas, including areas where greater than 10,000 square feet of surface area and/or more than 100 cubic yards of excavated material will be disturbed; this would probably include construction in all areas of moderate and high slopes.

Although historically a problem of regional significance, dredging activities are not currently identified as a significant source of erosion and sedimentation within the Planning Area. While flood control maintenance dredging may be necessary on some waterways, it has not been identified by the a RWQCB as a problem in Oroville.

b. Contamination

Sources of water contamination in the Oroville Planning Area include:

i. Pesticides, Fertilizers, Herbicides, and Urban Runoff

The CVRWQCB has not identified any existing problems or concerns relating to pesticides, herbicides, fertilizers, or urban runoff within the Planning Area. How-

ever, each of these contaminants are of continuing concern, and policies to reduce the potential for water quality impacts are included below.

ii. Septic Systems

Residences in the portions of the Planning Area not served by sewers are on septic systems. According to the Butte County Environmental Health Department, there is no record of any ongoing water quality problems related to contamination by septic systems, although the City is aware of occasional incidents of malfunction.

iii. Industry-related Toxics

The EPA has identified the following three superfund sites in the Planning Area that affect surface and/or groundwater quality:

- ◆ Koppers Industries
- ◆ Oroville Army Airfield (Oroville Municipal Airport)
- ◆ Sierra Pacific

Each of these sites are currently undergoing cleanup and monitoring. These sites are discussed in more detail in the Safety Element of this General Plan.

2. Goals, Policies, and Actions

Goal OPS-11 Protect water quality and quantity in creeks, lakes, natural drainages, and groundwater basins.
--

Policies

- P11.1 Maintain the natural condition of waterways and flood plains to ensure adequate groundwater recharge and water supply where feasible, given flood control requirements.
- P11.2 Minimize impermeable paving that negatively impacts surface water runoff and groundwater recharge rates.
- P11.3 Protect surface and groundwater resources from contamination from runoff containing pollutants and sediment, through implementation of the Central Valley Regional Water Quality Control Board's (CVRWQCB) Best Management Practices.

- P11.4 Cooperate with State and local agencies in efforts to identify and eliminate or minimize all sources of existing and potential point and non-point sources of pollution to ground and surface waters, including leaking fuel tanks, discharges from storm drains, auto dismantling, dump sites, sanitary waste systems, parking lots, roadways and logging and mining operations.
- P11.5 Manage and maintain open space areas so as to minimize water, energy, pesticide, and fertilizer use.
- P11.6 Require those responsible for contamination to remediate contaminated soils or groundwater.

Actions

- A11.1 Create a comprehensive mapping of groundwater resources in the Planning Area based on existing groundwater management studies and maps and, where necessary, new groundwater mapping studies to result in comprehensive coverage of the Planning Area.
- A11.2 Participate in the on-going regional response to the Environmental Protection Agency's stormwater permit regulations.
- A11.3 Develop and distribute an informational brochure to promote awareness of non-point source pollution and to educate local residents and business-owners about ways to reduce it. The brochure might address topics such as responsible use of pesticides, fertilizers, household chemicals, landscaping to control erosion, maintenance of septic systems, and proper disposal of used motor oil and batteries.

G. Air Quality

1. Background Information

Air quality is a critical element in the natural environment, and the availability of clean, non-polluted air is an important factor for human health and quality of life for all Oroville residents. The primary factors that determine air quality are the locations of air pollutant sources and the amount of pollutants emitted from those

APPENDIX E: USFWS IPAC RESOURCE LIST

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Butte County, California



Local office

Sacramento Fish And Wildlife Office

☎ (916) 414-6600

📅 (916) 414-6713

Federal Building

2800 Cottage Way, Room W-2605

Sacramento, CA 95825-1846

NOT FOR CONSULTATION

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species¹ and their critical habitats are managed by the [Ecological Services Program](#) of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries²).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact [NOAA Fisheries](#) for [species under their jurisdiction](#).

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the [listing status page](#) for more information. IPaC only shows species that are regulated by USFWS (see FAQ).
2. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Birds

NAME	STATUS
Yellow-billed Cuckoo <i>Coccyzus americanus</i> There is final critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/3911	Threatened

Reptiles

NAME	STATUS
Giant Garter Snake <i>Thamnophis gigas</i> Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/4482	Threatened

Amphibians

NAME	STATUS
California Red-legged Frog <i>Rana draytonii</i> Wherever found There is final critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/2891	Threatened

Fishes

NAME

STATUS

Delta Smelt *Hypomesus transpacificus*

Threatened

Wherever found

There is **final** critical habitat for this species. The location of the critical habitat is not available.

<https://ecos.fws.gov/ecp/species/321>

Insects

NAME

STATUS

Monarch Butterfly *Danaus plexippus*

Candidate

Wherever found

No critical habitat has been designated for this species.

<https://ecos.fws.gov/ecp/species/9743>

Valley Elderberry Longhorn Beetle *Desmocerus californicus dimorphus*

Threatened

Wherever found

There is **final** critical habitat for this species. The location of the critical habitat is not available.

<https://ecos.fws.gov/ecp/species/7850>

Crustaceans

NAME

STATUS

Vernal Pool Fairy Shrimp *Branchinecta lynchi*

Threatened

Wherever found

There is **final** critical habitat for this species. The location of the critical habitat is not available.

<https://ecos.fws.gov/ecp/species/498>

Vernal Pool Tadpole Shrimp *Lepidurus packardii*

Endangered

Wherever found

There is **final** critical habitat for this species. The location of the critical habitat is not available.

<https://ecos.fws.gov/ecp/species/2246>

Flowering Plants

NAME

STATUS

Slender Orcutt Grass *Orcuttia tenuis*

Threatened

Wherever found

There is **final** critical habitat for this species. The location of the critical habitat is not available.

<https://ecos.fws.gov/ecp/species/1063>

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described [below](#).

1. The [Migratory Birds Treaty Act](#) of 1918.

2. The [Bald and Golden Eagle Protection Act](#) of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern <http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php>
- Measures for avoiding and minimizing impacts to birds <http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php>
- Nationwide conservation measures for birds <http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf>

The birds listed below are birds of particular concern either because they occur on the [USFWS Birds of Conservation Concern](#) (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ [below](#). This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the [E-bird data mapping tool](#) (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found [below](#).

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME

BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE")

INDICATES THAT THE BIRD DOES NOT
LIKELY BREED IN YOUR PROJECT AREA.)

Bald Eagle *Haliaeetus leucocephalus*

This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.

<https://ecos.fws.gov/ecp/species/1626>

Breeds Jan 1 to Aug 31

California Thrasher *Toxostoma redivivum*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Breeds Jan 1 to Jul 31

Clark's Grebe *Aechmophorus clarkii*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Breeds Jun 1 to Aug 31

Common Yellowthroat *Geothlypis trichas sinuosa*

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

<https://ecos.fws.gov/ecp/species/2084>

Breeds May 20 to Jul 31

Golden Eagle *Aquila chrysaetos*

This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.

<https://ecos.fws.gov/ecp/species/1680>

Breeds Jan 1 to Aug 31

Nuttall's Woodpecker *Picoides nuttallii*

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

<https://ecos.fws.gov/ecp/species/9410>

Breeds Apr 1 to Jul 20

Oak Titmouse *Baeolophus inornatus*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/9656>

Breeds Mar 15 to Jul 15

Tricolored Blackbird *Agelaius tricolor*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/3910>

Breeds Mar 15 to Aug 10

Wrentit *Chamaea fasciata*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Breeds Mar 15 to Aug 10

Yellow-billed Magpie *Pica nuttalli*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/9726>

Breeds Apr 1 to Jul 31

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is $0.25/0.25 = 1$; at week 20 it is $0.05/0.25 = 0.2$.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (-)

A week is marked as having no data if there were no survey events for that week.

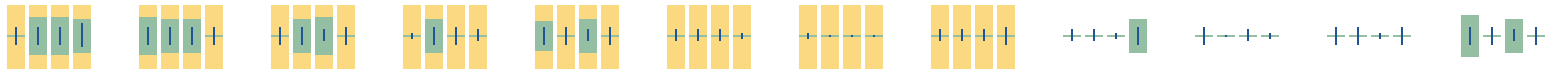
Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

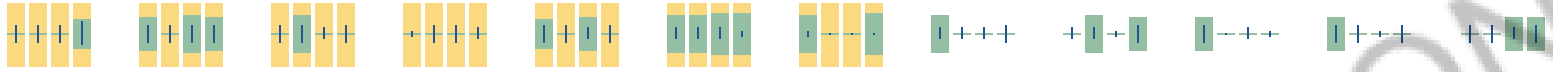
■ probability of presence ■ breeding season | survey effort - no data

SPECIES JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC

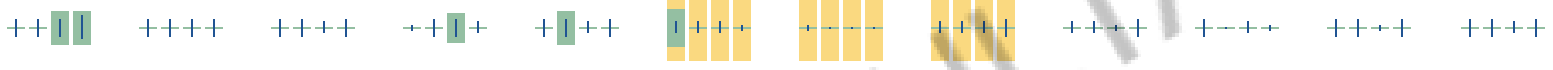
Bald Eagle
 Non-BCC Vulnerable
 (This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.)



California Thrasher
 BCC Rangewide (CON)
 (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



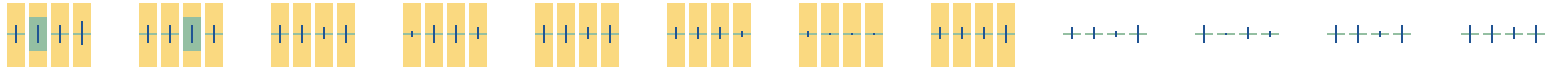
Clark's Grebe
 BCC Rangewide (CON)
 (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



Common Yellowthroat
 BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)



Golden Eagle
Non-BCC Vulnerable
(This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.)



Nuttall's Woodpecker
BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)

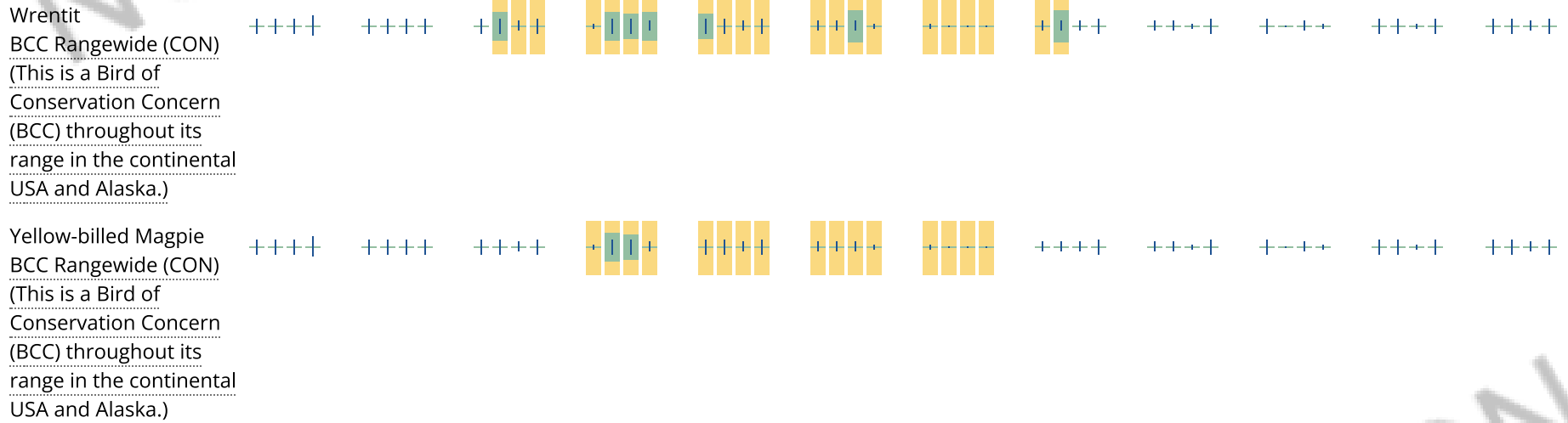


Oak Titmouse
BCC Rangewide (CON)
(This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



Tricolored Blackbird
BCC Rangewide (CON)
(This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)





Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. [Additional measures](#) or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [AKN Phenology Tool](#).

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go to the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: [The Cornell Lab of Ornithology All About Birds Bird Guide](#), or (if you are unsuccessful in locating the bird of interest there), the [Cornell Lab of Ornithology Neotropical Birds guide](#). If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Eagle Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

WETLAND INFORMATION IS NOT AVAILABLE AT THIS TIME

This can happen when the National Wetlands Inventory (NWI) map service is unavailable, or for very large projects that intersect many wetland areas. Try again, or visit the [NWI map](#) to view wetlands at this location.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal

zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tubercid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

Appendix C

Cultural Resources Inventory and Historical Property Evaluation Report

Revised Historic Property Identification Report: Cultural Resources Inventory and Evaluation Oroville Wastewater Treatment Plant

Butte County, California

Prepared For:

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Under the direction of Principal Investigators:

Lisa Westwood, RPA and Jeremy Adams, MA

August 2021

MANAGEMENT SUMMARY

In 2020, ECORP Consulting, Inc. was retained to conduct a cultural resources inventory and evaluation for the proposed Oroville Wastewater Treatment Plant (WWTP) Project in Butte County, California. The Sewerage Commission – Oroville Region (SC-OR) proposes to construct new structures, devices, and plumbing to upgrade the existing wastewater treatment plant located in the city of Oroville in response to a Regional Water Quality Control Board Discharge Order. The Project will be funded in part by the Clean Water State Revolving Funds as administered by the State Water Resources Control Board. In 2021, SC-OR expanded the Project Area, which required additional pedestrian inspection. This report documents both the original inventory and the supplemental area and supersedes the 2021 report (Webb and Fuerstenberg 2021).

The inventory included a records search, literature review, and field survey. The records search results indicated that one previous cultural resource study has been conducted within the Project Area and identified no cultural resources. However, as a result of nearby studies, one historic-period resource, P-04-1345/CA-BUT-1345H, the Oroville Dredge Fields, was previously recorded. The boundary of this resource was recorded based on historic period maps of dredge tailings and encompasses the Project Area; however, only a limited amount of the material associated with P-04-1345/CA-BUT-1345H were observed in the Project Area, as the majority of the material was reworked or removed to construction of the WWTP.

As a result of the field survey, three historic-period resources were identified: the Oroville WWTP (OW-001), the dredge fields (P-04-135/CA-BUT-1345H), and an electrical distribution line (OW-002). The WWTP and the distribution line were originally constructed in the 1950s. ECORP employed archival research to evaluate these resources. As a result, the Oroville WWTP (OW-001) and the electrical distribution line (OW-002) were found not eligible for the National Register of Historic Places (NRHP) or the California Register of Historical Resources (CRHR). No intact portions of the Oroville Dredge Fields (P-04-1345/CA-BUT-1345H) were observed within the APE, and were found to not be eligible for the NRHP or CRHR due to lack of integrity.

No ground-disturbing activity should occur before SC-OR and the lead agencies concur with resource assessments and eligibility determinations herein. Recommendations for the management of unanticipated discoveries are also provided.

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LIST OF ACRONYMS AND ABBREVIATIONS

2W	No. 2 Water
AB	Assembly Bill
APE	Area of Potential Effects
BLM	Bureau of Land Management
BP	before present
CCR	California Code of Regulations
CCTS	Central California Taxonomic System
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CHRIS	California Historical Resources Information System
CRHR	California Register of Historical Resources
CWSRF	Clean Water State Revolving Fund
DPR	Department of Parks and Recreation
GLO	General Land Office
MLD	Most Likely Descendant
NAHC	Native American Heritage Commission
NEIC	Northeast Information Center
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NPS	National Park Service
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
OHP	Office of Historic Preservation
OWA	Oroville Wildlife Area
PG&E	Pacific Gas and Electric
PRC	Public Resources Code
RAS	Return-activated sludge
RDT	Rotary drum thickener
RPA	Registered Professional Archaeologist
SC-OR	Sewage Commission – Oroville Region
SLF	Sacred Lands File
SR	State Route
SWRCB	State Water Resources Control Board
USC	U.S. Code
USDA	U.S. Department of Agriculture
USGS	U.S. Geologic Survey
WAS	Waste-activated sludge
WWTP	Oroville Wastewater Treatment Plant

1.0 INTRODUCTION

The Sewerage Commission – Oroville Region (SC-OR) retained ECORP Consulting, Inc. in 2020 to conduct a cultural resources inventory of the proposed Oroville Wastewater Treatment Plant (WWTP) Project Area located in the city of Oroville, Butte County, California. A survey of the property was required to identify potentially eligible cultural resources (archaeological sites and historic buildings, structures, and objects) that could be affected by the Project. The SC-OR expanded the Area of Potential Effects (APE) in June 2021 and ECORP resurveyed the area in August 2021. This report documents both the original inventory and the supplemental area and supersedes the 2021 report (Webb and Fuerstenberg 2021).

1.1 Project Location

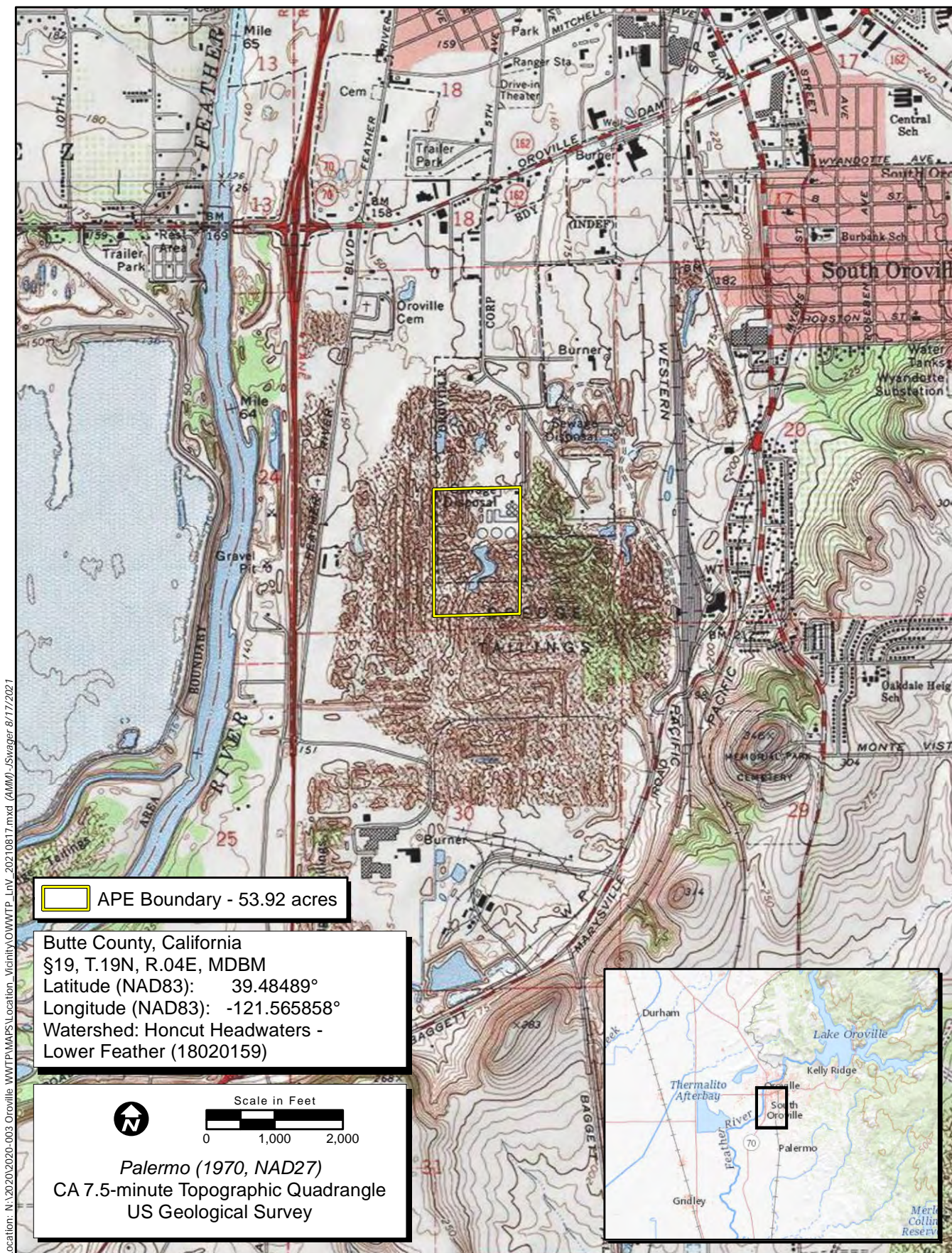
The Project Area consists of 53.92 acres of property located in the northeastern quarter of the southwestern quarter of Section 19 of Township 19 North, Range 4 East, Mount Diablo Base and Meridian as depicted on the 1970 Palermo, California U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle map (Figure 1). It is also known as Assessor Parcel Number 035-390-013-000. It is located at 2880 South Fifth Avenue, just north of the intersection with Simpco Lane in the City of Oroville.

1.2 Project Description

The original treatment facility was constructed in 1959, prior to the formation of SC-OR, and has been modified and expanded several times since 1959, with the most significant expansion taking place during construction activities in 1975 when secondary, tertiary, and solids stabilization facilities were constructed. Most of the WWTP's equipment was commissioned during this expansion, which translates to equipment with over 40 years of operation. In addition to the WWTP, SC-OR maintains a portion of the wastewater collection system that includes three sewer mains, two lift stations, and associated facilities.

The Proposed Project entails proposed improvements to numerous facilities at the WWTP. The proposed improvements at each affected process facility are summarized below.

The current plant has an operational capacity of 10.6 million gallons per day (MGD). Although the Project is not a capacity expansion project but rather an upgrade project to improve the quality of water discharged to the Feather River and handle existing peak flows (estimated at + 25 MGD), the component upgrades will result in a minor residual additional average flow capacity increase of about 9 percent. The upgrades to the plant will add 1,852 Equivalent Dwelling Units (EDUs) to the current 20,703 EDUs, for total new capacity of 13.3 MGD. The Project will not create a new discharge location into the Feather River nor relocate the existing discharge location. The total estimated area of ground disturbance needed is approximately 34,800/0.80 square feet/acreage; the area for each component is included at the end of each component description brackets. The total area disturbed by construction activities will be less than 2 acres.



APE Boundary - 53.92 acres

Butte County, California
 §19, T.19N, R.04E, MDBM
 Latitude (NAD83): 39.48489°
 Longitude (NAD83): -121.565858°
 Watershed: Honcut Headwaters -
 Lower Feather (18020159)

Scale in Feet

 0 1,000 2,000

Palermo (1970, NAD27)
 CA 7.5-minute Topographic Quadrangle
 US Geological Survey

Map Date: 8/17/2021
 Sources: ESRI, USGS, Provots and Pritchard

Figure 1. Project Location and Vicinity

Location: N:\2020\2020-003 Oroville WWTP\MAPS\Location_Vicinity\OWWTP_Lv1_20210817.mxd (AMM)_Swager 8/17/2021

Several components of the long-planned upgrade, (a new influent pump/lift station, replacement of existing rag removal screens with multi-rake screens, and installation of new baffles in the existing grit washing system, and replacement of the obsolete and leaking grit pump) were evaluated in a separate approved environmental document, and have been or are under construction/installation. These components will likely be completed and existing when the Proposed Project consisting of the below listed components are constructed. The influent pump station replaces aged equipment and expands pumping capacity to handle peak wet weather flows up to 23 MGD.

Grit Removal – Install a new grit washer and replacement of the existing, obsolete, and leaking grit pump with a self-priming non-clog pump.

Install an odor control system, employing a biofilter, to treat odorous air from rag removal and the new influent pump station.

[Structures associated with this component will occupy approximately 400 square feet and will be slabs on grade with shallow foundations (less than 5 feet below grade).]

Primary Treatment – The two existing primary clarifiers will be taken out of service, demolished, and disposed of offsite at an approved disposal or recycling facility.

Aeration Basins – The existing aerobic digesters will be converted to aeration basins (no more than 10 feet in depth), effectively doubling the aeration basin capacity. Along with the elimination of the primary clarifiers, this will provide better secondary treatment. The converted basins will utilize fine-bubble diffusers.

Replace the existing surface aerators with fine-bubble diffusers supplied by turbo blowers housed in a new blower building. Modify the layout by splitting each aeration basin into four zones, three aerobic and one anoxic, to create a Modified Ludzack-Ettinger process specifically targeting nitrogen removal. Install a hyperbolic mixer in each anoxic zone for mixing and nitrified recycle pumps to recycle flow from the third aerobic zone back to the anoxic zone.

An aeration basin splitter box will be constructed to divide flow between the two basins.

A mixed liquor distribution box will be constructed to divide mixed liquor flow between the basins and discharge waste activated sludge to the thickening building.

The majority of this work will be inside the existing aeration basins. The blower building will be approximately 1,500 square feet and will be a slab on grade with shallow foundations (less than 5 feet below grade). The splitter and distribution boxes will be approximately 500 square feet and may be up to 10 feet deep.

Secondary Clarification – Construct one new secondary clarifier to accommodate anticipated 15MGD peak wet weather flows through the plant and acceptable hydraulic loading rates. Volumes of wet-weather flows exceeding 15 MGD will be sent to the equalization ponds. Modify the mixed-liquor distribution box to ensure even flow split among the four secondary clarifiers. [Structures associated with this component will occupy approximately 4,500 square feet. The clarifier will be approximately 18 feet

below grade supported on driven piles extending 40 feet below grade. Other structures will be slabs on grade with shallow foundations (less than 5 feet below grade.)

Filtration – Install four new filter supply pumps and two new No. 2 Water (2W) supply pumps located adjacent to the existing chlorine contact basin. Modify the flow path so that secondary effluent is the new filter influent, following the discontinuation of the chlorine disinfection system. Modify the backwash system to be supplied from a new backwash water supply tank (using the existing chlorine contact basin), including two new backwash water supply pumps, located adjacent to the existing chlorine contact basin. This tank will be supplied with final effluent and a chlorine dose. [Structures associated with this component will occupy approximately 1,500 square feet and will be slabs on grade with shallow foundations (less than 5 feet below grade).]

Disinfection – Install a new, open-channel ultraviolet disinfection system inside the existing chlorine contact basins. Install a sodium hypochlorite system to provide chlorination for return-activated sludge (RAS) bulking, 2W, and backwash water. Structures associated with this component will occupy approximately 1,000 square feet. These structures will be slabs-on-grade with shallow foundations (less than 5 feet below grade).

Solids Handling – Install a rotary drum thickener (RDT) to thicken waste activated sludge from the aeration basins. The RDT will pre-thicken waste-activated sludge (WAS) or recuperatively thicken digested sludge. Construct an RDT building to the south west of the current aerobic digesters (to be converted to aeration basins). Install a polymer system with the RDT to maximize thickening. [Structures associated with this component will occupy approximately 1,500 square feet and will be slabs-on-grade with shallow foundations (less than 5 feet below grade).]

Return Sludge Pump Station – Replace the existing RAS and WAS pumps with four new RAS pumps and a flow control valve to maintain the appropriate RAS/WAS flow split. WAS will have the option of flowing to the RDT or directly to the sludge ponds. [These pumps will be in an existing building.]

Flow Equalization – Install two new flow equalization pumps to transfer equalized flow or digested sludge between ponds. One pump will be located between the flow equalization pond and the North Sludge Pond and the other between the Middle and South Sludge Ponds. Each pump will be capable of drawing suction from two ponds and discharging to all four ponds. [Structures associated with this component will occupy approximately 400 square feet and will be slabs-on-grade with shallow foundations (less than 5 feet below grade)].

Septage Receiving Station – Install a septage receiving station adjacent to humus ponds No. 1 and No. 2 to remove unwanted material prior to introduction into the ponds. The septage receiving station will occupy approximately 1,300 square feet and will be slabs-on-grade with shallow foundations (less than 5 feet below grade). The access road will occupy approximately 10,000 square feet and will be asphalt or concrete on grade.

Construction vehicles will enter and exit a proposed construction driveway from 5th Avenue, within the mapped APE area, and generally south of the existing plant area.

1.3 Area of Potential Effects

The APE consists of the horizontal and vertical limits of a project and includes the area within which significant impacts or adverse effects to Historical Resources or Historic Properties could occur as a result of the project. The APE is defined for projects subject to regulations implementing Section 106 (federal law and regulations). For projects subject to the California Environmental Quality Act (CEQA), the term Project Area is used rather than APE. For the purpose of this document, the terms Project Area and APE are interchangeable.

The horizontal APE consists of all areas where activities associated with a project are proposed and in the case of the current Project, equals the Project Area subject to environmental review under the National Environmental Policy Act (NEPA) and CEQA. This includes areas proposed for construction, installation, replacement of existing facilities, and any grading, trenching, stockpiling, staging, paving, or other elements described in the official Project description. The horizontal APE is illustrated on Figure 1 and also represents the survey coverage area. It measures 53.92 acres.

The vertical APE is described as the maximum depth below the surface to which excavations for Project foundations and facilities will extend. Therefore, the vertical APE includes all subsurface areas where archaeological deposits could be affected. The subsurface vertical APE varies across the Project, depending on how much ground disturbance is necessary for the proposed improvements and replacements to the facilities. This study assumes ground disturbance for the Project will not exceed 40 feet below surface. A review of geologic and soils maps was necessary to determine the potential for buried archaeological sites that cannot be seen on the surface.

The vertical APE is also described as the maximum height of structures that could impact the physical integrity and integrity of setting of cultural resources, including districts and traditional cultural properties. For the current Project, the above-surface vertical APE is presumed to be up to 30 feet, which is the approximate height of the existing facilities.

1.4 Regulatory Context

This Project is being funded in part by federal money from the Clean Water State Revolving Fund (CWSRF). Because the CWSRF receives at least a portion of funding from the federal government, such projects are required to comply with federal environmental regulations. The requirements in the Operating Agreement between the State Water Resources Control Board (SWRCB) and the U.S. Environmental Protection Agency that administers the State Revolving Fund federal loan program known as CEQA Plus, require applicants to demonstrate to the satisfaction of the State Historic Preservation Officer that the project complies with Section 106 of the NHPA. The SWRCB has established standards to meet both state and federal requirements; as such, this report was prepared in compliance with the SWRCB-suggested format for federal compliance.

This Project is also being funded in part by the federal U.S. Department of Agriculture (USDA) Rural Development Funds. The USDA is serving as the lead agency under NEPA and Section 106 of the National Historic Preservation Act (NHPA). The SC-OR is serving as lead agency under CEQA. As such, this report was prepared to be co-complaint with both state and federal requirements.

This cultural resource investigation contributed to compliance with Section 106 of the NHPA and with CEQA (Public Resources Code [PRC] § 21000 et seq.) The goals of NHPA and CEQA is to develop and maintain a high-quality environment that serves to identify the significant environmental effects of the actions of a proposed project and to either avoid or mitigate those significant effects where feasible. CEQA pertains to all proposed projects that require state or local government agency approval, including the enactment of zoning ordinances, the issuance of conditional use permits, and the approval of development project maps. The NHPA pertains to projects that entail some degree of federal funding or permit approval, or in the case of this project, are subject to CEQA Plus.

The NHPA and CEQA (Title 14, California Code of Regulations [CCR], Article 5, § 15064.5) apply to cultural resources of the historical and pre-contact (prehistoric) periods. Any project with an effect that may cause a substantial adverse change in the significance of a cultural resource, either directly or indirectly, is a project that may have a significant effect on the environment. As a result, such a project would require avoidance or mitigation of impacts to those affected resources. Significant cultural resources must meet at least one of four criteria that define eligibility for listing on either the California Register of Historical Resources (CRHR; PRC § 5024.1, Title 14 CCR, § 4852) or the National Register of Historic Places (NRHP) (36 Code of Federal Regulations [CFR] 60.4). Cultural resources eligible for listing on the NRHP are considered Historic Properties under 36 CFR Part 800 and are automatically eligible for the CRHR. Resources listed on or eligible for inclusion in the CRHR are considered Historical Resources under CEQA.

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

1.5 Report Organization

The following report documents the study and its findings and was prepared in conformance with the California Office of Historic Preservation's (OHP's) *Archaeological Resource Management Reports: Recommended Contents and Format*. Attachment A includes a confirmation of the records search with the California Historical Resources Information System (CHRIS) and historical society coordination, and Attachment B contains documentation of a search of the Sacred Lands File (SLF) and records of Native

American coordination and correspondence. Attachment C contains Project Area photographs, and Attachment D contains the APE map with confidential cultural resource site locations and site records. The results of the confidential records search will be made available only to the SWRCB upon request.

Sections 6253, 6254, and 6254.10 of the California Code authorize state agencies to exclude archaeological site information from public disclosure under the Public Records Act. In addition, the California Public Records Act (Government Code § 6250 et seq.) and California's open meeting laws (The Brown Act, Government Code § 54950 et seq.) protect the confidentiality of Native American cultural place information. Under Exemption 3 of the federal Freedom of Information Act (5 U.S. Code [USC] 5), because the disclosure of cultural resources location information is prohibited by the Archaeological Resources Protection Act of 1979 (16 USC 470hh) and Section 307103 of the NHPA, it is also exempted from disclosure under the Freedom of Information Act. Likewise, the Information Centers of the CHRIS maintained by the OHP prohibit public dissemination of records search information. In compliance with these requirements, the results of this cultural resource investigation were prepared as a confidential document, which is not intended for public distribution in either paper or electronic format.

2.0 SETTING

2.1 Environmental Setting

The Project Area is located in an industrial zone on the southwestern peripheries of the city of Oroville. It is surrounded by lots that are either open and vacant or have industrial facilities and buildings. Downtown Oroville is 1.8 miles northeast, and the residential area of South Oroville is 1 mile northeast. The Feather River is 0.6 mile to the west and Oroville Wildlife Area, an open space wildlife preserve, is 0.7 mile west. Lake Oroville is 5 miles northeast. Elevations range from 150 to 160 feet above mean sea level.

2.2 Geology and Soils

Rosenthal and Willis (2017:2) describe the geology of the Sacramento Valley as a large, asymmetric, structural trough (syncline) formed by westward-tilting blocks of plutonic and metamorphic rocks on the eastern side, and highly folded and faulted blocks of metamorphic rocks (Franciscan) on the western side. This basin has been partially filled by a thick sequence (up to 12.4 miles [20 kilometers] thick) of sedimentary rocks and alluvial deposits that range from late Jurassic to Historical in age. During the Pleistocene, erosion of the Sierra Nevada led to the deposition of large alluvial fans at the base of the foothills along the eastern side of the Sacramento Valley. Glacial conditions are generally credited for the deposition of these fans, while subsequent interglacial periods are marked by landscape stability, soil formation, and channel incision. Subsequent depositional cycles during the Holocene progressively buried downstream sections of many older alluvial fans and also led to the formation of inset stream terraces and nested alluvial fans along the foothills (Rosenthal and Willis 2017).

According to the USDA's Natural Resources Conservation Service (NRCS) Web Soil Survey website (NRCS 2020), one soil type is present in the Project Area: Xerorthents, tailings – urban land complex (119), 0 to 2 percent slopes, is found on floodplains and toe slopes and is primarily comprised of dredge spoils piles from the historic period, comprised of gravelly alluvium derived from igneous, metamorphic, and sedimentary rock.

There exists the potential for buried pre-contact archaeological sites in the Project Area due to the proximity to the Feather River and the soil deposition that occurred in the Project Area during the historic period. Pre-contact archaeological sites are likely to be located along perennial waterways and may have been buried by alluvium from the Feather River or the dredge tailings from the historic period.

2.3 Vegetation and Wildlife

The Project Area contains mostly landscaped lawn with ruderal grasses and several trees lining the southern and eastern boundaries that may include Fremont cottonwood (*Populus fremontii*), Oregon ash (*Fraxinus latifolia*), and box elder (*Acer negundo*). The dominant plant community surrounding the Project Area includes primarily invasive plant species such as yellow star-thistle (*Centaurea solstitialis*), broom (*Genisteae* spp.), and Himalayan blackberry (*Rubus armeniacus*). Shrubs may include coyote brush (*Baccharis pilularis*), elderberry (*Sambucus* sp.), and California blackberry (*Rubus ursinus*).

Wildlife species that may occur in the Project Area include black-tailed jackrabbit (*Lepus californicus*), raccoon (*Procyon lotor*), coyote (*Canis latrans*), thrush (*Turdus merula*), and birds of prey such as hawks (*Buteo* sp.).

3.0 CULTURAL CONTEXT

3.1 Regional Pre-contact History

It is generally believed that human occupation of California began at least 10,000 years before present (BP). The archaeological record indicates that between approximately 10,000 and 8,000 BP, a predominantly hunting economy existed, characterized by archaeological sites containing numerous projectile points and butchered large-animal bones. Animals that were hunted probably consisted mostly of large species still alive today. Bones of extinct species have been found but cannot definitively be associated with human artifacts. Although small animal bones and plant grinding tools are rarely found within archaeological sites of this period, small game and floral foods were probably exploited on a limited basis. A lack of deep cultural deposits from this period suggests that groups included only small numbers of individuals who did not often stay in one place for extended periods (Wallace 1978).

Around 8,000 BP, there was a shift in focus from hunting toward a greater reliance on plant resources. Archaeological evidence of this trend consists of a much greater number of milling tools (e.g., metates and manos) for processing seeds and other vegetable matter. This period, which extended until around 5,000 years BP, is sometimes referred to as the Millingstone Horizon (Wallace 1978). Projectile points are found in archaeological sites from this period, but they are far fewer in number than from sites dating to before 8,000 BP. An increase in the size of groups and the stability of settlements is indicated by deep, extensive middens at some sites from this period (Wallace 1978).

In sites dating to after about 5,000 BP, archaeological evidence indicates that reliance on both plant gathering and hunting continued as in the previous period, with more specialized adaptation to particular environments. Mortars and pestles were added to metates and manos for grinding seeds and other vegetable material. Flaked-stone tools became more refined and specialized, and bone tools were more common. During this period, new peoples from the Great Basin began entering southern California. These

immigrants, who spoke a language of the Uto-Aztecan linguistic stock, seem to have displaced or absorbed the earlier population of Hokan-speaking peoples. During this period, known as the Late Horizon, population densities were higher than before and settlement became concentrated in villages and communities along the coast and interior valleys (Erlandson 1994; McCawley 1996). Regional subcultures also started to develop, each with its own geographical territory and language or dialect (Kroeber 1925; McCawley 1996; Moratto 1984). These were most likely the basis for the groups encountered by the first Europeans during the eighteenth century (Wallace 1978). Despite the regional differences, many material culture traits were shared among groups, indicating a great deal of interaction (Erlandson 1994). The introduction of the bow and arrow into the region sometime around 2,000 BP is indicated by the presence of small projectile points (Wallace 1978; Moratto 1984).

3.2 Local Pre-contact History

This section provides a regional overview with contextual elements drawn from California's Central Valley Region, the Western Foothills Region, and from the transition zone itself where the Project is located. There has been more extensive research and study of Central Valley prehistory than the prehistory of the Sierra Nevada foothill zone, but a fair amount of cultural overlap exists within these regions. This section includes the most recent and readily available research of both regions (Rosenthal et al. 2007), and includes some reference to the climactic changes that swept the Sierra Nevada being a catalyst for population movement that led to cultural change in the foothills.

California's Great Central Valley has long held the attention of archaeologists and was a focus of early research in California. Archaeological work during the 1920s and 1930s led to the cultural chronology for central California presented by Lillard, Heizer, and Fenenga in 1939. This chronology was based on the results of excavations conducted in the lower Sacramento River Valley. This chronology identified three archaeological cultures, named Early, Transitional, and Late (Lillard et al. 1939).

Heizer (1949) redefined the description of these three cultures. He subsumed the three cultural groups into three time periods, designated the Early, Middle, and Late horizons. He primarily focused his research and reexamination of Lillard et al. (1939) on the Early Horizon, which he named Windmill. He also intimated that new research and a reanalysis of existing data would be initiated for cultures associated with the Middle and Late horizons; however, he did not complete this work and other research filled in the gaps.

Following years of documenting artifact similarities among sites in the San Francisco Bay region and the Delta, Beardsley (1948, 1954) formatted his findings into a cultural model known as the Central California Taxonomic System (CCTS). This system proposed a linear, uniform sequence of cultural succession in Central California, and explicitly defined Early, Middle, and Late horizons for cultural change. Archaeological researchers have subsequently refined and redefined aspects of the CCTS. For instance, Fredrickson (1973, 1974, and 1994) reviewed general economic, technological, and mortuary traits between archaeological assemblages across the region. He separated cultural, temporal, and spatial units from each other and assigned them to six chronological periods: Paleo-Indian (12,000 to 8,000 BP); Lower, Middle, and Upper Archaic (8,000 BP to AD 500); and Upper and Lower Emergent (AD 500 to 1800).

Fredrickson further defined three cultural patterns: The Windmill (named after Heizer 1949 and Lillard et al. 1939), the Berkeley, and the Augustine patterns, and assigned them to the Early, Middle, and Late horizons of the CCTS. These patterns were defined to reflect the general sharing of lifeways within groups in a specific geographic region. The Windmill pattern of the Early Horizon included cultural patterns dating from 5,000 to 3,000 BP; the Berkeley Pattern of the Middle Horizon (also known as the Cosumnes cultural pattern after Ragir 1972), included cultural patterns dating from 3,000 BP to AD 500, and the Augustine Pattern of the Late Horizon included the cultural patterns from AD 500 to the historic period.

Fredrickson's (1974) Paleo-Archaic-Emergent cultural sequence was redefined by Rosenthal, White, and Sutton (2007). Rosenthal et al.'s recalibrated sequence is divided into three broad periods: The Paleoindian Period (11,550 to 8,550 cal. BC); the three-staged Archaic period, consisting of the Lower Archaic (8,550 to 5,550 cal. BC), Middle Archaic (5,550 to 550 cal. BC), and Upper Archaic (550 cal. BC to cal. AD 1100); and the Emergent Period (cal. AD 1100 to Historic) (Rosenthal et al. 2007). The three divisions of the Archaic Period correspond to climate changes. This is the most recently developed sequence and is now commonly used to interpret Central California prehistory. The aforementioned periods are characterized by the following:

Paleo-Indian Period: This period began when the first people began to inhabit what is now known as the California culture area. It was commonly believed these first people subsided on big game and minimally processed foods, (i.e., hunters and gatherers), presumably with no trade networks. More recent research indicates these people may have been more sedentary, relied on some processed foods, and traded (Rosenthal et al. 2007). Populations likely consisted of small groups traveling frequently to exploit plant and animal resources.

Archaic Period: This period was characterized by an increase in plant exploitation for subsistence, more elaborate burial accoutrements, and increase in trade network complexity (Bennyhoff and Fredrickson 1994). The three divisions that correspond to pre-contact climate change are characterized by the following aspects (Rosenthal et al. 2007):

- *Lower Archaic Period*—this period is characterized by cycles of widespread floodplain and alluvial fan deposition. Artifact assemblages from this period include chipped stone crescents and early wide-stemmed points, marine shell beads, eastern Nevada obsidian, and obsidian from the north Coast Ranges. These types of artifacts found on sites dating to this period indicate trade was occurring in multiple directions. A variety of plant and animal species were also utilized, including acorns, wild cucumber, and manzanita berries.
- *Middle Archaic Period*—this period is characterized by a drier climate period. Rosenthal et al. (2007:153) identified two distinct settlement/subsistence patterns in this period: the Foothill Tradition and the Valley Tradition. Functional artifact assemblages consisting primarily of locally sourced flaked-stone and groundstone cobbles characterize the Foothill Tradition, while the Valley Tradition was generally characterized by diverse subsistence practices and extended periods of sedentism.
- *Upper Archaic Period*—this period is characterized by abrupt change to wetter and cooler environmental climate conditions. Much greater cultural diversity is evident from this period.

More specialized artifacts, such as bone tools, ceremonial blades, polished and groundstone plummets, saucer and saddle *Olivella* shell beads, *Haliotis* shell ornaments, and a variety of groundstone implements are characteristic of this period.

Emergent Period: This period is most notably marked by the introduction of the bow and arrow, the emergence of social stratification linked to wealth, and more expansive trade networks signified by the presence of clam disk beads that were used as currency (Moratto 1984). The Augustine pattern (the distinct cultural pattern of the Emergent Period) is characterized by the appearance of small projectile points (largely obsidian), rimmed display mortars, flanged steatite pipes, flanged pestles, and chevron-designed bird-bone tubes. Large mammals and small seeded resources appear to have made up a larger part of the diet during this period (Fredrickson 1968; Meyer and Rosenthal 1997).

The following discussion summarizes the cultural patterns and the different local developments represented in archaeological deposits in the region surrounding the current Project Area.

The Windmill Pattern of the Early Horizon (as defined by Beardsley 1948), dates to the Middle Archaic (as defined by Rosenthal et al. 2007) and may be the most extensively studied of all the cultural patterns defined for the Central Valley. In fact, the similarity noted between elements of Windmill and materials from other sites may have been the catalyst for early archaeologists identifying the material cultural “blending” of groups in the Central Valley during this period. The temporal span for Windmill has been updated and reanalyzed several times in the archaeological literature (Fredrickson 1973, 1974; Heizer 1949; Moratto 1984; Ragir 1972). The date originally proposed for the emergence of Windmill was 4,500 BP (Lillard et al. 1939; Ragir 1972), because the culture at 4,000 years ago appeared to have been fully developed and seemed to have been well integrated into the regional economic system.

Characteristics to identify the Windmill pattern have been presented by multiple authors over time (Fredrickson 1973, 1974; Heizer 1949; Moratto 1984; Ragir 1972). Most notable characteristics are:

- large, heavy stemmed and leaf-shaped projectile points commonly made of a variety of materials other than obsidian;
- perforate charmstones;
- *Haliotis* and *Olivella* shell beads and ornaments;
- trident fish spears;
- baked clay balls (presumably for cooking in baskets);
- flat slab milling stones;
- small numbers of mortars; and
- ventrally extended burials oriented toward the west.

The subsistence pattern of Windmill groups probably emphasized hunting and fishing, with supplemental seed collecting (possibly including acorns) (Heizer 1949; Moratto 1984; Ragir 1972).

Windmill groups acquired obsidian from at least two Coast Ranges and three trans-Sierran sources, *Haliotis* and *Olivella* shells and ornaments from the coast, and quartz crystals from the Sierra Nevada foothills (Heizer 1949; Ragir 1972). It is widely hypothesized that the bulk of these materials were acquired through trade; however, some may have been acquired as part of seasonal movements between the Central Valley and the Sierra Nevada foothills.

There is evidence for seasonal transhumance in the distribution of Windmill artifacts, sites, and burial patterns. Johnson's work (1967; 1970) along the edge of the Sierra Nevada foothills at Camanche Reservoir and CA-AMA-56, the Applegate site, suggests a link between Windmill groups of the Central Valley and the Sierra Nevada mortuary caves. Johnson (1970:119) suggested that his data reveals a pattern of gradual change from the Early through the Middle Horizon (as defined by Beardsley 1948), rather than a displacement of local groups by foreign populations as theorized by Baumhoff and Olmsted (1963) based on ethnolinguistic evidence. Rondeau (1980), also working at the edge of the Central Valley at CA-ELD-426, the Bartleson Mound, identified components of the Early Horizon (as defined by Beardsley 1948). He (1980:58) even postulated a potential relationship between the Early Horizon cultures and the Martis Complex (a basalt preferring culture in the Martis Valley of the Sierra Nevada). In addition, analysis of Windmill burial orientation (Schulz 1970) and skeletal analyses (e.g., Harris Lines) by McHenry (1968) suggest a high percentage of winter death among Windmill groups. Incorporating all of this data, Moratto (1984:206) postulated that Windmill groups were exploiting the foothills of the Sierra Nevada during the summer and returning in the winter to villages in the Central Valley as early as 4,000 BP.

Excavations at CA-PLA-500 (Wohlgemuth 1984), the Sailor Flat site located near CA-PLA-101, sites at the Twelve Bridges Golf Course, now known as Catta Verdera Country Club in Lincoln, and Spring Garden Ravine site CA-PLA-101 provide examples of Windmill sites that had items in their cultural assemblages similar to the material culture of groups elsewhere in California and the foothills.

The succeeding Middle Horizon, namely the Cosumnes Culture after Ragir (1972), the Berkeley Pattern after Fredrickson (1974), and absorbed into the Middle and Upper Archaic designations by Rosenthal et al. (2007) was first recognized at site CA-SAC-66. Much less published material discusses the patterns defined for this era than does Windmill, nonetheless, some of the most notable characteristics are:

- tightly flexed burials with variable orientation;
- red ochre stains in burials;
- distinctive *Olivella* and *Haliotis* beads and ornaments;
- distinctive charmstones;
- cobble mortars and evidence of wooden mortars;
- numerous bone tools and ornaments;
- large, heavy foliate and lanceolate concave base projectile points made of materials other than obsidian; and
- objects of baked clay.

Further classification of the Middle Archaic (as defined by Rosenthal et al. 2007) into the Foothill Tradition and Valley Tradition helped to clarify the different types of cultural sequences that occurred during these time periods. Functional artifact assemblages consisting primarily of locally sourced flaked-stone and groundstone cobbles characterize the Foothill Tradition, with very few trade goods. Sites that represent the Valley Tradition are much fewer in number and are generally characterized by much more diverse subsistence practices and extended periods of sedentism. Specialized tools, trade goods, and faunal refuse that indicate year-round occupation are evident on sites of the Valley Tradition (Rosenthal et al. 2007). Distinct artifacts attributed to this tradition include one of the oldest dated shell bead lots in central California (4,160 BP) and a particular type of pestle used with a wooden mortar (Meyer and Rosenthal 1997).

The Sierra Nevada experienced significant climactic shifts and concomitant vegetation change throughout the Holocene, but pollen analysis and climactic records indicate that the current climate pattern and primary constituents of vegetation communities were in place by the Middle Archaic around 1,000 BC (Hull 2007). Seasonal transhumance practiced by indigenous populations of the Sierra may have become more consistent during this period of relative environmental stasis.

Paleobotanical analysis from sites of the Foothill Tradition including CA-CAL-789, CA-CAL-629, and CA-CAL-630 confirm that acorns and pine nuts were preferred for subsistence (Rosenthal and McGuire 2004; Wohlgemuth 2004). Sites near the Project Area associated with the Valley Tradition are rare in the early Middle Archaic (ca. 5,550 to 2,050 cal. BC) but include the Reservation Road site (CA-COL-247), and two buried sites in the northern Diablo range (CA-CCO-637 and CA-CCO-18/548). Sites associated with later portions of the Middle Archaic (post-2,050 cal. BC) near the Project Area include CA-SAC-107 and CA-BUT-233, both of which produced elaborate material culture and diverse dietary and technological assemblages.

The next era in the region is identified as the Late Horizon by Beardsley (1948, 1954), the Hotchkiss Culture by Ragir (1972), and the Augustine Pattern by Fredrickson (1974). The culture was formed by populations during the later Upper Archaic and Emergent Periods, as defined by Rosenthal et al. (2007), and ranges in age from around 550 cal. BC to contact (dates vary between the different models of prehistory developed for the region). The Upper Archaic, as discussed above, corresponds with the late Holocene change in environmental conditions to a wetter and cooler climate. The Emergent Period and Late Horizon are markedly represented by the introduction of bow-and-arrow technology, as well as more pronounced cultural diversity as reflected in diversity of burial posturing, artifact styles, and material culture. Cultural patterns for this era are represented in the northern Sacramento Valley, namely within the Whiskeytown Pattern, at sites CA-SHA-47, CA-SHA-571/H, CA-SHA-890, CA-SHA-891, and CA-SHA-892 (Sundahl 1982, 1992).

This era primarily represents both local innovation and the blending of new cultural traits introduced into the Central Valley. The Emergent Occupation (as defined by Rosenthal et al. 2007) coincides with the Augustine Pattern (Fredrickson 1974) in the lower Sacramento Valley/Delta region, and with the Sweetwater and Shasta complexes in the northern Sacramento Valley (Fredrickson 1974; Kowta 1988; Sundahl 1982). The emergence of the Augustine Pattern appears to have been associated with the

expansion of Wintun populations from the north, which appears to have led to an increase in settlements in the area after 550 BP (Bennyhoff 1994; Moratto 1984).

During this period in the Sierra Nevada, paleoenvironmental data suggests severe droughts occurred from around AD 892 to 1112 and AD 1210 to 1350 (Hull 2007; Lindström 1990; Stine 1994). These drier conditions surely affected the seasonal resource procurement rounds of the native populations during this time, and likely led to an influx of population movement and cultural blending into the foothills zone and Central Valley by Sierra Nevada groups.

Despite the varying designations, this emergent era is distinguished in the archaeological record by intensive fishing, extensive use of acorns, elaborate ceremonialism, social stratification, and cremation of the dead. Artifacts associated with the defined patterns (Augustine, Emergent, Hotchkiss) include bow-and-arrow technology (evidenced by small projectile points), mortars and pestles, and fish harpoons with unilaterally or bilaterally placed barbs in opposed or staggered positions (Bennyhoff 1950). Mortuary patterns include flexed burials and cremations, with elaborate material goods found in association with prestigious individuals. A local form of pottery, Cosumnes brownware, emerged in the lower Sacramento Valley (Rosenthal et al. 2007). Sites contain this ceramic type in their artifact assemblage near the Project Area include CA-SAC-6, CA-SAC-67, CA-SAC-107, CA-SAC-265, and CA-SAC-329. Human animal effigies are also a marker of this emergent era around the Project Area and are present at sites CA-SAC-6, CA-SAC-16, CA-SAC-29, CA-SAC-267, and CA-SAC-267.

3.3 Ethnography

When Euro-Americans first arrived in the region, indigenous groups speaking more than 100 different languages and occupying a variety of ecological settings inhabited California. Kroeber (1925, 1936), and others (i.e., Driver 1961; Murdock 1960), recognized the uniqueness of California's indigenous groups and classified them as belonging to the California culture area. Kroeber (1925) further subdivided California cultural area into four subculture areas: Northwestern, Northeastern, Southern, and Central. The Central area (as defined by Kroeber 1925) encompasses the current Project Area and includes the Maidu and Konkow.

The current Project Area falls within the ethnographic tribal territory of the Maidu, located in the lower foothills of the western slopes of the Sierra Nevada range and in the periphery of the Northern Sacramento Valley. The Maidu, on the basis of cultural and linguistic differences, have been differentiated into three major related divisions (Dixon 1905; Kroeber 1925; Powers 1877): the Northeastern (Mountain Maidu), Northwestern (Konkow), and Southern (Nisenan). Because many believe the Mountain Maidu and Konkow to be so closely related, ethnographers tended to group them as one.

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

The Maidu and Konkow languages and associated dialects are members of the Maidu language family of the California Penutian Linguistic Stock. Unlike the Maidu, whose dialects were unique to each of the four major regions of occupation, the Konkow spoke a large number of dialects, with each settlement area supporting more than one dialect (Shipley 1978). The Konkow called themselves *ko'yo-mkawi*, or "meadowland" (Riddell 1978).

Settlement patterns of the Maidu and Konkow were seasonal in nature. The Konkow inhabited a savanna-like habitat on the valley floor and in the lower elevations of the Sierra Nevada foothills. Resources exploited in this environment include wild rye, pine nuts, acorns, fish, and invertebrates (Kroeber 1925; Riddell 1978). Summer hunting trips into the mountains provided deer meat, skins, and other items for food, clothing, and shelter for the winter months.

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

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

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

Contact between the Maidu and Western culture was initiated as early as 1808 by Spanish explorers and fur trappers. The effects of the introduction of new diseases notwithstanding, native cultures remained essentially unchanged until after the discovery of gold at Coloma in 1848 (Riddell 1978). An outbreak of malaria in 1833, the 1848 Gold Rush, and subsequent massacre of Native Americans resulted in an upset of the ecological and social balance of local Native societies. As a direct result, aboriginal populations plummeted from 8,000 in 1846 to only 900 in 1910 (Riddell 1978).

In 1855, the U.S. Congress authorized treaties to set aside reservation lands for Native Americans, after which some Konkow were relocated to the Nome Lackee reservation in present-day Tehama County (Kowta 1988). Currently, descendants of the Maidu and Konkow have revitalized their ancestral heritage and have dissociated into the Enterprise, Berry Creek, and Mooretown rancherias in Oroville; the Mechoopda Indian Tribe in Chico; the United Maidu Nation and Susanville Rancheria in Susanville; and the Greenville Rancheria in Plumas County.

3.4 Regional History

The first European to visit California was Spanish maritime explorer Juan Rodriguez Cabrillo in 1542. Cabrillo was sent north by the Viceroy of New Spain (Mexico) to look for the Northwest Passage. Cabrillo visited San Diego Bay, Catalina Island, San Pedro Bay, and the northern Channel Islands. The English adventurer Francis Drake visited the Miwok Native American group at Drake's Bay or Bodega Bay in 1579. Sebastian Vizcaíno explored the coast as far north as Monterey in 1602. He reported that Monterey was an excellent location for a port (Castillo 1978).

Colonization of California began with the Spanish Portolá land expedition. The expedition, led by Captain Gaspar de Portolá of the Spanish army and Father Junipero Serra, a Franciscan missionary, explored the California coast from San Diego to the Monterey Bay Area in 1769. As a result of this expedition, Spanish missions to convert the native population, presidios (forts), and pueblos (towns) were established. The Franciscan missionary friars established 21 missions in Alta California (the area north of Baja California) beginning with Mission San Diego in 1769 and ending with the mission in Sonoma established in 1823. The purpose of the missions and presidios was to establish Spanish economic, military, political, and religious control over the Alta California territory. No missions were established in the Central Valley. The nearest missions were in the vicinity of San Francisco Bay and included Mission San Francisco de Asis (Dolores) established in 1776 on the San Francisco peninsula, Mission Santa Clara de Asis at the south end of San Francisco Bay in 1777, Mission San Jose in 1797, Mission San Rafael, established as an *asistencia* in 1817 and a full mission in 1823, and Mission San Francisco Solano in Sonoma in 1823 (Castillo 1978; California Spanish Missions 2011). Presidios were established at San Francisco and Monterey. The Spanish took little interest in the area and did not establish any missions or settlements in the Central Valley.

After Mexico became independent from Spain in 1821, what is now California became the Mexican province of Alta California with its capital at Monterey. In 1827, American trapper Jedediah Smith traveled along the Sacramento River and into the San Joaquin Valley to meet other trappers of his company who were camped there, but no permanent settlements were established by the fur trappers (Thompson and West 1880).

The Mexican government closed the missions in the 1830s and former mission lands, as well as previously unoccupied areas, were granted to retired soldiers and other Mexican citizens for use as cattle ranches. Much of the land along the coast and in the interior valleys became part of Mexican land grants or "ranchos" (Robinson 1948). During the Mexican period there were small towns at San Francisco (then known as Yerba Buena) and Monterey. The rancho owners lived in one of the towns or in an adobe house on the rancho. The Mexican Period includes the years 1821 to 1848.

John Sutter, a European immigrant, built a fort at the confluence of the Sacramento and American rivers in 1839 and petitioned the Mexican governor of Alta California for a land grant, which he received in 1841. Sutter built a flour mill and grew wheat near the fort (Bidwell 1971). Gold was discovered in the flume of Sutter's lumber mill at Coloma on the South Fork of the American River in January 1848 (Marshall 1971). The discovery of gold initiated the 1849 California Gold Rush, which brought thousands of miners and settlers to the Sierra foothills east and southeast of Sacramento.

The American period began when the Treaty of Guadalupe Hidalgo was signed between Mexico and the U.S. in 1848. As a result of the treaty, Alta California became part of the U.S. as the territory of California. Rapid population increase occasioned by the Gold Rush of 1849 allowed California to become a state in 1850. Most Mexican land grants were confirmed to the grantees by U.S. courts, but usually with more restricted boundaries, which were surveyed by the U.S. Surveyor General's office. Land outside the land grants became federal public land that was surveyed into sections, quarter-sections, and quarter-quarter sections. The federal public land could be purchased at a low fixed price per acre or could be obtained through homesteading (after 1862) (Robinson 1948).

3.5 Project Area History

The Project Area is located in the central portion of Butte County. Butte County was one of the original 27 counties in California, and originally encompassed a much larger area than it does today. It was named for the landform now known as the Sutter Buttes, located in present-day Sutter County to the south (Kyle 2002). In the latter part of the nineteenth century, the County land was primarily agricultural, with timber and mineral lands encompassing less than half the County area. Captain Luis A. Argüello led an expedition to the region in 1820 and was likely the earliest nonnative to explore the area. Fur trappers of the Hudson Bay Company followed and traversed the region as early as 1828. Other hunters and settlers in the Sacramento Valley began to travel on the Hudson Bay Trail to Oregon and then south to California. John Bidwell came to Sutter's Fort in California using this route. He mapped the upper reaches of the Sacramento Valley. People used Bidwell's maps to identify land when applying for land grants from the Mexican Government (Wells et al. 1882).

In 1844 Edward A. Farwell and Thomas Fallon settled on the Farwell Grant, which encompasses the town of Chico; this was to be the first settlement in Butte County. John Bidwell discovered gold on the Feather River two months after James Marshall's first gold discovery at Sutter's Mill in Coloma. This led to an influx of gold seekers to the area, and the river was lined with countless mining camps. Some of these camps grew to prosper into towns; others were short lived (Wells et al. 1882).

The County of Butte was organized after California gained statehood and counties were established under the Act of February 18, 1850. Butte County originally included the majority of lands in what is now Lassen, Plumas, Tehama, Colusa, and Sutter counties, including the Sutter Buttes, from which the County got its name. The boundaries were reconfigured within the next few months (Wells et al. 1882).

The Project Area is located within the city of Oroville, which began as a mining camp in 1849 called Ophir City. The town gained importance and population; by 1856 its name was changed to Oroville and became the County Seat over Bidwell's Bar by popular election. It burgeoned into a trading hub for mining towns in the surrounding areas north and south along the Feather River. Mining operations were the main industry in Oroville and on the Feather River in the 1850s; the river was rerouted in order to mine the gravel bed (Kyle 2002).

By 1850, a sizable population had arrived along the banks of the Feather River to pan for gold and engage in traditional forms of placer mining. Later, hydraulic mining and dredging were used to mine less-accessible deposits. Dredge operators targeted heavy gold particles that had been washed down to the valley floor by annual precipitation events in the Sierra and deposited in sediments on the riverside flats

near Oroville (Clark 1970). Hydraulic mining continued to be the chief mining activity in the Oroville area until the 1880s, when it was outlawed due to the deleterious effect it had on the landscape and environment. The gold dredging industry replaced the hydraulic mining almost immediately (Kyle 2002).

Dredging in the area of the Oroville Wildlife Area (OWA), located less than one mile west of the Project Area, began with Wendell Hammon, who had developed the first successful bucket-line dredge operation in California by 1898. This set off a chain of events that resulted in the operation of 35 dredges south of Oroville by 1908. The apogee of dredge mining operations in the OWA area occurred between 1903 and 1916. Dredging activities waxed and waned over subsequent decades, eventually coming to a close in 1952 (Clark 1970). The Department of Water Resources constructed the Oroville-Thermalito Complex in the 1960s, which involved the creation of the interior channels within the OWA and the perimeter berm along the southeast bank of the Feather River in the immediate area. The area was primarily used for aggregate (sand and gravel) extraction from 1952 to 1968, and construction of the Thermalito Afterbay was completed in 1968 (Clark 1970). In the 1960s, tailings from the Oroville dredge fields were used as fill in constructing the Oroville Dam.

The Oroville WWTP has served the greater Oroville region since the original treatment facility was constructed in 1959. It has been modified several times since it was first built, most significantly in 1975 and as recently as 2017. It is currently operated by the SC-OR, which was created in 1973 under a joint powers agreement between the City of Oroville, Lake Oroville Area Public Utilities District, and Thermalito Irrigation District in order to address the building moratorium that was created by ongoing sewer problems. The original 1959 WWTP was unable to process all the sewage and was in need of upgrades. SC-OR purchased the old WWTP in 1976 (Sewerage Commission 2020).

4.0 METHODS

4.1 Personnel Qualifications

All phases of the cultural resources investigation were conducted or supervised by Registered Professional Archaeologist (RPA) Lisa Westwood, who meets the Secretary of the Interior's Professional Qualifications Standards for prehistoric and historic archaeology, and architectural historian Jeremy Adams, who meets the Secretary of the Interior's Professional Qualifications Standards for architectural history and history. Fieldwork was conducted by Staff Archaeologist Megan Webb and Nick Bizzell, with supervision from Theadora Fuerstenberg, RPA and Brian S. Marks, Ph.D., RPA. Ms. Fuerstenberg and Megan Webb prepared the original technical report with assistance from Mr. Adams. Dr. Marks prepared the revised report. Lisa Westwood provided technical report review and quality assurance.

Theadora Fuerstenberg is a Senior Archaeologist for ECORP who meets the Secretary of the Interior's Professional Qualifications Standards for prehistoric and historic archaeology. She holds a B.A. in Anthropology and an M.A. in Cultural Resources Management and is an RPA with more than 15 years of experience. Her principal professional abilities include identification and treatment of cultural resources and preparation of technical documents as required for compliance with CEQA, NEPA, and Sections 106 and 110 of the NHPA; conducting archival and background research; directing large and complex archaeological survey and archaeological excavations; directing and performing laboratory analysis of pre-

contact and historic-era collections; and writing research designs, management plans, and reports for archaeological and cultural resource management projects.

Lisa Westwood, the Principal Investigator, is an RPA who meets the Secretary of the Interior's Professional Qualifications Standards for prehistoric and historic archaeology with 25 years of experience. She holds a B.A. degree in Anthropology and an M.A. degree in Anthropology (Archaeology). She has participated in or supervised numerous survey, testing, and data recovery excavations, has recorded and mapped hundreds of pre-contact and historical sites, and has cataloged, identified, and curated hundreds of thousands of artifacts. She has conducted evaluations of cultural resources for eligibility to the NRHP and CRHR and is well versed in impact assessment and development of mitigation measures for CEQA and Section 106 (NHPA) projects. She is the Director of Cultural Resources for ECORP.

Brian S. Marks has been an archaeologist since 1997, and has been working in cultural resources management in California since 2010 following eight years of archaeological work in the southeast U.S. Dr. Marks holds a Ph.D. and an M.S. in Anthropology. He has participated or supervised well over 200 survey, testing, and data recovery excavations; has recorded and mapped a multitude of pre-contact and historical sites including Civil War battlefields, Gold Rush boom towns, submerged pre-contact sites, and others. He has conducted evaluations of cultural resources for eligibility to the NRHP and CRHR and is well versed in impact assessment and development of mitigation measures for CEQA and Section 106 (NHPA) projects. He is a Senior Archaeologist for ECORP.

Jeremy Adams meets the Secretary of the Interior's Standards for Architectural History and History, holding an M.A. in History (Public History) and a B.A. in History, with 10 years of experience specializing in historic resources of the built environment. He is skilled in carrying out historical research at repositories such as city, state, and private archives, libraries, CHRIS information centers, and historical societies. He has experience conducting field reconnaissance and intensive surveys. Mr. Adams has conducted evaluations of cultural resources for eligibility to the NRHP and CRHR.

Megan Webb is a Staff Archaeologist for ECORP and has more than five years of experience in cultural resources management, primarily in California. She holds a B.A. in Anthropology and has participated in all aspects of archaeological fieldwork, including survey, test excavation, and data recovery, in addition to months of archaeological lab experience.

Nick Bizzell is an Associate Archaeologist with ECORP and has over 10 years of experience in cultural resources management. He holds a B.A. in Anthropology. Mr. Bizzell has participated in numerous archaeological projects throughout the state of California, experience that includes working with clients in both public and private sectors. Mr. Bizzell has substantial archaeological experience with cultural resources monitoring, inventory surveys, excavation and subsurface testing, and laboratory analysis for projects in northern and southern California. Additionally, Mr. Bizzell is cross-trained as a paleontological monitor for projects requiring both archaeological and paleontological monitoring.

4.2 Records Search Methods

A records search for the property was completed by ECORP staff at the Northeast Information Center (NEIC) of the CHRIS at California State University, Chico on January 15, 2020 (NEIC search #W20-5;

Attachment A). The purpose of the records search was to determine the extent of previous surveys within a 0.5-mile (800-meter) radius of the proposed project location, and whether previously documented pre-contact or historic archaeological sites, architectural resources, or traditional cultural properties exist within this area.

In addition to the official records and maps for archaeological sites and surveys in Butte County, the following historic references were also reviewed: Historic Property Data File for Butte County (OHP 2012); *The National Register Information System* (National Park Service [NPS] 2020); *Office of Historic Preservation, California Historical Landmarks* (OHP 2020); *California Historical Landmarks* (OHP 1996 and updates); *California Points of Historical Interest* (OHP 1992 and updates); *Directory of Properties in the Historical Resources Inventory* (1999); *Caltrans Local Bridge Survey* (Caltrans 2019); *Caltrans State Bridge Survey* (Caltrans 2018); and *Historic Spots in California* (Kyle 2002).

Other references examined include a RealQuest Property Search and historic General Land Office (GLO) land patent records (Bureau of Land Management [BLM] 2020). Historic maps reviewed include:

- 1867 BLM GLO Plat map for Township 19 North Range 4 East;
- 1891 USGS California, Chico Sheet map (1:125,000);
- 1912 USGS Palermo, California topographic quadrangle map (1:31,680 scale);
- 1952 USGS Palermo, California topographic quadrangle map (1:24,000 scale); and
- 1970 USGS Palermo, California topographic quadrangle map (1:62,500 scale).

Historic aerial photos taken in 1968 and from 1998 to present were also reviewed for any indications of property usage and built environment.

4.3 Sacred Lands File Coordination Methods

In addition to the records search, ECORP contacted the California Native American Heritage Commission (NAHC) on January 8, 2020 to request a search of the SLF for the APE (Attachment B). This search will determine whether or not Sacred Lands have been recorded by California Native American tribes within the APE. The SLF is populated by members of the Native American community who have knowledge about the locations of tribal resources.

The results of the SLF search were received by ECORP on January 15, 2020. Following the SWRCB prescribed process for CEQA-Plus projects, ECORP contacted all persons or organizations on the NAHC list by letter on January 15, 2020 to request information on unrecorded cultural resources that may exist within the current Project Area, or to inquire about any concerns regarding sacred sites or traditional cultural properties in the vicinity that might be affected by the proposed action. Each individual was subsequently telephoned on February 4, 2020 to ensure that the materials had been received and to further solicit comments (Attachment B).

4.4 Other Interested Party Consultation Methods

ECORP mailed letters to the Butte County Historical Society on January 16, 2020, to solicit comments or obtain historical information that the repository might have regarding events, people, or resources of historical significance in the area (Attachment A).

4.5 Archival Research Methods

In addition to the official records and maps for archaeological sites and surveys reviewed during the records search at the NEIC, ECORP conducted focused property- and site-specific archival research. Archival research was conducted online where primary sources such as historical newspaper articles, maps, and County recorders records were reviewed. These records were found at online repositories that include websites such as archive.org, findagrave.com, the California Digital Newspaper Collection, the 1880 U.S. census records, the BLM GLO survey plats at glorecords.blm.gov, historical topographic maps at geonames.usgs.gov, and the Butte County Historical Society online archives at buttecountyhistoricalsociety.org. Historic-period literature such as the 1882 *History of Butte County* (Well et al. 1882) was also reviewed.

The focused archival research resulted in sufficient information about the historic-period resources to prepare appropriate evaluations of the resources within the Project Area. The results of the archival research are incorporated as historical context in Section 3 of this report and into specific discussions of resources in Section 5.4.1.

4.6 Field Methods

On January 24, 2020, ECORP subjected the APE to an initial intensive pedestrian survey under the guidance of the *Secretary of the Interior's Standards for the Identification of Historic Properties* (NPS 1983) using transects spaced 15 meters apart. ECORP conducted an additional intensive pedestrian survey of the expanded APE on August 4, 2021 (Figure 2). In total, ECORP expended 1.5 person-days in the field. During both surveys, the ground surface was examined for indications of surface or subsurface cultural resources. The general morphological characteristics of the ground surface were inspected for indications of subsurface deposits that may be manifested on the surface, such as circular depressions or ditches. Whenever possible, the locations of subsurface exposures caused by such factors as rodent activity, water or soil erosion, or vegetation disturbances were examined for artifacts or for indications of buried deposits. No subsurface investigations or artifact collections were undertaken during the pedestrian survey.

All cultural resources encountered during the surveys were recorded using Department of Parks and Recreation (DPR) 523-series forms approved by the California OHP. The resources were photographed, mapped using a handheld Global Positioning System receiver, and sketched as necessary to document their presence. Isolates were recorded with a Primary Record and Location Map, while sites were recorded with a Primary Record, Location Map, and any other pertinent forms.

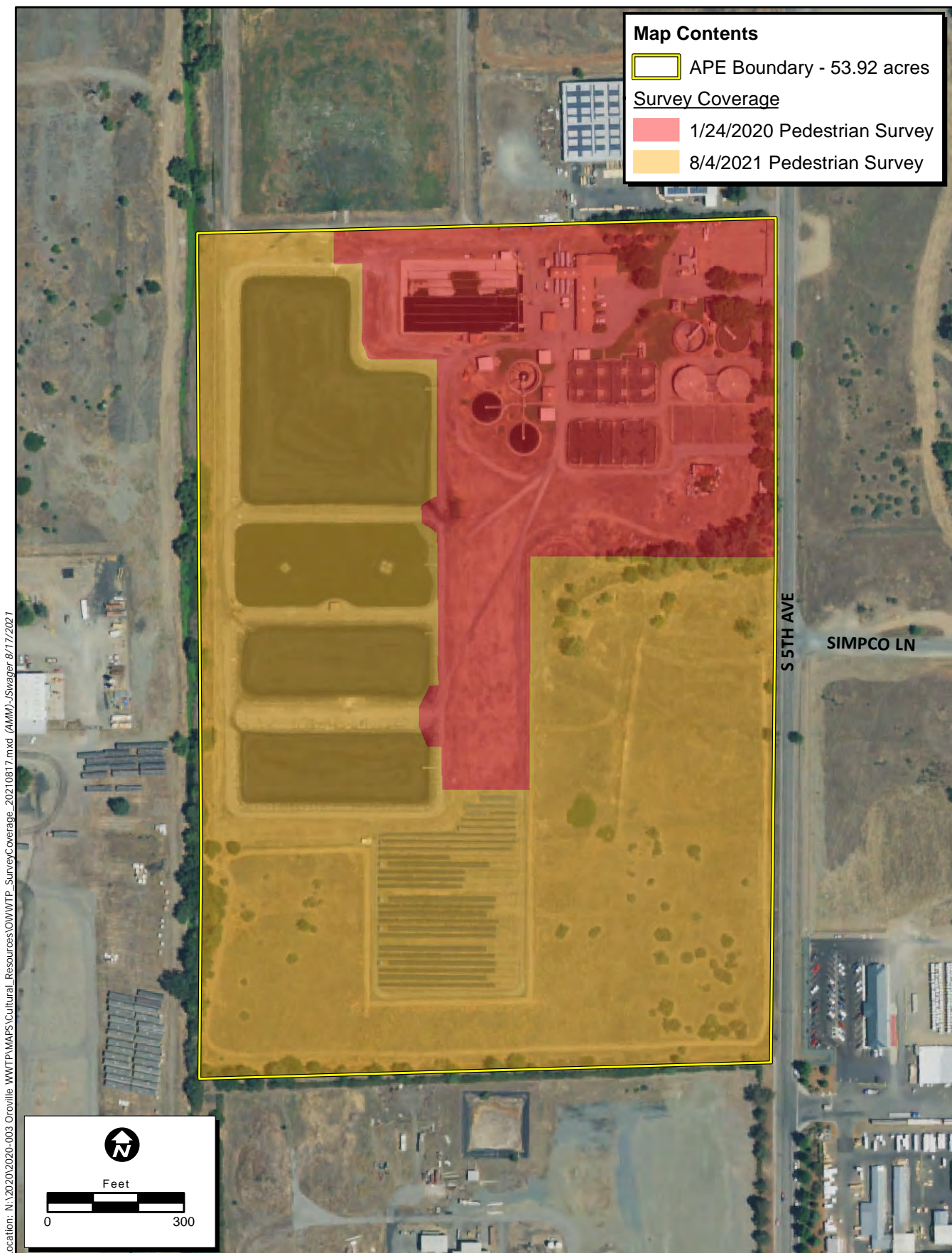


Figure 2. Survey Coverage

2020-003 Oroville WWTP

4.7 Evaluation Methods

4.7.1 Federal Evaluation Criteria

Under federal regulations implementing Section 106 of the NHPA (36 CFR 800), cultural resources identified in the Project APE must be evaluated using NRHP and eligibility criteria. The eligibility criteria for the NRHP are as follows (36 CFR 60.4):

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

- a) is associated with events that have made a significant contribution to the broad patterns of our history;
- b) is associated with the lives of a person or persons significance in our past;
- c) embodies the distinctive characteristics of a type, period or method of construction, or represents the work of a master, or possesses high artistic value, or represents a significant and distinguishable entity whose components may lack individual distinction;
or
- d) has yielded or may be likely to yield information important in prehistory or history.

In addition, the resource must be at least 50 years old, except in exceptional circumstances (36 CFR 60.4).

Effects to NRHP-eligible resources (historic properties) are adverse if the project may alter, directly or indirectly, any of the characteristics of an historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association.

4.7.2 State Evaluation Criteria

Under State law (CEQA) cultural resources are evaluated using CRHR eligibility criteria in order to determine whether any of the sites are Historical Resources, as defined by CEQA. CEQA requires that impacts to Historical Resources be identified and, if the impacts would be significant, that mitigation measures to reduce the impacts be applied.

Under CEQA, a Historical Resource is a resource that "includes, but is not limited to, any object, building, structure, site, area, place, record, or manuscript which is historically or archaeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California" (PRC 5020.1[j]). In making this determination, the CEQA lead agency considers whether or not the resource: 1) is listed in or has been determined eligible for listing in the CRHR by the State Historical Resources Commission, or has been determined historically significant by the CEQA lead agency because it meets the eligibility criteria for the CRHR (PRC 5024.1); 2) is included in a local register of historical resources, as defined in PRC 5020.1(k); or 3) has been identified as significant in an historical resources survey, as defined in PRC 5024.1(g) [CCR Title 14, Section 15064.5(a)].

The eligibility criteria for the CRHR are as follows [CCR Title 14, Section 4852(b)]:

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

In addition, the resource must retain integrity. Integrity is evaluated with regard to the retention of location, design, setting, materials, workmanship, feeling, and association [CCR Title 14, Section 4852(c)]. Impacts to a Historical Resource (as defined by CEQA) are significant if the resource is demolished or destroyed or if the characteristics that made the resource eligible are materially impaired [CCR Title 14, Section 15064.5(a)].

Lastly, a Tribal Cultural Resource, as defined in Section 21074 of the California PRC, can only be identified and evaluated by culturally affiliated California Native American tribes through government-to-government consultation. As such, only the consultation record of the CEQA lead agency, and not this technical report, addresses Tribal Cultural Resources.

5.0 RESULTS

5.1 Records Search

The records search consisted of a review of previous research and literature, records on file with the NEIC for previously recorded resources, and historical aerial photographs and maps of the vicinity.

5.1.1 Previous Research

Three previous cultural resource investigations have been conducted within 0.5 mile of the property, covering approximately 10 percent of the total area surrounding the property within the record search radius (Table 1). These studies revealed the presence of pre-contact sites including bedrock mortars, and historic period resources associated with mining activities. The previous studies were conducted between 1974 and 2002 and vary in size from several acres to 5 linear miles.

Table 1. Previous Cultural Studies In or Within 0.5 Mile of the Project Area				
Report Number	Author(s)	Report Title	Year	Includes Portion of the APE?
141	Keith Johnson	Archaeological Reconnaissance of the Proposed Water Treatment Facility Oroville District	1974	Yes
5429	Daryl Noble	An Archaeological Survey of Highway 70 for the Ophir Road Interchange Near Oroville, Butte County, California	2001	No

5431	Peter Jensen	Archaeological Inventory Survey Lake Oroville Area Public Utilities District Proposed Sewer Improvement Project Involving Approximately Five Miles of Linear Corridor Near Oroville, Butte County, California	2002	No
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The results of the records search indicate that the entire Project Area has been previously surveyed for cultural resources; however, the previous survey took place in 1974 under obsolete standards. Therefore, a pedestrian survey of the APE was conducted for the current Project under current protocols.

The records search also determined that one previously recorded historic period resource and one multi-component resource are located within 0.5 mile of the Project Area (Table 2). The multi-component site has associations with Native American occupation of the vicinity and also historic-period features, and the historic-period site is related to mining. The boundary of the historic-period mining site, the Oroville Dredge Fields, encompasses the Project Area.

Table 2. Previously Recorded Cultural Resources In or Within 0.5 Mile of the Project Area					
Site Number CA-BUT-	Primary Number P-04-	Recorder and Year	Age/ Period	Site Description	Within APE?
1345H	1345	Multiple; most recent Dana Supernowicz 2016	Historic	Oroville Dredge Fields	Yes
1443/H	1443	Multiple; most recent W. Shapiro and H. Calicher 2006	Multi-component	Placer tailings, BRM, foundations, historic refuse, trails, orchard, and ditch	No

5.1.2 Records

The OHP's *Built Environment Resource Directory* for Butte County (dated March 3, 2020) did not include any resources within 0.5 mile of the Project Area (OHP 2021). The Oroville Dredge Fields were not listed.

The OHP's *Directory of Properties, Historic Property Data File for Butte County* (dated April 5, 2012) did not include any resources the Project Area (OHP 2012).

The National Register Information System (NPS 2020) did not contain any eligible or listed properties within the Project Area. The nearest National Register properties are located 1.8 miles north of the Project Area in downtown Oroville.

Resources listed as *California Historical Landmarks* (OHP 1996) and by the OHP (OHP 2020) were reviewed on January 16, 2020. The nearest listed landmark is #1043: Mother Orange Tree of Butte County (plaque located 3.5 miles northeast of the Project Area).

A review of *Historic Spots in California* (Kyle 2002) mentions the town of Oroville and the history and progression of the extensive gold mining that occurred there.

A search of historic GLO land patent records from the BLM's patent information database (BLM 2020) revealed that C. E. Kusel received a serial patent in 1883 under the Mineral Patent Placer Act of 1866 (15 Stat. 251) for the northeastern quarter of the southwestern quarter of Section 19, the area of the current Project Area. Under this act, mineral lands for public domain, such as those for mining gold, were

free and open to exploration and occupation by any U.S. citizen or those declaring intention to become U.S. citizens.

The Caltrans Bridge Local and State Inventories (Caltrans 2018, 2019) listed one historic-period bridge within 0.5 mile of the Project Area: Bridge #12 0063, State Route (SR-) 70 over Tailing Ditch. This is a continuous concrete culvert built in 1958, and was evaluated by Caltrans as a Category 5 bridge, not eligible for the NRHP under Criterion C.

The *Handbook of North American Indians* (Riddell 1978) lists the nearest Native American village as *Yumam*, within the vicinity of the Project Area along the eastern bank of the Feather River.

5.1.3 Map Review and Aerial Photographs

The review of historical aerial photographs and maps of the Project Area provide information on the past land uses of the property and potential for buried archaeological sites. Based on this information, the property was initially used for dredge mining. Following is a summary of the review of historical maps and photographs.

- The 1867 GLO Plat map for Township 19 North, Range 4 East indicates the “Oroville and Marysville Rail Road” about a mile west of the Project Area. No features or development is mapped within the Project Area.
- The 1891 USGS California, Chico Sheet (1:125,000) map shows the presence of Oroville, Thermalito, and the Feather River north of the Project Area.
- The 1912 Palermo, CA (1:31,680 scale) map shows that the Project Area is located south of Oroville and east of the Feather River. The Project Area and much of the surrounding land consist of dredge tailings. No structures are depicted within the APE. Two cemeteries are located west of the Project Area: Oroville Cemetery and a Chinese Cemetery. The Western Pacific Railroad is located east of the APE.
- The 1952 Palermo, CA (7.5-minute) map show that the Project Area as dredge tailings. No structures are depicted within the APE. The Project Area is located west of South Oroville.
- Aerial photographs taken in 1969 show the sewage disposal plant among dredge tailings. The structures visible on the 1969 correspond with structures (buildings and tanks) currently located at the eastern end of today’s Oroville WWTP. In 1969, the road that closely corresponds to today’s South 5th Avenue ends at the treatment plant.
- The 1970 Palermo, CA (7.5-minute) map show a Sewage Disposal plant within Project Area. The map also shows dredge tailings within the Project Area and the area to the south. Ten structures, mostly tanks or ponds, are depicted within the APE. SR-70 is located 0.5 mile west of the Project Area. The plant is located within the Oroville Corporate Boundary. The route of South 5th Avenue ends at the treatment plant.
- The aerial photographs from 1998, the next available aerial photographs, show a larger sewage disposal plant within the Project Area. According to the 1998 aerials, the majority of the dredge

tailings located east of today's SR-70 have been reclaimed and modern industrial parcels have been built out in the area.

- All other aerials photographs from 1998, 2005, and 2008 show the Project Area in its current state with a WWTP and no intact tailings.

In sum, the property had been used for extensive dredge mining prior to 1912. The dredge tailings remained within the Project Area until the late 1960s when the land south of Oroville was developed for industrial use. The WWTP first appears on aerial photographs taken in 1969 and topographic maps from 1970.

5.2 Sacred Lands File Results

A search of the Sacred Lands File conducted by the NAHC failed to indicate the presence of Native American cultural resources in the Project Area. As a result of follow-up calls and letters, the Mooretown Rancheria of Maidu Indians stated there are no known Tribal resources within the Project Area. Letters and voicemails to the remaining Tribes did not result in any information on Tribal resources. A record of all correspondence is provided in Attachment B.

5.3 Other Interested Party Consultation Results

No responses to the letter sent to the Butte Historical Society have been received as of the preparation of this document.

5.4 Field Survey Results

ECORP surveyed the Project Area for cultural resources on January 23, 2020 and August 4, 2021. The field survey confirmed that the property has been heavily utilized. The Project Area included the existing Oroville WWTP located along South Fifth Avenue. The WWTP contained water tanks, storage buildings, paved areas, a main office, and drying ponds and yielded 50-percent ground visibility (Figure 3). This fair visibility was due to grasses and graveled areas. The eastern portion of the WWTP property contains the 1950s-constructed plant and the facilities located to the west consists of the 1970s-constructed facilities. The southern portion of the Project Area contained fields cleared of dredge tailings.

As a result of the records search, the Oroville Dredge Fields site boundary (P-04-1345), encompasses the Project Area. The property was inspected for any indications of intact dredge tailings associated with the Oroville Dredge Fields; however, no intact tailings existed within the Project Area. The Project Area was relatively flat and the majority of the tailings have been removed from the APE with some remnants of the dredge fields present in the southern portions of the Project Area (Figures 4 and 5). There is little remaining of P-04-1345 within the Project Area. A historic-era electrical distribution line (OW-002) was observed running roughly east/west through the APE. This distribution line consists of three electrical wires and one communication wire supported by wooden utility poles and operated by Pacific Gas and Electric (PG&E). The poles have date nails ranging from 1958 to 2000. The line runs through the APE with no apparent connection to the WWTP.



Figure 3. APE overview (view east, January 23, 2020).



Figure 4. APE overview, no intact tailings present (view northeast, January 23, 2020).



Figure 5. APE overview, disturbed tailings present (view north, August 4, 2021).

5.4.1 Cultural Resources

As a result of previous investigations by other firms, the boundary of one historic-period resource, P-04-1345, Oroville Dredge Tailings, partially overlaps the Project Area. Limited evidence of the Oroville Dredge Tailings was observed within the southern portion of the Project Area during the field visits. The majority of the tailings were removed or reworked during the construction of the WWTP. As a result of the current field survey, the Oroville WWTP itself was identified as historic-period resource OW-001, and a historic-era distribution line (OW-002) was observed transecting the property. Site descriptions follow, and confidential DPR site records are provided in Attachment D.

P-04-1345/ CA-BUT-1345H Oroville Dredge Fields

This historic-aged resource is the Oroville Dredge Fields; it has been recorded numerous times from 1995 to 2010 (Norton and Fernandez 1995; Anthropological Studies Center 2003, 2004; Martinez and Polson 2008; Stevens et al. 2011). It is an expansive gold dredging landscape created over a 54-year period from 1898 to 1952 encompassing 8,011 acres, with character defining features comprised of intact tailings, areas where tailings were removed for Oroville Dam construction, original landscape remnants, levees, ponds, wire, pipes, drainages, and a fence line, all recorded west of Feather River Boulevard west of the Project Area. The last update to the site record occurred in 2016 and the boundary was updated based on the extent of dredge tailings depicted on historic period maps; the 2016 updated boundary encompassed the Project Area.

ECORP observed remnants of the resource during the field visits. While its mapped location is within the Project Area, the construction of the WWTP has removed or redistributed the tailings to render them unrecognizable from their original state. Because these tailings lack sufficient integrity, the portion of the

resource that is located within the APE does not contribute to any significance that the larger, regional resource may have. Regardless, it will be avoided by the proposed project.

OW-001 Oroville Wastewater Treatment Plant

This historic-aged resource consists of the Oroville WWTP facility. The original WWTP was constructed in 1959 at the eastern end of today's facility (Figures 6 and 7). A new plant was constructed on the property in the 1970s and the existing 1950s facility was incorporated into the new plant. Aerial photographs taken in 1969 show the original WWTP within the property. The 1969 aerial photograph shows that the plant consisted of seven tanks (primary and secondary clarifiers), numerous sludge drying beds and settling tanks, an office building, and pump. Four of original tanks and a row of sludge drying beds exist at the WWTP facility today. In the 1970s, a new larger office was constructed, larger drying beds were constructed at the west end of the plant, three secondary clarifier tanks and aeration basins were constructed (Figures 8 and 9). Also, at least eight storage sheds are located on the property.

A 1952 dated article in the *Western City Magazine* states that tailings will be utilized for percolation beds in the new Oroville Treatment plant (*Western City Magazine* 1952). The WWTP is among other large industrial properties located south of Oroville.



Figure 6. OW-001. 1950s building located at the plant (view southwest) January 23, 2020.



Figure 7. OW-001. 1950s tank located at the plant (view southwest) January 23, 2020.



Figure 8. OW-001, 1970s aeration basin located at the plant (view west) January 23, 2020.



Figure 9. OW-001, 1970s main office located at the plant (view northwest) January 23, 2020.

OW-002 PG&E Distribution Line

Resource OW-002 is a segment of a PG&E distribution line that contains seven wooden poles within the APE, one of which contains a date nail from 1958 (Figure 10), with other poles containing date nails from 1977 and 2000. However, aerial photography is inconclusive as to the presence of the line in its current alignment until the 1990s. The line measures approximately 1 mile in length and currently spans from a transmission line along Foothill Ridge Road east through the Project Area (Figure 11) to a structure along Simpco Lane. The line supports three electrical lines and a separate communications line. OW-002 is a typical wood pole line with standard cross arms and porcelain insulators. While the presence of the 1958 date nail suggests the line is more than 60 years old, the line is not definitively visible in aerials until 1998, plus the addition of the wastewater treatment ponds after 1970 suggests a realignment. However, ECORP assumes the distribution line is at least 50 years old and recorded it.

It is important to note that another distribution line runs along 5th Street within the Project Area, but does not connect to OW-002, and did not have any poles with dates prior to 1980, and therefore was not documented.



Figure 10. OW-002, 1958 Date nail in a wooden pole (view south) August 4, 2021.



Figure 11. OW-002, Distribution line through the Project Area (view west) August 4, 2021.

Evaluation of OW-001

CRHR Criterion 1 / NRHP Criterion A: No information was found in the archival record to suggest that the Oroville WWTP is associated with an important historical event or contributed to the broad patterns of history. The property was originally subjected to dredge mining beginning in 1898 to 1952 and then later a wastewater treatment plant/sewage disposal plant was constructed on top of reclaimed tailing land. The Oroville WWTP is not associated with any major or significant event in the history of the Oroville or Butte County and does not convey the significance of Oroville through its operations. The Oroville WWTP was built to serve the community of Oroville that had already developed around it, but it played no significant role in the development or growth of that community in Butte County. In addition, the plant was updated in the 1970s in order to accommodate growth in the region. The Oroville WWTP is not associated with any existing historic district. Therefore, the Oroville WWTP is not related to the broad patterns of history or individually significantly associated with Oroville or Butte County, California, or the nation and is not eligible under CRHR Criterion 1 or NRHP Criterion A.

CRHR Criterion 2 / NRHP Criterion B: The archival research for the Oroville WWTP revealed that the plant is not significantly associated with any important person who contributed to local, state, or national history. The archival record does not show any names or individual owners from the period of its construction. Ultimately, the archival record failed to identify any significant individual or important person associated with the property. Therefore, the Oroville WWTP is not associated with the lives of persons significant in the past and is not eligible under CRHR Criterion 2 or NRHP Criterion B.

CRHR Criterion 3 / NRHP Criterion C: The Oroville WWTP is a wastewater treatment plant that holds no architectural style. The architect/designing engineer of the Oroville WWTP building is unknown. The Oroville WWTP was likely built with cost and function in mind, more so than architectural distinction. The buildings and tanks at the plant were built with concrete blocks and poured concrete to primarily serve a utilitarian function. It contains no distinguishing architectural style or engineering feature and does not embody distinction among other buildings or structures built during that period. The techniques employed for construction and maintenance of the Oroville WWTP were not unique and were in existence prior to construction of the building, and therefore are not historically significant. The Oroville WWTP does not embody the distinctive characteristics of a type, period, or method of construction, or represent the work of a master, or possess high artistic values, or possess any significant distinguishable components. Therefore, the Oroville WWTP is not eligible under CRHR Criterion 3 or NRHP Criterion C.

CRHR Criterion 4 / NRHP Criterion D: The Oroville WWTP does not have the potential to yield information important in prehistory or history. Archival research potential for the WWTP has been exhausted, and the property's history is not well documented in the archival record. The WWTP cannot provide additional historically important information, and there is no potential for the property to provide additional information that is not already represented in the archival record. Also, by the 1960s most of the U.S. population had access to some form of wastewater treatment. As a result, the WWTP is not eligible under CRHR Criterion 4 or NRHP Criterion D.

Integrity: The property visit indicated that the Oroville WWTP retains integrity of location, setting, and materials. The WWTP has never moved location and remains within the industrial setting in the city of

Oroville in central Butte County. The 1950s WWTP remains intact structurally at the eastern edge of the property. The WWTP still serves the function of sewage disposal for the city but is in need of an upgrade. The feeling has slightly diminished due to the construction of the 1970s plant, but the WWTP remains within a minimally developed area. Overall, the WWTP appears to retain integrity of location, design, some materials, feeling, setting, and association, but fails to retain integrity of workmanship and materials, or with any significant operation. Regardless of integrity, the WWTP is evaluated as not eligible for the CRHR or NRHP.

Historic District Considerations: A records search shows that the Oroville WWTP is not currently within or associated with an identified historic district. According to the records search, there are currently no specific historic districts in Oroville for which this facility would serve as a contributing element. The building is not considered an element of any existing Historic District. Archival research and comparisons with other properties concludes that the WWTP does not currently have the potential to be a contributor to a Historic District.

Evaluation of OW-002

CRHR Criterion 1 / NRHP Criterion A: Archival research conducted for this Project indicates that the electric distribution line (OW-002) is not significantly associated with the initial development of electric distribution and transmission across California, but instead acts as an expansion to existing electric distribution systems already in place. The expansion served as a way of sustaining growing population and industry in the Oroville vicinity, but it did not serve to increase the population or economic strength of the area. Additionally, the distribution line represents one of many electric distribution and transmission line systems in California that were built well after the initial period of the development of electric transmission systems, which was between 1890 and 1920. The distribution line is not related to the broad patterns of history associated with the development of electric transmission systems in the U.S. or California, or as part of the historical developments of PG&E. Therefore, it is not eligible under NRHP Criterion A or CRHR Criterion 1.

CRHR Criterion 2 / NRHP Criterion B: Similarly, focused archival research did not identify a specific individual or group of significance associated with the distribution line. The electric distribution line, therefore, is not eligible under NRHP Criterion B or CRHR Criterion 2.

CRHR Criterion 3 / NRHP Criterion C: The materials and components of the distribution line are of typical design and construction purposed to effectively transmit electricity, and they do not embody the distinctive characteristics of a type, period, region, or method of construction, or represent the work of an important creative individual, or possesses high artistic values. Any number of engineers and designers may have collaborated on the construction of the distribution line. It does not appear that construction of the distribution line is associated with any individuals important to the development and construction of electric distribution and transmission systems in the U.S. or California or PG&E. The line segment and its components were designed to fit the particular requirements of their specific location along the distribution line systems and included engineering considerations such as environmental setting and costs. The design, construction techniques, and equipment (e.g., conductors, guy wires, and insulators) used for construction and operation of the distribution line were in existence and operation throughout

California and the U.S. for many years prior to the construction of the distribution lines. The components used for each of the poles are standard construction. The distribution line and its poles and components are designed to efficiently transmit electricity, but do not include any unique features that exemplify that purpose. They are common and utilitarian, and represent standard design, engineering, and construction associated with distribution lines. None of the poles, insulators, or other components of the distribution line are the best representatives or examples of a particular type of design or construction. The distribution line, therefore, is not eligible under NRHP Criterion C or CRHR Criterion 3.

CRHR Criterion 4 / NRHP Criterion D: Associations aside, the only potential for historic distribution lines to yield information is through its location and alignment; however, this information does not rise to the level of importance required to become eligible for the NRHP or CRHR. Moreover, the archival research, field observations, and recording of this resource on DPR records have exhausted the data potential for the distribution line. Additional research would not likely provide any significantly new information regarding the resource. Therefore, OW-002 is not eligible under NRHP Criterion D or CRHR Criterion 4.

Integrity: The property visit indicated that the OW-002 lacks integrity of location, and setting. The line was adjusted to accommodate the WWTP ponds and the dredge piles present when originally constructed are no longer present in their earlier configuration. Overall, the WWTP appears to retain integrity of design, materials, feeling, workmanship, and association, but fails to retain integrity of location and setting. Regardless of integrity, the WWTP is evaluated as not eligible for the CRHR or NRHP.

Historic District Considerations: A records search shows that the distribution line is not currently within or associated with an identified historic district. According to the records search, there are currently no specific historic districts in Oroville for which this line would serve as a contributing element. Archival research and comparisons with other properties concludes that the distribution line does not currently have the potential to be a contributor to a Historic District.

6.0 MANAGEMENT CONSIDERATIONS

6.1 Conclusions

ECORP identified three cultural resources on the property as a result of the records search and field survey: Oroville Dredge Tailings (P-04-1345), the Oroville WWTP (OW-001), and an electrical distribution line (OW-002). The Oroville Dredge Tailings were confirmed through field survey to have been removed or redistributed within the APE and lacks integrity. The Oroville WWTP was evaluated as not eligible for the NRHP and CRHR. The distribution line was evaluated as not eligible for the NRHP and CRHR. Therefore, no Historic Properties under Section 106 of the NHPA or Historical Resources under CEQA will be affected by the Proposed Project. Until the lead agencies concur with the identification and evaluation of eligibility of cultural resources, no Project activity should occur.

6.2 Likelihood for Subsurface Cultural Resources

There exists the potential for buried cultural resources within the Project Area. Pre-contact archaeological sites are likely to be located along perennial waterways, and a known village site was mapped in the vicinity of the Project Area. Such sites may have been buried by alluvium from the Feather River or the

dredge tailings form the historic period; therefore, there exists the potential for buried pre-contact sites in the Project Area as well.

6.3 Recommendations for Post-Review Discoveries

There always remains the potential for ground-disturbing activities to expose previously unrecorded cultural resources. In all cases, the lead agency will require that any unanticipated (or post-review) discoveries found during project construction be managed through a procedure designed to assess and treat the find as quickly as possible and in accordance with applicable state and federal law. However, until the lead agencies concur with the identification and evaluation of eligibility of cultural resources, including archaeological sites and standing structures, no ground-disturbing activity or demolition should occur.

There always remains the potential for ground-disturbing activities to expose previously unrecorded cultural resources. Both CEQA and Section 106 of the NHPA require the lead agency to address any unanticipated cultural resource discoveries during Project construction. Therefore, ECORP recommends the following mitigation measures be adopted and implemented by the lead agency:

- If subsurface deposits believed to be cultural or human in origin are discovered during construction, all work must halt within a 100-foot radius of the discovery. A qualified professional archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards for pre-contact and historic archaeologist, shall be retained to evaluate the significance of the find, and shall have the authority to modify the no-work radius as appropriate, using professional judgment. The following notifications shall apply, depending on the nature of the find:
 - If the professional archaeologist determines that the find does not represent a cultural resource, work may resume immediately, and no agency notifications are required.
 - If the professional archaeologist determines that the find does represent a cultural resource from any time period or cultural affiliation, the archaeologist shall immediately notify SC-OR and USDA. The agencies shall consult on a finding of eligibility and implement appropriate treatment measures if the find is determined to be a Historical Resource under CEQA or a Historic Property under Section 106. Work may not resume within the no-work radius until the lead agencies, through consultation as appropriate, determine that the site either: 1) is not a Historical Resource under CEQA or Historic Property under Section 106; or 2) that the treatment measures have been completed to their satisfaction.
 - If the find includes human remains, or remains that are potentially human, he or she shall ensure reasonable protection measures are taken to protect the discovery from disturbance (AB 2641). The archaeologist shall notify the Butte County Coroner (per § 7050.5 of the Health and Safety Code). The provisions of § 7050.5 of the California Health and Safety Code, § 5097.98 of the California PRC and AB 2641 will be implemented. If the Coroner determines the remains are Native American and not the result of a crime scene, the Coroner will notify the NAHC, who then will designate a Native American Most Likely Descendant (MLD) for the project (§ 5097.98 of the PRC). The designated MLD will have 48 hours from the time access

to the property is granted to make recommendations concerning treatment of the remains. If the landowner does not agree with the recommendations of the MLD, the NAHC may mediate (§ 5097.94 of the PRC). If no agreement is reached, the landowner must rebury the remains where they will not be further disturbed (§ 5097.98 of the PRC). This will also include either recording the site with the NAHC or the appropriate Information Center; using an open space or conservation zoning designation or easement; or recording a reinternment document with the county in which the property is located (AB 2641). Work may not resume within the no-work radius until the lead agencies, through consultation as appropriate, determine that the treatment measures have been completed to their satisfaction.

The lead agency is responsible for ensuring compliance with these mitigation measures because damage to significant cultural resources is in violation of CEQA and Section 106. Section 15097 of Title 14, Chapter 3, Article 7 of CEQA, *Mitigation Monitoring or Reporting*, "the public agency shall adopt a program for monitoring or reporting on the revisions which it has required in the project and the measures it has imposed to mitigate or avoid significant environmental effects. A public agency may delegate reporting or monitoring responsibilities to another public agency or to a private entity which accepts the delegation; however, until mitigation measures have been completed the lead agency remains responsible for ensuring that implementation of the mitigation measures occurs in accordance with the program."

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LIST OF ATTACHMENTS

Attachment A – Records Search Confirmation and Historical Society Coordination

Attachment B – Native American Coordination

Attachment C – Project Area Photographs

Attachment D – Cultural Resource Site Locations and DPR Forms

ATTACHMENT A

Records Search Confirmation and Historical Society Coordination

Northeast Center of the California Historical Resources Information System

BUTTE
GLENN
LASSEN
MODOC
PLUMAS
SHASTA
SIERRA
SISKIYOU
SUTTER
TEHAMA
TRINITY

123 West 6th Street, Suite 100
Chico CA 95928
Phone (530) 898-6256
neinfocntr@csuchico.edu

2020-003/001
Orville WWTP Records Search
Megan

ACCESS AGREEMENT

I.C. File #: W20-6

I, the undersigned, have been granted access to historical resources information on file at the Northeast Information Center of the California Historical Resources Information System.

I understand that any CHRIS Confidential Information I receive shall not be disclosed to individuals who do not qualify for access to such information, as specified in Section III (A-E) of the CHRIS Information Center Rules of Operation Manual, or in publicly distributed documents without written consent of the Information Center Coordinator.

I agree to submit historical Resource Records and Reports based in part on the CHRIS information released under this Access Agreement to the Information Center within sixty (60) calendar days of completion.

I agree to pay for CHRIS services provided under this Access Agreement within sixty (60) calendar days of receipt of billing.

I understand that failure to comply with this Access Agreement shall be grounds for denial of access to CHRIS Information.

Print Name: Megan Webb Date: 1/15/20 Signature: MW

Affiliation: ECORP Consulting, Inc.

Address: 2525 Warren Drive City/State/Zip: Rocklin, CA 95677

Billing Address (if different): —

Office#: (916) 782-9100 Cell#: — Email: mwebb@ecorpconsulting.com

Project Name: Orville WWTP 2020-003

Purpose of Access: Inventory

County: Butte Township/Range/Section: T19 N R4E section 19

USGS 7.5' Quad: Palermo



January 16, 2020

Butte County Historical Society
P.O. Box 2195
Oroville, CA 95965

RE: Cultural Resources Identification Effort for the Oroville Wastewater Treatment Plant Project, Oroville, Butte County (ECORP Project No. 2020-003).

Dear Butte County Historical Society:

ECORP Consulting, Inc. has been retained to assist in the planning of the development on the project indicated above. As part of the identification effort, we are seeking information from all parties that may have knowledge of or concerns with historic properties or cultural resources in the area of potential effect.

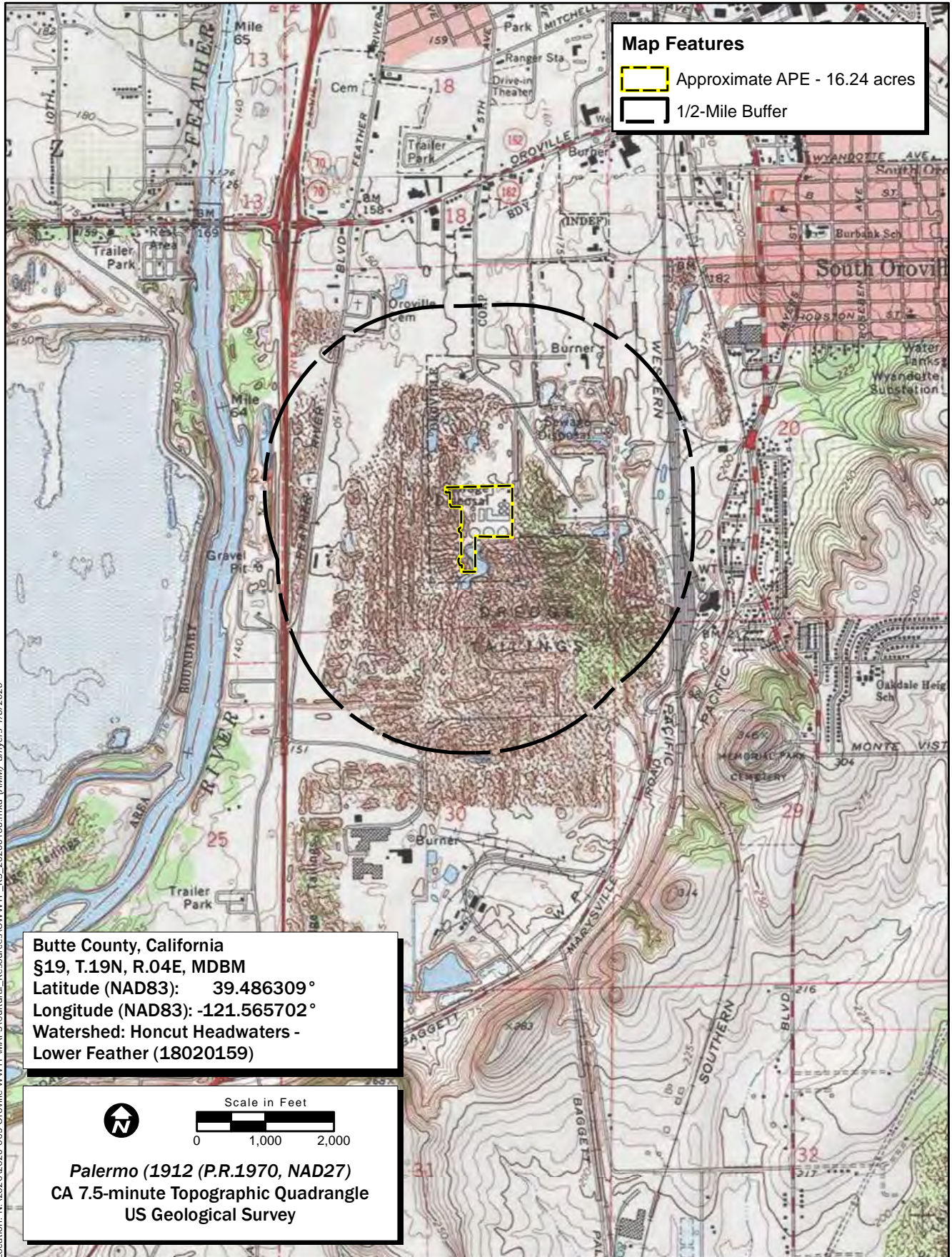
Included are maps showing the project area outlined. We would appreciate input on this undertaking from the historical society with concerns about possible cultural properties or potential impacts within or adjacent to the area of potential effect. If possible, please fax your response to my attention at (916) 782-9134. If you have any questions, please contact me at (916) 782-9100 or tfuerstenberg@ecorpconsulting.com.

Thank you in advance for your assistance in our cultural resource management study.

Sincerely,

Theadora Fuerstenberg
Senior Archaeologist

Attachment(s)
Project Location and Vicinity Map



Map Features

- Approximate APE - 16.24 acres
- 1/2-Mile Buffer

Butte County, California
 §19, T.19N, R.04E, MDBM
 Latitude (NAD83): 39.486309°
 Longitude (NAD83): -121.565702°
 Watershed: Honcut Headwaters -
 Lower Feather (18020159)

Scale in Feet

Palermo (1912 (P.R.1970, NAD27))
 CA 7.5-minute Topographic Quadrangle
 US Geological Survey

Location: N:\2020\2020-003 Oroville WWTP\MAPS\Cultural_Resources\OWWTP_RS_20200108.mxd (AMM)-amyers 1/8/2020

Map Date: 1/8/2020
 iService Layer Credits: Copyright © 2013 National Geographic Society, I-cubed



Records Search Map

2020-003 Oroville WWTP

ATTACHMENT B

Sacred Lands File Coordination

**Native American Contacts
Oroville WWTP, 2020-003, Butte County**

Name	Affiliation	Date Contacted			Response Received?	Comments
		1. Letter	2. Phone By Diana Malarchik	3. Phone By____		
Native American Heritage Commission 915 Capital Mall, Room 364 Sacramento, CA 95814 nahc@pacbell.net (916) 373-3710 (916) 373-5471 Fax	NAHC		N/A	N/A	Yes	1/15/2020: Negative SLF received via email
Jessica Lopez, Chairperson 2086 N. Villa St. Palermo, CA 95968 707-357-2415 jessica@konkowmaidu.org	Konkow Maidu	1/15/2020	2/4/2020			2/4/2020: Left voicemail.
Dennis Ramirez, Chairperson Mechoopda Indian Tribe 125 Mission ranch Blvd Chico, CA 95926 530-899-8922 dramirez@mechoopda-nsn.gov	Konkow Maidu	1/15/2020	2/4/2020			2/4/2020: Left voicemail.
Guy Taylor Mooretown Rancheria of Maidu Indians #1 Alverda Drive Oroville, CA 95966 530-533-3625	Konkow Maidu	1/15/2020			Yes	Letter received from THPO, Matthew Hatcher, stating-no known TCRs within the Project Area. Requested to be notified if a discovery is made
Benjamin Clark, Chairperson Mooretown Rancheria of Maidu Indians #1 Alverda Drive Oroville, CA 95966 530-533-3625	Konkow Maidu	1/15/2020			Yes	Letter received from THPO, Matthew Hatcher, stating-no known TCRs within the Project Area. Requested to be notified if a discovery is made.

Sacred Lands File & Native American Contacts List Request

NATIVE AMERICAN HERITAGE COMMISSION

1550 Harbor Blvd
West Sacramento, CA 95691
(916) 373-3710
(916) 373-5471 – Fax
nahc@nahc.ca.gov

January 8, 2020

Information Below is Required for a Sacred Lands File Search

Project: Oroville WWTP (2020-003)

County: Butte

USGS Quadrangle: Palermo, Calif.

Township: 19 North Range: 4 East Section(s): 19

Company/Firm/Agency: ECORP Consulting, Inc.

Contact Person: Shannon Joy

Street Address: 2525 Warren Drive

City: Rocklin Zip: 95677

Phone: (916) 782-9100

Fax: (916) 782-9134

Email: sjoy@ecorpc consulting.com

Project Description:

See attached letter and map.



January 8, 2020

Native American Heritage Commission
1550 Harbor Blvd, Suite 100
West Sacramento, CA 95691
nahc@nahc.ca.gov

RE: *Cultural Resources Identification Effort for the Oroville WWTP Project, Butte County, California, T 19 North, R 4 East, Section 19 (ECORP Project No. 2020-003).*

Dear NAHC Staff:

ECORP Consulting, Inc. has been retained to assist in the planning of the development on the project indicated above. The Project consists of improving and constructing a variety of structures, devices and plumbing to upgrade the existing wastewater treatment plant in the city of Oroville, Butte County, California. The Project Area is located west of 5th Avenue east of 7th Avenue, north of Georgia Pacific Way and south of Cal Oak Road. As part of the identification effort, we are seeking information from all parties that may have knowledge of or concerns with historic properties or cultural resources in the area of potential effect.

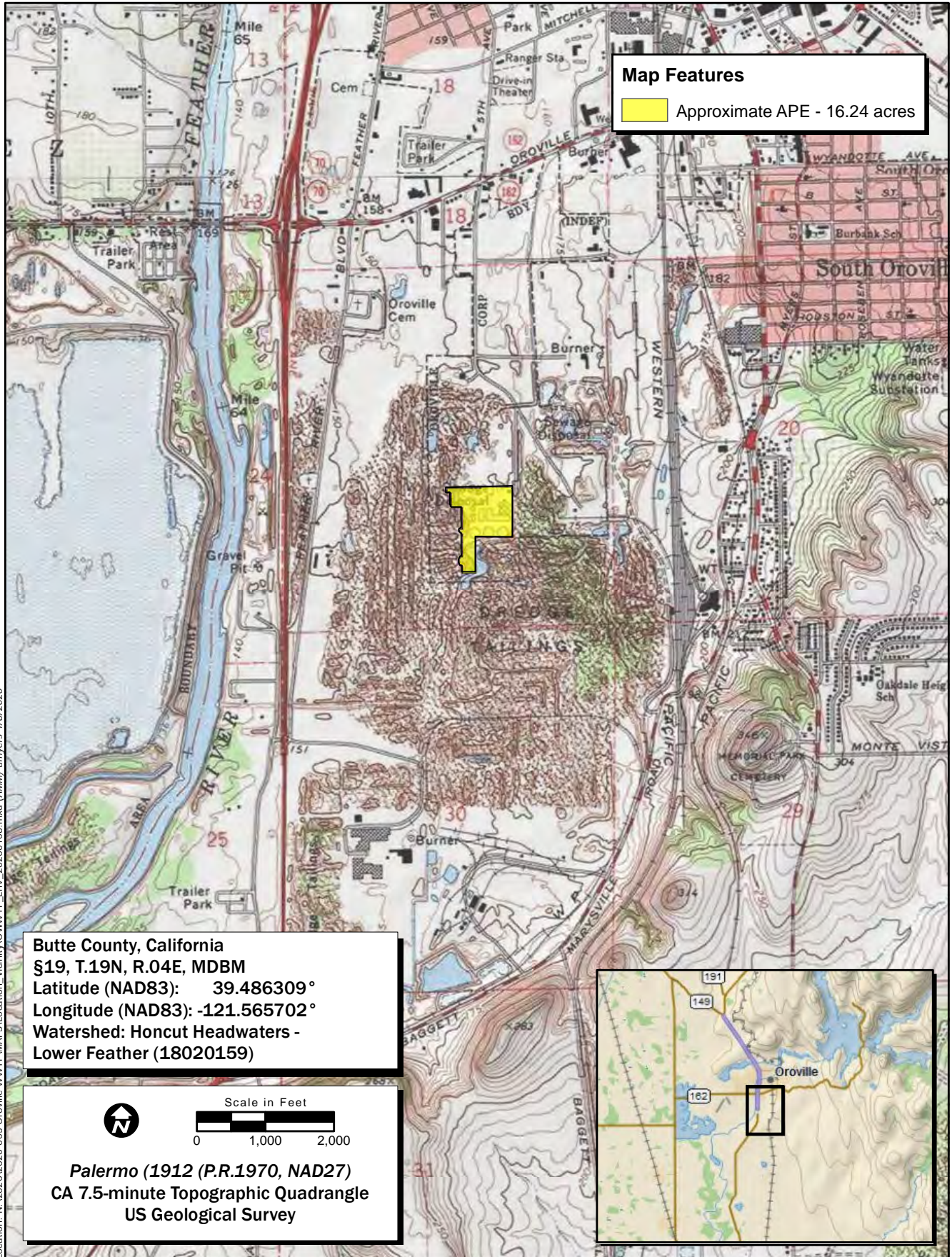
Included is a map showing the project area outlined. We would appreciate the results of your search of the Sacred Lands File and list of tribal contacts who can be contacted to provide input on this undertaking.

Please email or fax your response to my attention at sjoy@ecorpconsulting.com or (916) 782-9134. If you have any questions, please contact me at (916) 782-9100.

Thank you in advance for your assistance.

Sincerely,

Shannon Joy
Project Assistant



Map Features
 [Yellow Box] Approximate APE - 16.24 acres

Butte County, California
 §19, T.19N, R.04E, MDBM
 Latitude (NAD83): 39.486309°
 Longitude (NAD83): -121.565702°
 Watershed: Honcut Headwaters - Lower Feather (18020159)

Scale in Feet
 0 1,000 2,000

Palermo (1912 (P.R.1970, NAD27)
 CA 7.5-minute Topographic Quadrangle
 US Geological Survey

Location: N:\2020\2020-003 Oroville WWTP\MAPS\Location_Vicinity\OWWTP_Lrv_20200108.mxd (AMM)-ampyers 1/8/2020

Map Date: 1/8/2020
 Service Layer Credits: Copyright © 2013 National Geographic Society, i-cubed
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 Lowy Consulting, Inc.
 ENVIRONMENTAL CONSULTANTS

Figure 1. Project Location and Vicinity

2020-003 Oroville WWTP

NATIVE AMERICAN HERITAGE COMMISSION

January 15, 2020

Shannon Joy

ECORP Consulting, Inc.

Via Email to: sjoy@ecorpconsulting.com

Re: Oroville WWTP (2020-003), Butte County

Dear Ms. Joy:

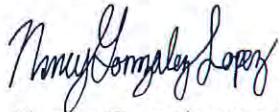
A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information you have submitted for the above referenced project. The results were negative. However, the absence of specific site information in the SLF does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Attached is a list of Native American tribes who may also have knowledge of cultural resources in the project area. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated; if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call or email to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from tribes, please notify me. With your assistance, we can assure that our lists contain current information.

If you have any questions or need additional information, please contact me at my email address: Nancy.Gonzalez-Lopez@nahc.ca.gov.

Sincerely,



Nancy Gonzalez-Lopez
Staff Services Analyst

Attachment



CHAIRPERSON
Laura Miranda
Luiseño

VICE CHAIRPERSON
Reginald Pagaling
Chumash

SECRETARY
Merri Lopez-Keifer
Luiseño

PARLIAMENTARIAN
Russell Atebery
Karuk

COMMISSIONER
Marshall McKay
Wintun

COMMISSIONER
William Mungary
Paiute/White Mountain
Apache

COMMISSIONER
Joseph Myers
Pomo

COMMISSIONER
Julie Tumamait-Stenslie
Chumash

COMMISSIONER
[Vacant]

EXECUTIVE SECRETARY
Christina Snider
Pomo

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov
NAHC.ca.gov

Native American Heritage Commission
Native American Contact List
Butte County
1/15/2020

KonKow Valley Band of Maidu

Jessica Lopez, Chairperson
2086 N. Villa St. KonKow
Palermo, CA, 95968 Maidu
Phone: (707) 357 - 2415
jessica@konkowmaidu.org

Mechoopda Indian Tribe

Dennis Ramirez, Chairperson
125 Mission Ranch Blvd KonKow
Chico, CA, 95926 Maidu
Phone: (530) 899 - 8922
Fax: (530) 899-8517
dramirez@mechoopda-nsn.gov

**Mooretown Rancheria of Maidu
Indians**

Guy Taylor,
#1 Alverda Drive KonKow
Oroville, CA, 95966 Maidu
Phone: (530) 533 - 3625

**Mooretown Rancheria of Maidu
Indians**

Benjamin Clark, Chairperson
#1 Alverda Drive KonKow
Oroville, CA, 95966 Maidu
Phone: (530) 533 - 3625
Fax: (530) 533-3680
frontdesk@mooretown.org

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed Oroville WWTP (2020-003), Butte County.



January 15, 2020

Benjamin Clark, Chairperson
Mooretown Rancheria of Maidu Indians
#1 Alverada Drive
Oroville, CA 95966

RE: Cultural Resources Identification Effort for Oroville WWTP, Butte County (Project No. 2020-003)

Dear Chairperson Clark:

ECORP Consulting, Inc. is conducting a cultural resources inventory study of 16.24 acres associated with the already developed Oroville Wastewater Treatment Plant located in the city of Oroville in Butte County. The project consists of improving and constructing a variety of structures, devices, and plumbing to upgrade the existing wastewater plant. The project area is shown on the enclosed 1912 (P.R. 1970) U.S. Geological Palermo, California 7.5' topographic quadrangle.

The purpose of the study is to identify any cultural resources that could be affected by the proposed project. The investigation included a records search conducted with the California Historical Resources Information System and a search of the Native American Heritage Commission's (NAHC) Sacred Lands File. The search of the Sacred Lands File did not identify any known Native American cultural resources within the immediate project vicinity; however, the NAHC provided us with your name and contact information.

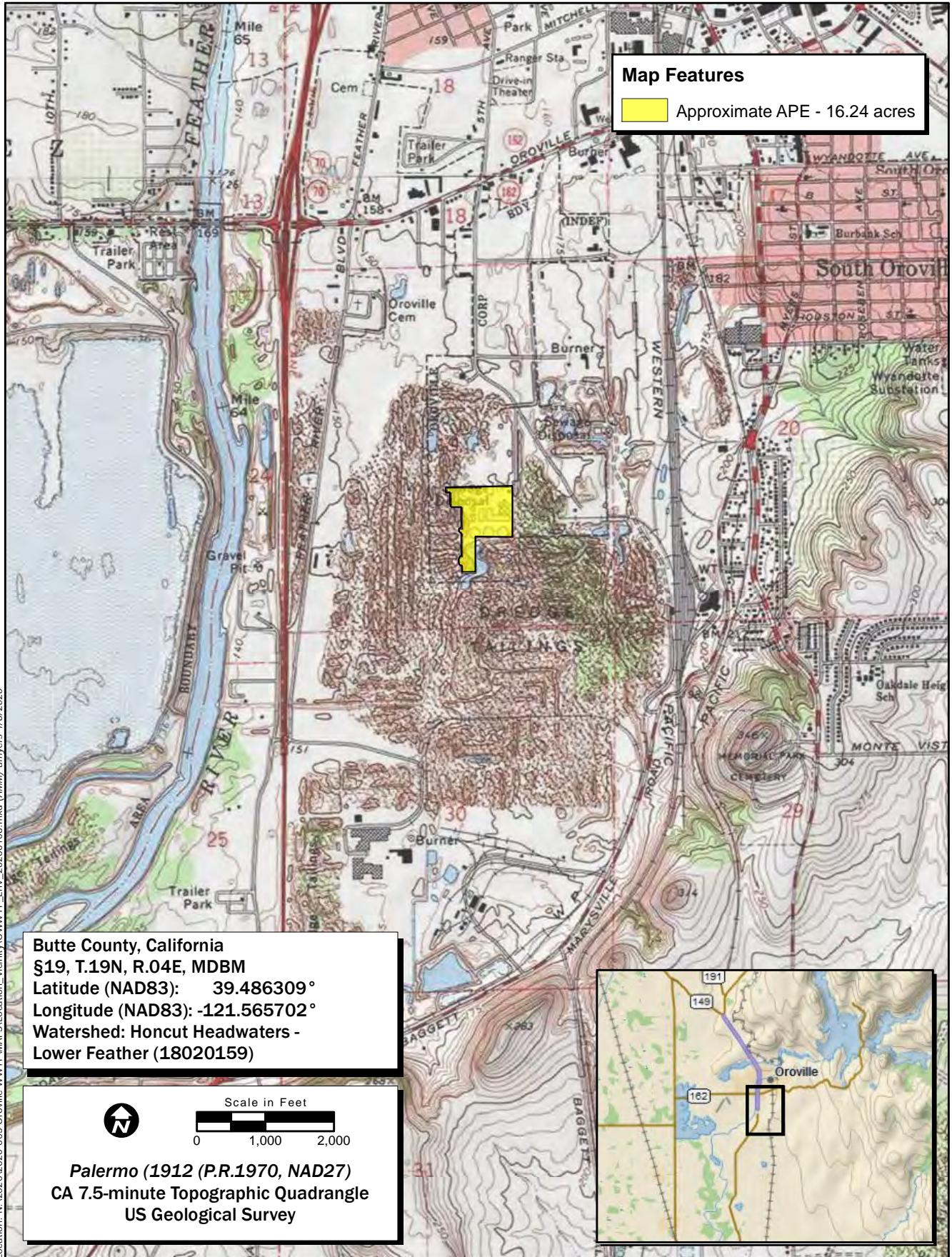
As part of this study, ECORP Consulting, Inc. would like to identify archaeological, historic resources, or locations that are of cultural importance to the local Native American community. We would appreciate any information you may have regarding Native American cultural resources located in or near the proposed project location that could be affected by the project.

Thank you for your assistance and participation in this project.

Sincerely,

Shannon Joy
Project Assistant
916-782-9100
sjoy@ecorpconsulting.com

Enclosures, as stated



Map Features
 [Yellow Box] Approximate APE - 16.24 acres

Butte County, California
 §19, T.19N, R.04E, MDBM
 Latitude (NAD83): 39.486309°
 Longitude (NAD83): -121.565702°
 Watershed: Honcut Headwaters - Lower Feather (18020159)

Scale in Feet
 0 1,000 2,000

Palermo (1912 (P.R.1970, NAD27)
 CA 7.5-minute Topographic Quadrangle
 US Geological Survey

Location: N:\2020\2020-003 Oroville WWTP\MAPS\Location_Vicinity\OWWTP_Lrv_20200108.mxd (AMM)-ampyers 1/8/2020

Map Date: 1/8/2020
 Service Layer Credits: Copyright © 2013 National Geographic Society, i-cubed
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Figure 1. Project Location and Vicinity

2020-003 Oroville WWTP



January 15, 2020

Dennis Ramirez, Chairperson
Mechoopda Indian Tribe
125 Mission Ranch Boulevard
Chico, CA 95926

RE: Cultural Resources Identification Effort for Oroville WWTP, Butte County (Project No. 2020-003).

Dear Chairperson Ramirez:

ECORP Consulting, Inc. is conducting a cultural resources inventory study of 16.24 acres associated with the already developed Oroville Wastewater Treatment Plant located in the city of Oroville in Butte County. The project consists of improving and constructing a variety of structures, devices, and plumbing to upgrade the existing wastewater plant. The project area is shown on the enclosed 1912 (P.R. 1970) U.S. Geological Palermo, California 7.5' topographic quadrangle.

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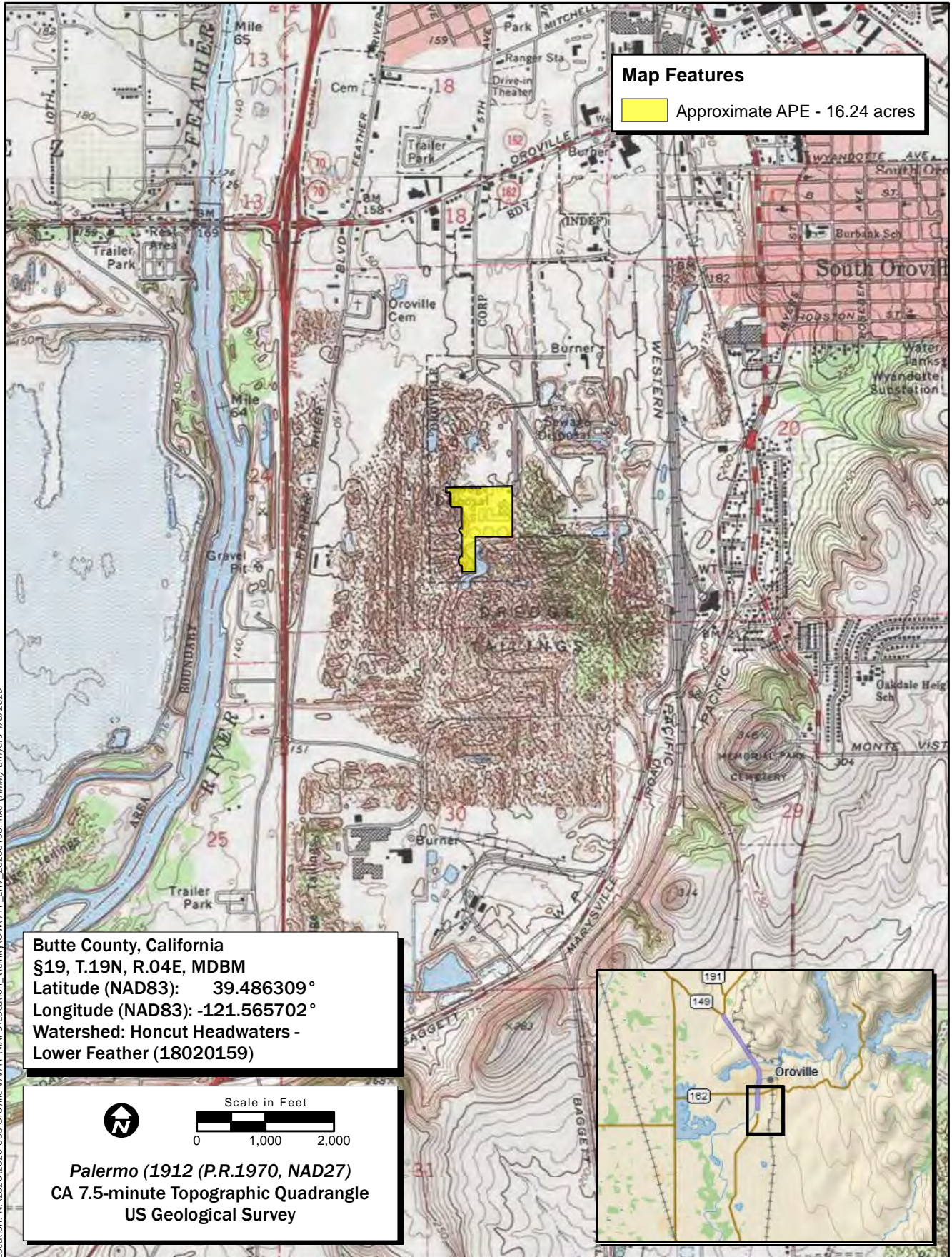
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Project Assistant
916-782-9100
sjoy@ecorpconsulting.com

Enclosures, as stated



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Figure 1. Project Location and Vicinity



January 15, 2020

Guy Taylor
Mooretown Rancheria of Maidu Indians
#1 Alverada Drive
Oroville, CA 95966

RE: Cultural Resources Identification Effort for Oroville WWTP, Butte County (Project No. 2020-003).

Dear Mr. Taylor:

ECORP Consulting, Inc. is conducting a cultural resources inventory study of 16.24 acres associated with the already developed Oroville Wastewater Treatment Plant located in the city of Oroville in Butte County. The project consists of improving and constructing a variety of structures, devices, and plumbing to upgrade the existing wastewater plant. The project area is shown on the enclosed 1912 (P.R. 1970) U.S. Geological Palermo, California 7.5' topographic quadrangle.

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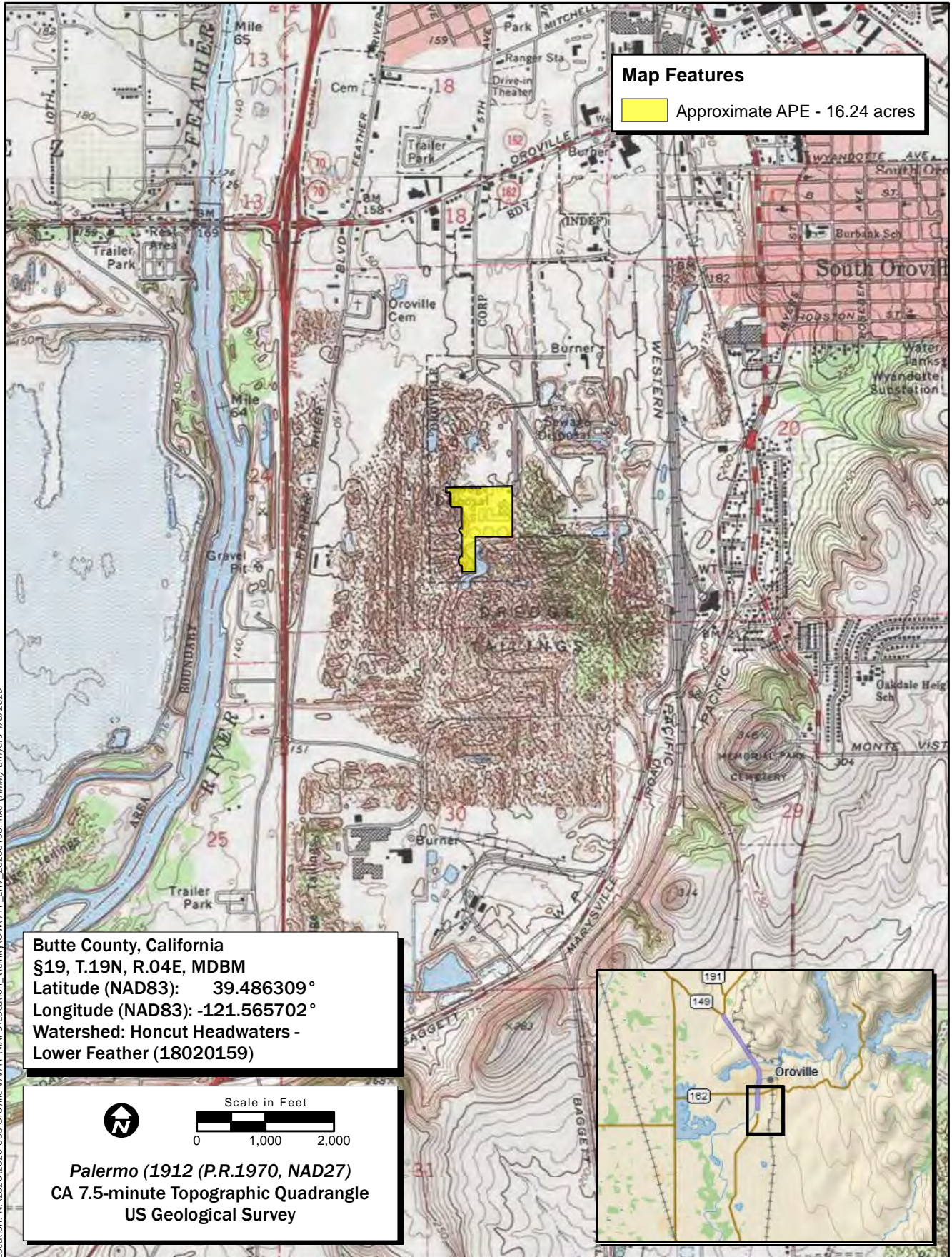
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916-782-9100
sjoy@ecorpconsulting.com

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 Lowy Consulting, Inc.
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Figure 1. Project Location and Vicinity



January 15, 2020

Jessica Lopez, Chairperson
Konkow Valley Band of Maidu
2086 N. Villa Street
Palermo, CA 95968

RE: Cultural Resources Identification Effort for Oroville WWTP, Butte County (Project No. 2020-003).

Dear Chairperson Lopez:

ECORP Consulting, Inc. is conducting a cultural resources inventory study of 16.24 acres associated with the already developed Oroville Wastewater Treatment Plant located in the city of Oroville in Butte County. The project consists of improving and constructing a variety of structures, devices, and plumbing to upgrade the existing wastewater plant. The project area is shown on the enclosed 1912 (P.R. 1970) U.S. Geological Palermo, California 7.5' topographic quadrangle.

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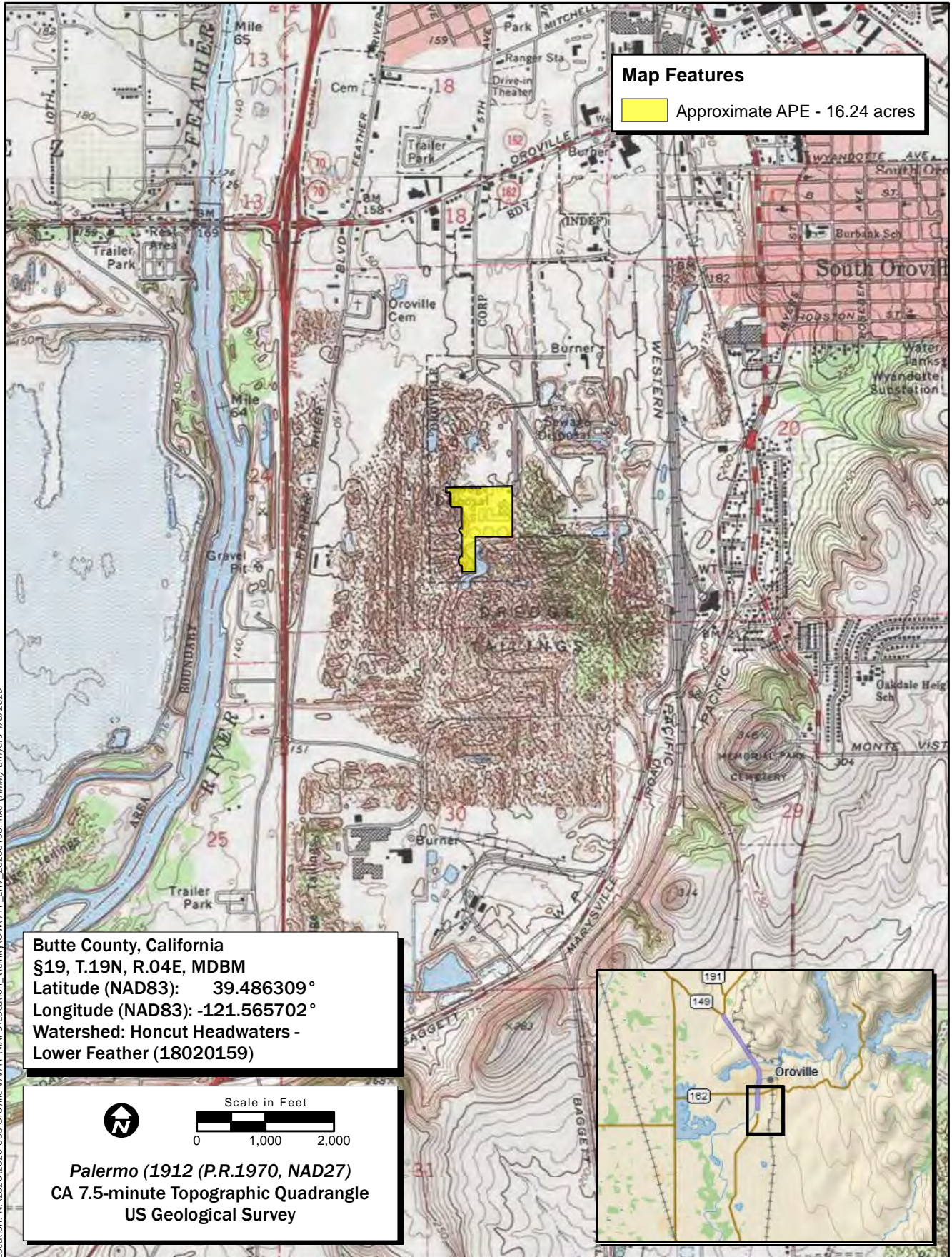
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Sincerely,

Shannon Joy
Project Assistant
916-782-9100
sjoy@ecorpconsulting.com

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DRAFT
 Lowy Consulting, Inc.
 ENVIRONMENTAL CONSULTANTS

Figure 1. Project Location and Vicinity

2020-003 Oroville WWTP



Mooretown Rancheria

#1 Alverda Drive

Oroville, CA 95966

(530) 533-3625 Office

(530) 533-3680 Fax

1/21/2020

Ms. Shannon Joy
Project Assistant
ECORP Consulting
2525 Warren Drive
Rocklin, CA 95677

Re: Proposed Waste Water Treatment Plant Project 2020-003 -Oroville, Butte County, CA

Dear Ms. Joy:

Thank you for your letter dated, January 15th 2020, seeking information regarding the proposed Oroville Waste Water Treatment Plant project#(2020-003) in Butte County, California. Based on the information provided, the Mooretown Rancheria is not aware of any known cultural resources on this site. However, as the project progresses, if any new information or human remains are found, we do have a process to protect such important and sacred artifacts (especially near rivers or streams).

Please contact the following individuals if tribal cultural items or Native American human remains are found:

THPO
#1 Alverda Drive
Oroville, CA 95966
(530)533-3625 Office
(530)533-3680 Fax
E-mail: matthew.hatcher@mooretown.org

Thank you for providing us with this notice and opportunity to comment.

Sincerely,

Matthew Hatcher
Tribal Historic Preservation Officer

"Concow - Maidu"

ATTACHMENT C

Project Area Photographs

State of California — The Resources Agency
 DEPARTMENT OF PARKS AND RECREATION
PHOTOGRAPH RECORD

Primary #
 HRI#
 Trinomial

Page 1 of 1

Resource/Project Name: OWWTP

Year 2020

Camera:

Lens Size: 35mm

Film Type and Speed: Digital

Negatives Kept at: ECORP Consulting, Inc.

Mo.	Day	Time	Exp./Frame	Subject/Description	View Toward	Accession #
1	23			1950s buildings at the plant	SE	001
1	23			1950s buildings at the plant	SE	002
1	23			1950s buildings at the plant	South	003
1	23			1950s buildings at the plant	West	004
1	23			1950s buildings at the plant	West	005
1	23			NE corner of APE, grassy and graveled covered	West	006
1	23			1950s tank at the plant	North	007
1	23			1950s tank at the plant	SE	008
1	23			1950s tank at the plant	South	009
1	23			1950s tank at the plant	SW	010
1	23			1950s tank at the plant	North	011
1	23			1950s tank and drying pond at the plant	South	012
1	23			Drying ponds at the plant	East	013
1	23			1950s tank and drying pond at the plant	North	014
1	23			1970s tanks at the plant	West	015
1	23			Dredge tailings located directly south of APE	South	016
1	23			Overview from the SE end of APE	North	017
1	23			Overview from the SE end of APE	NW	018
1	23			Overview from the SE end of APE	North	019
1	23			Overview from the SE end of APE	East	020
1	23			APE overview	East	021
1	23			1970s tank overview	East	022
1	23			Overview from the north end of APE	South	023
1	23			Overview from the SE end of APE	East	024
1	23			1970s main office building	SE	025
1	23			1970s main office building	East	026
1	23			1970s storage building	SE	027
1	23			1970s main office building	NE	028
1	23			1970s storage building	NW	029
1	23			1970s storage buildings	South	030
1	23			1970s storage buildings	West	031
1	23			1970s main office building	North	032
1	23			1970s main office building	North	033
1	23			Storage and paved areas at the plant	West	034
1	23			Overview of APE/plant	SE	035
1	23			Windows at main office	North	036
1	23			1970s main office building	West	037
1	23			Dredge tailings located south of APE	West	038
1	23			Dredge tailings located south of APE	West	039



001



002



003



004



005



006



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008



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012



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020



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038



039





















State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PHOTOGRAPH RECORD

Primary #
HRI#
Trinomial

Page of

Resource/Project Name:

Year

Camera:

Lens Size: 35mm

Film Type and Speed: Digital

Negatives Kept at: ECORP Consulting, Inc.

Mo.	Day	Time	Exp./Frame	Subject/Description	View Toward	Accession #
8	4	8:19	1	Looking Towards Pond from NW corner of old APE	SW	
		8:22	2	Gravel and Grass ground cover in NW of APE	Plan	
		8:31	3	Fence Line along storm canal and ground cover	N	
		8:33	4	Looking through Chain link fence at canal	W	
		8:35	5	Berm Road Along north Boundary	N	
		8:38	6	Area West of Ponds with Gravel and grass	S	
		8:45	7	Utility pole Just inside APE on western Boundary "00" date nail.	E	
		8:46	8	Close up of date nail	Close up	
		8:46	9	"2008" Inspection Tag	Close Up	
		8:51	10	Utility pole near 10S 658523mE 4372153mN	E	
		8:59	11	Chain link fence along south of APE	S	
		9:01	12	Possible Placer Tailings Through Fence	S	
		9:10	13	Ground to the West of Solar Aray	E	
		9:12	14	Basalt Gravel in ground south of ponds and west of Solar Aray	Plan	
		9:32	15	View down channelized creek/Canal	N	
		9:34	16	Tailings pile on western Boundary of APE	S	
		9:35	17	Tailings piles West of Solar Farm	E	
		9:36	18	Tailings Pile	E	
		9:40	19	View of Start thistle and Grass cover in South of APE	E	
		9:44	20	Small Tailings pile/Berm	S	
		10:07	21	Start thistle and ground cover	Plan	
		10:13	22	APE From SW corner of Project Area	NE	
		10:14	23	Road along south boundary of APE	E	
		10:20	24	South Boundary of APE from Solar field with Tailings in foreground	S	
		10:22	25	Tailings	W	
		10:26	26	Project area north of solar field	S	
		10:28	27	Tailings piles Just west of 5 th St	N	
		10:31	28	Tailings Pile West of 5 th St	W	
		10:35	29	Tailings Pile East of Solar Farm	S	
		10:40	30	From Southern Boundary of APE looking North	N	
		10:42	31	Tailings and ground cover	Plan	
		10:42	32	From SE Looking east over tailings	E	
		10:51	33	According to Waste Treatment Employee is a modern Berm for Privacy	N	
		11:10	34	Thick Brush and tailings West of Berm	NW	
		11:16	35	Wasterock Pile with Utility Pole	W	
		11:20	36	1958 Date stamp utility pole near 10S 623391mE 4371582mN	S	
		11:23	37	Modern excavator pit From Tailings pile	NE	
		11:27	38	Modern Excavator Pit	Plan	
		11:37	39	Photo deleted	W	

PHOTOGRAPH RECORD

Page of

Resource/Project Name:

Year

Camera:

Lens Size: 35mm

Film Type and Speed: Digital

Negatives Kept at: ECORP Consulting, Inc.

Mo.	Day	Time	Exp./Frame	Subject/Description	View Toward	Accession #
		11:43	40	Utility Line	W	
			41	Tailings pile from 5 th st	W	



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2020-003_08_03_21 (1)



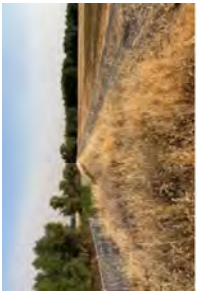
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2020-003_08_03_21 (7)



2020-003_08_03_21 (8)



2020-003_08_03_21 (9)



2020-003_08_03_21 (10)



2020-003_08_03_21 (11)



2020-003_08_03_21 (12)



2020-003_08_03_21 (13)



2020-003_08_03_21 (14)



2020-003_08_03_21 (15)



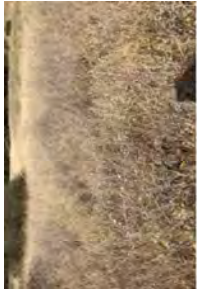
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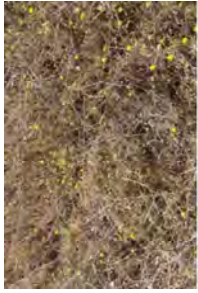
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2020-003_08_03_21 (20)



2020-003_08_03_21 (21)



2020-003_08_03_21 (22)



2020-003_08_03_21 (23)



2020-003_08_03_21 (24)



2020-003_08_03_21 (25)



2020-003_08_03_21 (26)



2020-003_08_03_21 (27)



2020-003_08_03_21 (28)



2020-003_08_03_21 (29)



2020-003_08_03_21 (30)



2020-003_08_03_21 (31)



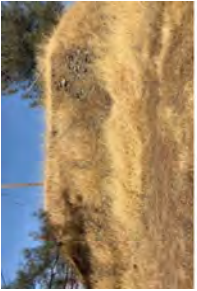
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2020-003_08_03_21 (33)



2020-003_08_03_21 (34)



2020-003_08_03_21 (35)



2020-003_08_03_21 (36)



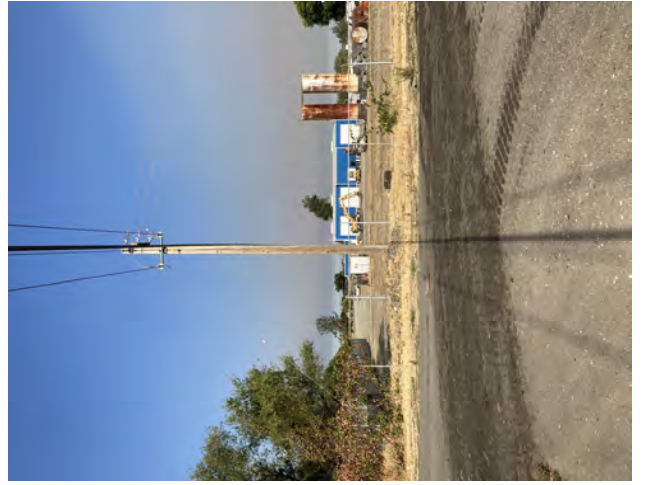
2020-003_08_03_21 (37)



2020-003_08_03_21 (38)



2020-003_08_03_21 (40)











Confidential Cultural Resource Site Locations and Site Records

This Attachment contains information on the specific location of cultural resources. This information is not for publication or release to the general public. It is for planning, management and research purposes only. Information on the specific location of pre-contact and historic sites is exempt from the Freedom of Information Act and California Public Records Act.

Appendix D

USDA NRCS Soil Resource Report

Custom Soil Resource Report for Butte Area, California, Parts of Butte and Plumas Counties

**Sewerage Commission Oroville
Region- WWTP**



Preface

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

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

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

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

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

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

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Soil Map.....	9
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Map Unit Descriptions.....	12
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How Soil Surveys Are Made

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

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

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

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

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

Custom Soil Resource Report

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

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

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

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

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

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

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

Custom Soil Resource Report

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

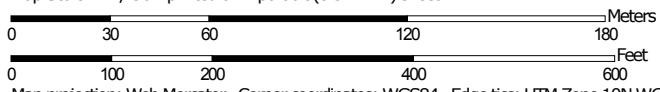
Soil Map

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

Custom Soil Resource Report Soil Map




Map Scale: 1:2,290 if printed on A portrait (8.5" x 11") sheet.



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


MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)


Soils


 Soil Map Unit Polygons


 Soil Map Unit Lines


 Soil Map Unit Points

Special Point Features

 Blowout

 Borrow Pit


 Clay Spot


 Closed Depression

 Gravel Pit

 Gravelly Spot


 Landfill

 Lava Flow

 Marsh or swamp

 Mine or Quarry

 Miscellaneous Water


 Perennial Water

 Rock Outcrop


 Saline Spot

 Sandy Spot

 Severely Eroded Spot


 Sinkhole

 Slide or Slip


 Sodic Spot


 Spoil Area

 Stony Spot


 Very Stony Spot

 Wet Spot

 Other

 Special Line Features

Water Features

 Streams and Canals


Transportation

 Rails


 Interstate Highways

 US Routes

 Major Roads

 Local Roads

Background

 Aerial Photography

MAP INFORMATION

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

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

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

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

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

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

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

Soil Survey Area: Butte Area, California, Parts of Butte and Plumas Counties
 Survey Area Data: Version 15, Sep 12, 2018

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

Date(s) aerial images were photographed: Jul 3, 2016—Sep 8, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background

MAP LEGEND

MAP INFORMATION

imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
119	Xerorthents, tailings-Urban land complex, 0 to 2 percent slopes	16.1	99.3%
318	Thompsonflat-Oroville , 0 to 9 percent slopes	0.1	0.7%
Totals for Area of Interest		16.2	100.0%

Map Unit Descriptions

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

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

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

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

Custom Soil Resource Report

development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

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

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

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

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

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

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

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

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

Butte Area, California, Parts of Butte and Plumas Counties

119—Xerorthents, tailings-Urban land complex, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: sdqs
Elevation: 90 to 180 feet
Mean annual precipitation: 21 to 26 inches
Mean annual air temperature: 61 to 63 degrees F
Frost-free period: 250 to 260 days
Farmland classification: Not prime farmland

Map Unit Composition

Xerorthents, tailings, and similar soils: 70 percent
Urban land: 30 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Xerorthents, Tailings

Setting

Landform: Flood plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Convex, linear
Across-slope shape: Convex, linear
Parent material: Dredged spoil piles from gravelly alluvium derived from igneous, metamorphic and sedimentary rock

Typical profile

A - 0 to 3 inches: very gravelly sandy loam
AC - 3 to 8 inches: extremely gravelly sandy loam
C1 - 8 to 21 inches: loamy sand
C2 - 21 to 26 inches: loamy sand
C3 - 26 to 35 inches: loamy sand
C4 - 35 to 48 inches: loamy coarse sand
C5 - 48 to 59 inches: loamy sand
C6 - 59 to 81 inches: loamy sand

Properties and qualities

Slope: 0 to 2 percent
Percent of area covered with surface fragments: 0.0 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Somewhat excessively drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 4.25 in/hr)
Depth to water table: About 60 to 80 inches
Frequency of flooding: Occasional
Frequency of ponding: None
Available water storage in profile: Low (about 3.6 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: A

Hydric soil rating: Yes

Description of Urban Land

Setting

Landform: Flood plains

Interpretive groups

Land capability classification (irrigated): 8

Land capability classification (nonirrigated): 8

318—Thompsonflat-Oroville , 0 to 9 percent slopes

Map Unit Setting

National map unit symbol: sdr3

Elevation: 120 to 260 feet

Mean annual precipitation: 22 to 30 inches

Mean annual air temperature: 61 to 63 degrees F

Frost-free period: 250 to 260 days

Farmland classification: Farmland of statewide importance

Map Unit Composition

Thompsonflat, fine sandy loam, and similar soils: 50 percent

Oroville, gravelly fine sandy loam, and similar soils: 40 percent

Minor components: 10 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Thompsonflat, Fine Sandy Loam

Setting

Landform: Terraces

Landform position (two-dimensional): Toeslope

Landform position (three-dimensional): Tread

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Loamy alluvium over clayey alluvium over sandy and gravelly alluvium derived from igneous and metamorphic rock

Typical profile

A - 0 to 3 inches: fine sandy loam

Bt1 - 3 to 7 inches: fine sandy loam

Bt2 - 7 to 11 inches: sandy clay loam

Bt3 - 11 to 15 inches: sandy clay

2Bt4 - 15 to 22 inches: gravelly sandy clay

3Btq1 - 22 to 35 inches: extremely gravelly sandy clay loam

3Btq2 - 35 to 45 inches: extremely gravelly coarse sandy loam

3Btq3 - 45 to 53 inches: extremely gravelly coarse sandy loam

3Btq4 - 53 to 66 inches: extremely gravelly coarse sandy loam

3Btq5 - 66 to 80 inches: extremely gravelly coarse sandy loam

Custom Soil Resource Report

Properties and qualities

Slope: 0 to 9 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Moderately well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.09 to 0.23 in/hr)
Depth to water table: About 40 to 81 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline (0.0 to 0.5 mmhos/cm)
Available water storage in profile: Low (about 4.2 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: C
Hydric soil rating: No

Description of Oroville, Gravelly Fine Sandy Loam

Setting

Landform: Terraces
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Microfeatures of landform position: Swales
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Loamy and gravelly alluvium over clayey and gravelly alluvium over cemented loamy and extremely gravelly alluvium derived from igneous and metamorphic rock

Typical profile

A - 0 to 2 inches: gravelly fine sandy loam
BAt - 2 to 6 inches: gravelly sandy loam
Bt1 - 6 to 13 inches: gravelly clay loam
2Bt2 - 13 to 17 inches: gravelly clay
2Btg - 17 to 23 inches: gravelly sandy clay
3Bqm1 - 23 to 31 inches: cemented extremely gravelly material
3Bqm2 - 31 to 60 inches: cemented extremely gravelly material

Properties and qualities

Slope: 0 to 9 percent
Depth to restrictive feature: 20 to 40 inches to duripan
Natural drainage class: Poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)
Depth to water table: About 0 to 40 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Available water storage in profile: Very low (about 2.7 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 4e

Custom Soil Resource Report

Hydrologic Soil Group: D

Hydric soil rating: Yes

Minor Components

Fernandez, sandy loam

Percent of map unit: 5 percent

Landform: Terraces

Hydric soil rating: No

Unnamed, loamy, duripan 10 to 20 inches

Percent of map unit: 3 percent

Landform: Terraces

Microfeatures of landform position: Swales

Hydric soil rating: Yes

Unnamed, fine-loamy, bedrock densic 40 to 60 in.

Percent of map unit: 2 percent

Landform: Terraces

Hydric soil rating: No

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Custom Soil Resource Report

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Appendix E

Pre-Demolition Asbestos Survey & Lead Based Paint Inspection Report



455 W. Fir Avenue
Clovis, CA 93611
Tel: (559) 449-2700
Fax: (559) 449-2715

www.provostandpritchard.com

PRE-DEMOLITION ASBESTOS SURVEY & LEAD-BASED PAINT INSPECTION REPORT

SEWERAGE COMMISSION - OROVILLE REGION WASTEWATER TREATMENT UPGRADE PROJECT 2880 S. 5TH AVENUE OROVILLE, CALIFORNIA

October 25, 2021

PREPARED FOR:

**Mr. Glen Sturdevant
Sewerage Commission – Oroville Region
Wastewater Treatment Plant Upgrade Project
P.O. Box 1350
Oroville, California 95965**

PREPARED BY:

**T. BROOKS & ASSOCIATES,
A Division of
Provost & Pritchard Consulting Group
455 W. Fir Ave.
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(559) 449-2700**

**Troy F. Brooks, RRC, CAC, CIEC
Registered Roof Consultant
Certified Asbestos Consultant, #92-0186
DPH Inspector/Assessor for Lead, #193
Certified Indoor Environmental Consultant**

Roof Consulting / Asbestos, Lead & IAQ Consulting

November 1, 2021

Project No. 02840-21-001 ENV

Mr. Glen Sturdevant
Sewerage Commission – Oroville Region
P.O. Box 1350
Oroville, California 95965

**SUBJECT: Pre-Demolition Asbestos Survey &
Lead-Based Paint Inspection Report**
Sewerage Commission Oroville Region
Wastewater Treatment Plant Upgrade Project
2880 S. 5th Avenue
Oroville, California

Dear Mr. Sturdevant:

In accordance with your request and authorization, **T. Brooks & Associates, A Division of Provost & Pritchard Consulting Group**, has conducted an Asbestos Survey and Lead-Based Paint Inspection involving specified portions of the referenced commercial property located in Oroville, California. The survey was requested due to planned renovation/demolition operations involving those portions of the subject property considered as part of our investigation.

The Client wishes to be notified as to the presence and location of asbestos-containing materials, lead-based paint, or lead-containing paint which may be impacted as part of planned renovation/demolition operations involving the referenced commercial property.

We appreciate the opportunity to assist you. If you should have questions or require additional information, please contact us at (559) 449-2700.

Respectfully,
**T. BROOKS & ASSOCIATES, A Division of
Provost & Pritchard Consulting Group**



Troy F. Brooks, RRC, CAC, CIEC
Certified Asbestos Consultant, No. 92-0186
CDPH Inspector/Assessor for Lead, No. 193
Principal Environmental & Roofing Specialist

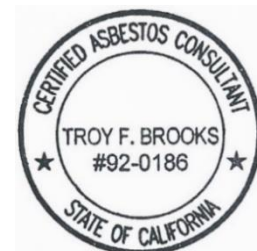


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**ASBESTOS SURVEY &
LEAD-BASED PAINT INSPECTION REPORT**

**SEWERAGE COMMISSION - OROVILLE REGION
WASTEWATER TREATMENT UPGRADE PROJECT**

**2880 S. 5TH AVENUE
OROVILLE, CALIFORNIA**

INTRODUCTION

In accordance with your request and authorization, **T. Brooks & Associates, Inc.** has conducted an Asbestos Survey and Lead-Based Paint Inspection involving specified portions of the above referenced commercial property located in Oroville, California. The investigation was requested due to proposed renovation/demolition operations involving those portions of the referenced property considered as part of our investigation. The following sections present a description of interior and exterior finishes considered as part of our investigation, pertinent regulatory information, description of sampled materials, analysis of findings and our recommendations specific to compliance with proposed renovation/demolition operations.

ASBESTOS INVESTIGATION

OBJECTIVE AND SCOPE OF SERVICES – ASBESTOS

The objective of this investigation was to evaluate suspect building and construction materials at specified portions of the property to be impacted by proposed renovation/demolition operations as to asbestos content. The scope of sampling was conducted in accordance with the NESHAP regulation of the U.S.E.P.A., the Butte County Air Quality Management District, and Cal/OSHA requirements. Specific sampling locations were selected by the inspector based on referenced regulatory requirements. Sampling was conducted utilizing destructive techniques. Suspect asbestos-containing materials were characterized by size, color, and texture in order to quantify materials and to draw conclusions based on bulk sample results.

Bulk sample analysis was provided by Environmental Management Consultants, an independent, NVLAP accredited laboratory (NVLAP No. 101926-0) located in Phoenix, Arizona and specializing in asbestos analysis. Bulk samples were individually bagged and numbered for identification and to maintain a chain-of-custody as part of this report.

The scope of sampling was limited to specified portions of the building at the direction of the Client.

T. Brooks & Associates, Inc.

APPLICABLE REGULATIONS

Environmental Protection Agency

The National Emission Standard for Hazardous Air Pollutants (NESHAP), which was promulgated by the Federal Environmental Protection Agency (EPA), identifies "facilities" subject to asbestos regulation and requires completion of prescribed procedures including "asbestos surveys" prior to commencement of demolition or renovation activities involving all commercial and certain residential structures.

In addition to the Federal NESHAP standard, other regulations pertaining to asbestos also exist on federal, state, county and local levels. While the referenced property is within the boundaries of the Butte County Air Quality Management District (BCAQMD), it is a non-delegated air district and has no regulatory authority over NESHAP regulated activities within the district. Region IX of the U.S.E.P.A. has been charged with the administration and oversight of these programs in the area of the subject site.

Region IX of the U.S.E.P.A. is located at:

1337 S. 46th St, Bldg. 201
Richmond, California 94804
(510) 412-2331

Under the NESHAP, all friable, asbestos-containing materials (RACM) must be removed prior to engaging in a renovation and/or demolition operations involving disturbance of 160 square feet or 260 s.f. or more of RACM or non-friable ACM which is rendered friable, as well as "any" demolition regardless of whether asbestos is present which will be impacted. All "demolition" operations are regulated, regardless of whether asbestos is present which will be disturbed. A notification must be sent to Region IX of the USEPA for all regulated abatement and/or demolition activities.

Occupational Safety and Health Administration

The Occupational Safety and Health Administration (OSHA), regulates construction activities including those which involve disturbance of asbestos-containing materials, or suspect ACM. OSHA regulations for asbestos materials exist at both state (Cal-OSHA) and federal (Fed-OSHA) levels and are intended to protect workers from occupational exposures to these materials.

Federal asbestos regulations, including the Federal Construction Industry Asbestos Standard (29 CFR 1926.1101) and State of California Standard (Title 8 CCR 1529) mandate that all construction materials classified as "Thermal System Insulation" (TSI) or "Surfacing

Material” (sprayed or troweled in place of an acoustical nature) installed in buildings prior to January 1, 1981, be classified as “Presumed Asbestos Containing Materials” (PACM). This designation may only be refuted by extensive testing procedures of each homogeneous material in compliance with 40 CFR 763 Subpart E, the “AHERA” regulations of the EPA).

Appropriate controls including air sampling are required during the disturbance of any asbestos containing material (ACM) in order to document any potential airborne fiber release which may expose workers or others to regulated levels of airborne asbestos.

Certified Asbestos Consultant and Site Surveillance Technician

The California Business and Professions Code specifies that only a State of California, Certified Asbestos Consultant may provide design, environmental air sampling and other consulting services on behalf of building owners relating to abatement projects. Certified Site Surveillance Technicians (SST’s) typically perform bulk sampling, air monitoring, and other functions under the surveillance of a Certified Asbestos Consultant.

Definition of Asbestos Containing Material

Cal-OSHA	>0.1% by weight *
State of California, Health & Safety Code	>0.1%
Fed-OSHA	>1.0% by weight
Cal-EPA	friable and >1% asbestos
EPA	friable and >1% asbestos

* Under Cal-OSHA regulations, materials containing between 0.01% - 1.0% are classified as “Asbestos Construction Containing Material”. The materials would not be regulated by the EPA and the waste may be disposed of as non-hazardous.

Work Categories - Fed OSHA, 29 CFR 1926.1101 Cal-OSHA, Title 8, CCR 1529

Classify abatement operations under four distinct activities which trigger different provisions within the standard. Those activities presenting the greatest risk are designated Class I work, with decreasing risk potential for each successive class.

The work categories and brief descriptions are as follows:

Class I - Abatement involving thermal system insulation (TSI) and sprayed-on or troweled-on or otherwise applied surfacing ACM.

Class II - Abatement of ACM or PACM other than TSI or Surfacing Materials.
(Typically includes roofing and flooring materials)

Class III- Repair and maintenance operations which are likely to disturb ACM, or

Class IV- Custodial and housekeeping operations where minimal contact with ACM and/or PACM may occur.

Unclassified - Operations involving abatement of materials which contain detectable levels of asbestos up to and including, but not in excess of 1.0%.

NESHAP regulations are mandated for renovation or demolition activities exceeding the following construction material quantities at each project location:

- > 160 square feet (sf)
- > 260 linear feet (lf)
- > 35 cubic feet (cf)

Refer to referenced EPA and OSHA regulations for additional information regarding specific procedures for demolition or renovation activities. See **Appendix E** for additional information concerning regulatory requirements.

INVESTIGATION

The inspection and sampling event of the subject structure was conducted by Timothy Thomas, State of California, Certified Asbestos Consultant, #09-4487, on October 25, 2021. Professional Certifications and Laboratory Certifications are presented in **Appendix F**.

Building Construction and Use

Those portions of the subject structure considered as part of our investigation included specified structures, equipment and fixtures located on the subject property to be impacted by planned renovation and/or demolition operations. Floor plans were developed for our use in documenting sampling locations and for quantifying those materials testing positive for regulated levels of asbestos. The date of construction was not provided for our use.

Materials Sampled

Materials to be sampled were at the discretion of the sampler and were selected based upon the likelihood of containing asbestos as an integral or incidental part of their construction. The sampled materials were intended to represent homogeneous materials present in each distinct sampling area.

Materials selected for sampling and subsequent laboratory analysis included the following:

Project Location: Overall Site

<u>Sampled Materials</u>	<u>EPA Classification</u>	<u>NESHAP CAT.*</u>
Wall Materials		
- Concrete w/ Caulking	Miscellaneous Material	Cat. II, N.F.
- Concrete	Miscellaneous Material	Cat. II, N.F.
- Concrete w/ Paint	Miscellaneous Material	Cat. II, N.F.
- Brick & Mortar	Miscellaneous Material	Cat. II, N.F.
Ceiling Materials		
- No Samples Fit Category		
Flooring Materials		
- Concrete w/ Paint	Miscellaneous Material	Cat. II, N.F.
Miscellaneous Materials		
- Concrete	Miscellaneous Material	Cat. II, N.F.
- Paint	Miscellaneous Material	Cat. II, N.F.
- Concrete w/ Paint	Miscellaneous Material	Cat. II, N.F.
Window Glazing	Miscellaneous Material	Cat. II, N.F.
- Roofing	Miscellaneous Material	Cat. I, N.F.
- Roof Wall Flashing	Miscellaneous Material	RACM
- Roof Cement w/ Paint & Coating	Miscellaneous Material	Cat. II, N.F.
- Asphalt Walkway	Miscellaneous Material	Cat. II, N.F.

* These classifications are based on classifications by the AHERA regulations of the Environmental Protection Agency. All asbestos-containing materials may be rendered friable by the forces acting upon them.

Bulk Sample Results

Of those samples submitted for analysis, a total of two (2) samples were found to include one or more layers that tested positive for asbestos in amounts (>1.0%). The samples testing positive for asbestos in amounts >1.0% included: **Wall Flashing** (1 sample) & **Roof Cement** (1 sample). Refer to enclosed **Tables No. 1 & 2** for information concerning material descriptions, locations and quantities of identified asbestos-containing materials.

Project Location: Control Building - South

<u>Sampled Materials</u>	<u>EPA Classification</u>	<u>NESHAP CAT.*</u>
Flooring Materials		
- Concrete Foundation w/ Paint	Miscellaneous Material	RACM
Wall Materials		
- Brick & Mortar	Miscellaneous Material	RACM

Ceiling Materials

- No Samples Fit Category

Miscellaneous Materials

- Paint (Piping) Miscellaneous Material RACM

*These classifications are based on classifications by the AHERA regulations of the Environmental Protection Agency. All asbestos containing materials may be rendered friable by the forces acting upon them.

Bulk Sample Results

Of those samples collected at the subject site and submitted for analysis, none (0) tested positive for asbestos content. Those materials testing negative for asbestos at the referenced location may be treated as non-asbestos for the purposes of renovation/demolition operations. If work is classified as a “demolition” as defined under the NESHAP and BCAQMD regulations, comply with requirements, including filing of a Notification, payment of a fee, and waiting the required ten (10) working days before proceeding with the work.

Refer to enclosed **Table No. 1** for additional information concerning material descriptions, locations, quantities, and an estimate of probable cost to abate those materials testing positive for asbestos content.

Project Location: Control Building - North

<u>Sampled Materials</u>	<u>EPA Classification</u>	<u>NESHAP CAT.*</u>
Flooring Materials		
- Carpet Mastic	Miscellaneous Material	Cat. II, N.F.
- Carpet Mastic w Concrete & Paint	Miscellaneous Material	Cat. II, N.F.
- 12"x12" Floor Tile & Mastic	Miscellaneous Material	Cat. I, N.F.**
Wall Materials		
- Brick & Mortar	Miscellaneous Material	Cat. II, N.F.
- Cove Base w/ Adhesive	Miscellaneous Material	Cat. II, N.F.
- Drywall w/ Taping Mud & Texture	Miscellaneous Material	Cat. II, N.F.
- Drywall w/ Taping Mud	Miscellaneous Material	Cat. II, N.F.
Ceiling Materials		
- 2'x4' Ceiling Tile	Miscellaneous Material	RACM

Miscellaneous Materials

- No Samples Fit Category

*These classifications are based on observed condition of each sampled building material at the time of the investigation. All asbestos-containing materials may be rendered friable by the forces acting upon them.

**Removal of floor tile and/or mastic using mechanical means would change the classification of these materials to RACM and require compliance with NESHAP requirements.

Bulk Sample Results

Of those samples submitted for analysis, a total of six (6) samples were found to include one or more layers that tested positive for asbestos in amounts (>1.0%). The samples testing positive for asbestos content in amounts >1.0% included: **12"x12" Vinyl Floor Tile & Mastic** (2 samples), **Drywall Taping Mud** (2 samples), & **12"x12" Vinyl Floor Tile** (2 samples).

Those materials testing negative for asbestos at the referenced location may be treated as non-asbestos for the purposes of renovation/demolition operations. If work is classified as a "demolition" as defined under the NESHAP and BCAQMD regulations, comply with requirements, including filing of a Notification, payment of a fee, and waiting the required ten (10) working days before proceeding with the work.

Refer to enclosed **Tables No. 1 & 2** for information concerning material descriptions, locations and quantities of identified asbestos-containing materials.

ANALYSIS OF FINDINGS

Asbestos-containing materials are classified by their "Friability" which is defined as material that when dry may be crumbled, pulverized, or reduced to powder by hand pressure. In addition, the "Friability" classification is not only determined by the nature and condition of the ACM, but also by work practices to which the material may be exposed during demolition activities. The "Friability" classification is critical in determining the applicable regulations, work practices and disposal requirements. Workers engaged in the abatement and/or demolition activities involving referenced materials would be covered by applicable Cal/OSHA regulations.

Those materials containing asbestos in amounts exceeding 1.0% and classified as friable (RACM), or which become friable as a result of forces associated with demolition operations impacting these materials would be classified as "Regulated Asbestos-Containing Material" under the NESHAP regulation. In addition, work activities involving disturbance of materials containing asbestos in amounts exceeding 0.1%, regardless of friability would be classified as "Asbestos Containing Construction Material (ACCM) and would be regulated under Cal/OSHA regulations. All materials herein referenced as testing negative for asbestos content may be treated as non-asbestos containing in terms of proposed renovation operations.

Asphalt Roof Components - Wall Flashings

Based on the observed condition of the asphaltic roof wall flashings, they were determined to be in "friable" condition and are therefore classified as RACM for the purposes of planned renovation/demolition operations which would impact them. Removal of asphaltic

roofing materials would be classified as a Class II operation. Notification to the local Cal-OSHA office is required prior to commencement with operations which will disturb these materials. These materials would be regulated by the BCAQMD if the total amount of RACM is over 160 s.f. or the project is classified as a "demolition". Comply with BCAQMD requirements, including filing a Notification, paying a fee, and waiting the required ten (10) working days before proceeding with the work. The waste must be disposed of as California Hazardous Waste and must be hauled by a licensed Hazardous Waste Hauler using a Hazardous Waste Manifest.

Plastic Roof Cement

A representative sample of plastic roof cement, collected at a roof penetration was found to contain asbestos in amounts >1.0%. Under current Cal/OSHA regulations, mastics and coatings are normally classified as non-friable. Removal must be completed utilizing hand tools only. The waste may be disposed of as non-hazardous in California if maintained in non-friable condition and removed using hand tools. The work would be classified as a Class II job under Cal/OSHA.

Vinyl Floor Tile & Associated Mastic

Vinyl floor tile and associated mastic is normally classified as non-friable material in terms of abatement operations, transportation, and disposal. Non-friable materials, when packaged properly, may be disposed of at a local landfill accepting non-friable ACM. Mastic must be in a non-liquid state to be accepted by most landfills.

Under the NESHAP AND BCAQMD regulations, removal of vinyl floor tile and associated mastic using mechanical means would render the materials friable, changing their status to RACM. Abatement of RACM in amounts exceeding the minimum threshold amounts would require filing of a completed Notification with the BCAQMD, a ten-day waiting period, transportation by a licensed hazardous waste hauler, and disposal as California Hazardous Waste.

Removal of these materials would be classified as a Class II operation under current OSHA regulations. Notification to the local Cal-OSHA office is required prior to commencement with operations which will disturb these materials.

Drywall Taping Compound

Drywall collected from specified areas at the subject site were found to contain taping compound which contained in excess of 1.0% asbestos. Removal of drywall with asbestos-containing taping compound would be classified as a "Class II" operation under Cal/OSHA.

Based on the presence of asbestos-containing taping mud, the drywall would be classified as RACM and must be disposed of as California Hazardous Waste unless reanalyzed by “Point Count” and confirmed as containing asbestos in amounts <1.0% as a drywall “system”. Workers engaged in the work would be covered under applicable Cal/OSHA regulations.

Vinyl Floor Tile

Vinyl floor tile is normally classified as non-friable material in terms of abatement operations, transportation, and disposal. Non-friable materials, when packaged properly, may be disposed of at a local landfill accepting non-friable ACM.

Under the NESHAP removal of vinyl floor tile using mechanical means would render the material friable, changing its status to RACM. Abatement of RACM in amounts exceeding the minimum threshold amounts would require filing of a completed Notification with Region IX of the USEPA, a ten-day waiting period, transportation by a licensed hazardous waste hauler, and disposal as hazardous waste.

Removal of the floor tiles would be a Class II operation under OSHA regulations. Notification to the local Cal-OSHA office is required prior to commencement with operations which will disturb these materials.

ADDITIONAL CONSIDERATIONS

Filing of a completed notification would be required for abatement-related work which includes in excess of 160 s.f., 260 l.f., or 35 c.f. of “Regulated Asbestos-Containing Material” (RACM) or non-friable ACM which is rendered friable. All proposed abatement and/or demolition operations would require compliance with OSHA and NESHAP regulations and procedures.

A mandatory ten (10) working-day waiting period is required prior to proceeding with regulated abatement activities, defined as disturbance of regulated amounts of RACM, or non-friable ACM which becomes friable, as well as “any” demolition involving regardless of whether asbestos-containing materials are present which would be impacted.

Refer to **Appendix E** (Regulatory Resource List) for additional information concerning applicable regulations and contact information.

REGULATORY AGENCIES AND REQUIREMENTS

Following is a brief description of regulatory agencies and regulatory requirements:

Federal EPA

Environmental Protection Agency (EPA) - NESHAP Notification - 40 CFR 61 - Subpart M Requires notification in all demolition operations whether the building contains asbestos or not. Requires notification when renovation/demolition involves greater than 160 square feet or 260 linear feet of friable ACM.

Region IX of the USEPA regulates renovation and demolition activities for projects within the boundaries of the Butte County Air Quality Management District.

Butte County Air Quality Management District

Butte County Air Quality Management District (BCAQMD) – A non-delegated air district

Given that the BCAQMD is a non-delegated air district in terms of the NESHAP regulation, Region IX of the U.S.E.P.A. has regulatory authority over NESHAP regulated activities within the air district boundaries. Prior to commencing regulated activities, file a completed notification with the Region IX office in San Francisco and comply with their requirements.

Cal-OSHA

State of California, Department of Industrial Relations, Division of Occupational Safety and Health enforces regulations pertaining to worker protection. New Cal-OSHA standard (Title 8, CCR 1529) took effect on July 1, 1996 and was adopted from the Federal OSHA standard. The standard mandates procedures and engineering controls necessary to protect employees of the contractor, building occupants and others.

Requires filing of a “Temporary Jobsite Notification” with local compliance office prior to commencing with abatement activities involving any quantity of material.

Cal EPA – Department of Toxic Substance Control

Regulates disposal of asbestos-containing waste which includes asbestos in amounts exceeding 1.0% which is in friable condition and therefore “Regulated Asbestos-Containing Material”.

RECOMMENDATIONS

Prior to proceeding with planned renovation and/or demolition operations involving specified portions of the referenced commercial property, have all building materials identified as containing asbestos in amounts (>1.0%) which will be impacted by planned work operations removed by a qualified, licensed abatement contractor with a demonstrated history of similar projects and regulatory compliance. Ensure that all work operations are conducted in accordance with applicable EPA and OSHA requirements. The Contractor should be required to document evidence of current training, licensing, and asbestos specific insurance coverage.

Comply with the Notification requirements of Cal-OSHA and Region IX of the USEPA and pay fees (if required). Wait the required ten (10) working-days after filing the notification

before proceeding with regulated renovation activities exceeding the threshold amount (>160 s.f. or 260 l.f.) of RACM, and/or any non-friable ACM which becomes friable, or “any” demolition based on NESHAP and NESHAP requirements.

LIMITED LEAD-BASED PAINT INSPECTION REPORT

OBJECTIVE AND SCOPE OF SERVICES – LEAD

The inspection and lead sampling event of the site was conducted on October 25, 2021 by Timothy Thomas, Inspector/Assessor, No. 8088. Professional Certifications and Laboratory Certifications are presented in **Appendix F**.

Scope of Investigation

The Lead-Based Paint Inspection was conducted in accordance with Title 17 - California Code of Regulations, Division 1, Chapter 8, 8 CCR 1532.1 (Cal/OSHA), and the federal Renovation, Remodeling and Paint Rule (RRP). The sampling event was conducted in a manner which provides limited, representative evaluation of painted surfaces at referenced locations at the subject sites in accordance with the HUD schedule in Chapter 7 (Lead-Based Paint Inspection) of the “Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing”. Testing locations provide an overall representation of painted finishes present at the referenced structure. The referenced inspection is representative in nature and is limited based on the limitations of the referenced regulatory standard.

Sampling of painted surfaces for suspect lead-based paint at specified portions of the specified commercial property included a total of nineteen (19) separate testing combinations. The XRF instrument was calibrated prior to and following the prescribed sampling period in accordance with the Performance Characteristic Sheet provided by the manufacturer.

Calibration readings are included in the XRF sampling results as the initial and concluding readings and are designated as a “calibrate” reading. The calibration readings were compared to a known concentration of lead using a standard SRM sheet provided by the XRF manufacturer to verify accurate performance of the instrument at the beginning and the conclusion of the sampling episode.

SAMPLE METHODOLOGY

Enclosed results are based on total lead content regardless of the number of paint layers present at each specific test location. Each referenced area includes data generated by the

testing instrument. Lead content at a level equivalent to 5,000 ppm would be classified as “Lead-Based Paint” by HUD, The State of California, and the EPA. Each result must also be compared to the applicable OSHA level (“any detectable amount”, or 600 ppm), dependent upon the appropriate trigger activity.

Sampling was conducted using a *Viken Detection* Spectrum Analyzer Lead Detector, Model Pb200I Alpha (Serial No. 1029). The instrument was utilized within the operating parameters established by *Viken Corporation* as indicated in the Performance Characteristic Sheet.

Definition of Lead Based Paint

Title X	>1.0 mg/cm ² or >0.5% by weight
HUD	1.0 mg/cm ² or 0.5% by weight
CDPH	1.0 mg/cm ² or > 0.5 % by weight
CPSC	600 ppm or .06% by weight
OSHA	600 ppm or .06% by weight or any detectable amount

(Note subtle differences dependent upon preceding mathematical symbols)

APPLICABLE REGULATIONS FOR LEAD

The following includes the primary agencies which govern lead related work and a brief list of their components and responsibilities.

Occupational Safety and Health Administration

Federal Standards	General Industry Standard	29 CFR 1910.1025
	Construction Industry Standard	29 CFR Part 1926.62
State Standards	General Industry Standards	8 CCR 5216
	Construction Industry Standards	8 CCR 1532.1

The Occupational Safety and Health Administration (OSHA), is focused on protecting the health and safety of workers, including construction activities which disturb lead containing paints, surface coatings, and other materials. OSHA regulations for lead materials exist at both state (Cal-OSHA) and federal (Fed-OSHA) levels and are intended to protect workers from occupational exposures to these materials.

Federal and State lead regulations, including the Lead in Construction Standard 29 CFR 1926.62 (Federal Standard) and Title 8 CCR 1532.1, (California standard) regulate disturbance of lead containing materials during construction, demolition, and maintenance related activities. The Federal standard was adopted in May of 1993. The State of California adopted this standard in November 1993.

Appropriate engineering controls, personal protective equipment, training, specific work practices, and representative air sampling are required by both Cal/OSHA and OSHA whenever workers will disturb lead in any concentration (including less than 600 ppm) as this disturbance may result in airborne exposures over the Action Limit (AL) or Permissible Exposure Limit (PEL). Initial blood lead testing is required above the AL (30 ug/m;), and a written site specific "Compliance Plan" is required for all projects where a Negative Exposure Assessment has not been generated. Medical removal is required for any worker whose blood lead level > 50 ug/dl.

U.S. Environmental Protection Agency

Title X was promulgated by the U.S. Congress in 1992 and required the U.S. Environmental Protection Agency (USEPA), to define lead hazards and to develop certification programs.

Major components of EPA pertaining to Lead Containing Materials

- Established a lab accreditation program
- Defined hazards in dust and soil (revised June 1998)
- Evaluates inspection & removal products (ongoing)
- Requires disclosure & information prior to sale/rental of pre-1978 housing (in effect)
- Mandate information for renovation /remodel work (in effect 6/99)
- Developed an accreditation and training program effective in states that do not have their own program California Environmental Protection Agency

Cal-EPA determines when lead paint waste is a hazardous waste in California, and how it must be disposed. The California Department of Toxic Substance Control (DTSC), as part of Cal-EPA oversees regulated disposal issues related to hazardous waste in California.

Procedures for the identification, management, transport, record keeping, and disposal of all types of hazardous waste are set forth in Title 22, CCR, Sections 66260.1-66263.12 and 66268.1-66268.124, and the Health and Safety Code, section 25163, subdivision (c).

Department of Housing and Urban Development (HUD)

Department of Housing and Urban Development (HUD) developed regulations and guidance documents for use on HUD properties. Its Guidelines are generally considered state-of-the-art in the lead abatement industry. HUD guidelines establish strategies for completion of lead survey and risk assessments, clearance strategies, work practices, engineering controls and worker safety procedures.

While HUD guidance documents were developed specifically for HUD properties, both the California DPH work practice regulations and the EPA Model Accreditation Program for lead mandate you follow HUD Guideline procedures in many facilities.

HUD developed the following guidance documents which are industry standards:

- 1989 - published A Lead-based Paint: Interim Guidelines for Hazard Identification and Abatement in Public and Indian Housing, referred to as the “Old HUD Guidelines”.
- 1995 - published “Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing”.
- HUD is developing work practice regulations applicable to HUD housing which are to take effect sometime in 1999.

California Department of Public Health (CDPH)

Developed and enforces a comprehensive regulation that provides an accreditation process for lead training providers, a certification program for individuals, and specified required work practices for lead hazard evaluations and lead hazard control work.

- Promulgated the California CDPH Lead Training, Accreditation, Certification and Work Practices - Title 17, CCR, Division 1, Chapter 8, (Sections 35000-361000). Specifies work practices involved in lead inspections, risk assessments and hazard reduction work in all residential and public buildings in California. Also requires training, passage of exams, and certification of individuals that conduct lead hazard assessments or work to reduce or eliminate lead hazards. Revised standard took effect on January 8, 1999.

Key Provisions:

- Defines “lead hazards” in dust, paint, and soil
- Defines almost all paint as “presumed” LBP
- Excludes post 1978 housing, and schools built after 1992
- Requires notifications to CDPH prior to disturbance of LBP
- Requires specific work practices (containment, clearance testing, etc.)
- Requires individuals to be “certified” for some work

CDPH Certification is required in the following cases:

- Exceed PEL in California (50 ug/m³) (Cal-OSHA)
- Conduct lead hazard evaluation or “abatement” (CDPH)
- Residential Inspections for EPA Disclosure Rule compliance
- Title X funded projects (U.S. Congress)

- California public elementary and preschools (Ed. Code Section 32243 b)
- When prescribed by project specifications.

CDPH Certification Classifications

Brief Description

Lead Related Inspector/Assessor	Conduct inspections or assessments for LBP
Lead Related Supervisor	Supervise lead project as Contractor
Lead Related Project Monitor	Monitor lead project on behalf of Client
Lead Related Project Designer	Design a lead abatement project
Lead Related Worker	Engage in lead related work as a worker

OSHA Trigger Activities (Tasks):

Fed OSHA, 29 CFR 1926.62
Cal-OSHA, Title 8, CCR 1532.1

Classify trigger tasks under three distinct activity groups which assume that you may reach specified airborne exposure levels. Those tasks presenting the least risk are designated Activity 1 tasks, with increasing risk potential for each successive class. The three (3) trigger task categories and assumed airborne levels are as follows:

Trigger Activity I - (50 -500 ug/m ³)	manual demolition, scraping and sanding, using heat guns, using HEPA equipment, debris cleanup
Trigger Activity II - (500 - 2500 ug/m ³)	lead mortar, burning, rivet busting, use of non-HEPA equipment, dry abrasive blast cleanup
Trigger Activity III - (>2500 ug/m ³)	welding, abrasive blasting, torch cutting, and burning

Prior to obtaining exposure assessment for each specific trigger task or if no historic data is available, the following apply:

- assume exposure over PEL
- wear respirators and protective clothing
- be properly trained (at least Action Level training (per OSHA standard)
- have initial blood tests on affected workers, supervisors

ANALYSIS OF FINDINGS – LEAD

In summary, certain testing combinations considered as part of our investigation were found to contain lead in some amount. Under current Cal/OSHA regulations, paint containing in excess of 0.06% lead (600 parts per million) are considered lead-containing paint for non-trigger

tasks under Cal/OSHA. For trigger tasks, any detectable amount of lead invokes Cal/OSHA regulations and assumes that airborne levels may exceed the “Action Level” (AL) of 30 ug/m³, and the “Permissible Exposure Limit” (PEL) of 50 ug/m³. Refer to **Appendix E** for additional information concerning regulatory requirements.

Current OSHA regulations require that workers involved in work disturbing lead containing surfaces be protected from exposure to lead above stipulated levels. Refer to the enclosed OSHA Construction Standard (CCR Title 8 1532.1 California Lead-In-Construction Standard) for work guidelines and requirements.

Of those testing combinations considered as part of our investigation, none (0) were found to include lead in excess of the 1.0 mg/cm², (0.5%), (5,000 ppm) therefore, none of the painted finishes considered as part of our investigation would be classified as “Lead-Based Paint” (LBP) under state and federal regulations. Refer to **Appendices B & C** for additional information concerning specific Testing Combinations.

Building materials represented by those testing combinations found to include lead in “any amount” are classified as “Lead-Containing Paint” (LBP) for the purposes of compliance with Cal/OSHA regulations.

Any construction related work which will disturb building elements which include paint or surface coatings determined to include lead must be conducted in accordance with applicable local, state and federal regulations governing disturbance of lead.

PAINT CONDITION

As part of the Lead-Based Paint Inspection, painted surfaces were visually examined for overall condition. While this report does not constitute a lead “Risk Assessment”, painted surfaces were generally categorized as being in intact, fair, poor, or peeling condition. Refer to **Appendices B & C** for additional information concerning locations and results of testing combinations at the subject site.

ADDITIONAL CONSIDERATIONS

Should a full evaluation of potential lead hazards be desired involving testing for lead contaminated dust and soil, we recommend that a “Risk Assessment” be conducted by a certified Lead-based paint Risk Assessor as part of a complete lead hazard evaluation.

Hazards associated with lead exposure are typically due to ingestion and inhalation of lead in the form of dust. Lead can be determined within the bloodstream, bones, and other organs by various detection methods.

Potential exposure to lead is associated with damaged painted surfaces. Painted surfaces should be inspected regularly and maintained in intact, undamaged condition to minimize the potential for the creation of lead dust hazards. Any evidence of peeling, loose or detached paint should be rectified by stabilizing the painted surface or replacing the element.

RECOMMENDATIONS

Upon commencing work operations involving disturbance of lead, the Contractor engaged in the work must conduct an "Initial Exposure Assessment" for each planned "trigger task" in accordance with Cal/OSHA regulations to determine potential lead exposures to workers. Prior to commencing such operations, the Contractor must assume workers will be exposed to airborne levels above the PEL and must provide workers with Hazard Communication Training, and personal protective equipment, including HEPA-equipped respirators. A hand-washing facility must be present at the worksite.

To reduce potential liability, the Owner may elect to have a certified lead professional conduct perimeter air monitoring on their behalf to provide documentation of airborne lead levels at locations around the site. The lead professional may also provide baseline and/or lead clearance monitoring.

Prior to Disposal of lead-containing paint or elements which include lead-containing paint, the State of California requires that representative sample(s) of the waste stream waste (along with the substrate where bonded) be submitted to an accredited laboratory and that a Total Threshold Limit Concentration (TTLC) test be performed to determine the total lead content.

Dependent upon the result, a SW846 (STLC) may be required to determine the amount of leachable lead. These tests will determine transportation and disposal requirements and may greatly impact the ultimate cost of the work. Due to potential delays associated with conducting the analysis of the waste, it is recommended that the waste characterization be initiated prior to soliciting bids for the work.

LIMITATIONS

The enclosed asbestos and lead survey and review was limited to those portions of the subject structure considered as part of our investigation. This investigation is undertaken with the calculated risk that the presence, full nature, and extent of asbestos and lead-containing materials would not be revealed by visual observation and random sampling alone. T. Brooks & Associates, a division of Provost & Pritchard Consulting Group makes no representations as to the asbestos or lead content of materials which were not specifically tested or which were not readily accessible to the inspector.

At the request of the Client, the scope of sampling and testing was limited to those areas and painted finishes which may be impacted based on the proposed renovation/demolition operations. The enclosed findings and recommendations are not intended to represent materials at locations other than those specifically referenced.

T. Brooks & Associates, a Division of Provost & Pritchard Consulting Group is not responsible for failure of the Client and/or other design professionals or contractors working under their direction to completely review the enclosed report, as well as other referenced survey reports which include information which may impact operations involving those portions of the subject residential triplex site to be impacted by their work.

Certain opinions and recommendations expressed in this report are based on our knowledge and experience with applicable state, federal and local law, and do not reflect other possible adverse conditions not immediately visible or which may be discovered by a more extensive examination including a review of relevant documents which were not available during this investigation.

Our inspection did not include sampling of materials which may contain materials known to be hazardous including polychlorinated biphenyls (PCB's), mercury, radon or other materials. Consideration should be given to testing for these and other hazardous materials which may be present.

Findings presented in this report were based on field observations, random sampling and analysis, review of available data and discussion with local regulatory and advisory agencies. Therefore, the data obtained are clear and accurate only to the degree implied by the sources and methods involved.

The information presented herewith was based on professional interpretation using presently accepted methods with a degree of conservatism deemed proper as of the report date. It is not warranted that such data and/or methods cannot be superseded by future technical developments.

Please contact our office directly should you have any questions concerning the enclosed information.

Respectfully Submitted,
T. Brooks & Associates, A Division of
Provost and Pritchard Consulting Group



Troy F. Brooks, RRC, RRO
Principle Environmental & Roofing Specialist
Registered Roof Observer, I.I.B.E.C., Inc.
Registered Roof Consultant, I.I.B.E.C., Inc.



Dave Norman
Principle

TABLE 1

SAMPLED MATERIALS ANALYTICAL RESULTS

**Sewerage Commission Oroville Region
2880 S. 5th Avenue
Oroville, California**

Client ID	Layer	Material Description	Sample Location	Analytical Results
Overall Site Plan				
1-01	1	Concrete	Equipment Pad - Chlorine Contact Basin 415	None Detected
1-02	1-2	Concrete & Caulking	Perimeter Wall - Chlorine Contact Basin 415 - Wall	None Detected
2-01	1	Paint	Piping - Chlorine Contact Basin 415	None Detected
2-02	1	Paint	Piping - Chlorine Contact Basin 415	None Detected
3-01	1	Concrete	Aerobic Digester No 1, 325 - Wall	None Detected
3-02	1	Concrete	Aeration Basin No 2, 315 - Wall	None Detected
4-01	1-2	Concrete & Paint	Sludge Drying Beds 695 - Wall	None Detected
5-01	1-2	Concrete & Paint	Clarifier 220 - Wall	None Detected
6-01	1	Paint (Silver)	Clarifier 220 - Railing	None Detected
6-02	1	Paint (Silver)	Back Wash 210 - Railing	None Detected
7-01	1	Paint (Red)	Clarifier 220 - Railing	None Detected
7-02	1	Paint (Red)	Back Wash 210 - Railing	None Detected
8-01	1-2	Concrete & Paint	Clarifier 220 - Stairs	None Detected
8-02	1-2	Concrete & Paint	Back Wash 210 - Stairs	None Detected
9-01	1-2	Concrete & Paint	Anaerobic Digester 690 - Wall	None Detected
9-02	1-2	Concrete & Paint	Anaerobic Digester 690 - Wall	None Detected
9-03	1-2	Concrete & Paint	Water Equalization 480 - Wall	None Detected
9-04	1-2	Concrete & Paint	Water Equalization 480 - Wall	None Detected
10-01	1	Asphalt Walkway	Outside Sludge Pump Station 240 - Floor	None Detected

Table 1 - Continued

Client ID	Layer	Material Description	Sample Location	Analytical Results
Overall Site Plan (Continued)				
10-02	1	Asphalt Walkway	Outside Sludge Pump Station 240 - Floor	None Detected
11-01	1-2	Brick & Mortar	Sludge Pump Station 240 - Wall	None Detected
11-02	1-2	Brick & Mortar	Sludge Pump Station 240 - Wall	None Detected
12-01	1	Window Glazing	Sludge Pump Station 240 - Wall	None Detected
12-02	1	Window Glazing	Sludge Pump Station 240 - Wall	None Detected
13-01	1	Paint	Piping Outside Sludge Pump Station 240	None Detected
13-02	1	Paint	Piping in Sludge Pump Station 240	None Detected
15-01	1-2	Concrete & Paint	Foundation Sludge Pump Station 240 - Floor	None Detected
16-01	1-3	Built-up Roof	Sludge Pump Station 240 - Roof	None Detected
17-01	1	Wall Flashing	Sludge Pump Station 240 - Roof	65% Chrysotile
18-01	1	Roof Cement	Sludge Pump Station 240 - Roof Penetration	5% Chrysotile
	2	Paint/Coating (Silver)	Sludge Pump Station 240 - Roof Penetration	None Detected
29-01	1	Paint	Grit Washer 170	None Detected
Control Building - South				
19-01	1-2	Brick & Mortar	Control Building - Wall	None Detected
20-01	1-2	Concrete & Paint (Foundation)	Chlorination Room - Floor	None Detected
21-01	1	Paint	Chlorination Room - Piping	None Detected
21-02	2	Paint	Chlorination Room - Piping	None Detected
Control Building - North				
19-02	1-2	Brick & Mortar	Mechanical Room - Wall	None Detected
22-01	1	Carpet Mastic (Yellow)	Office - Floor	None Detected
22-02	1-3	Carpet Mastic (Yellow), Concrete, & Paint	Office - Floor	None Detected
23-01	1	12"x12" White Vinyl Floor Tile	Mechanical Room - Floor	2% Chrysotile
	2	Mastic (Black)	Mechanical Room - Floor	5% Chrysotile

Table 1 - Continued

Client ID	Layer	Material Description	Sample Location	Analytical Results
Control Building - North (Continued)				
23-02	1	12"x12" White Vinyl Floor Tile	Mechanical Room - Floor	2% Chrysotile
	2	Mastic (Black)	Mechanical Room - Floor	5% Chrysotile
24-01	1-2	4" Brown Cove Base & Adhesive (Brown)	Mechanical Room - Wall	None Detected
24-02	1-2	4" Brown Cove Base & Adhesive (Brown)	Mechanical Room - Wall	None Detected
25-01	1-3	Drywall, Taping Mud, & Texture	Mechanical Room - Wall	None Detected
25-02	1-2	Drywall & Taping Mud	Mechanical Room - Wall	None Detected
26-01	1	Drywall	Electrical Room - Wall	None Detected
	2	Taping Mud	Electrical Room - Wall	3% Chrysotile
	3	Drywall/Taping Mud Composite	Electrical Room - Wall	<1% Chrysotile
26-02	1	Drywall	Electrical Room - Wall	None Detected
	2	Taping Mud	Electrical Room - Wall	3% Chrysotile
	3	Drywall/Taping Mud Composite	Electrical Room - Wall	<1% Chrysotile
27-01	1	12"x12" Green Vinyl Floor Tile	Electrical Room - Floor	3% Chrysotile
	2	Mastic (Yellow)	Electrical Room - Floor	None Detected
27-02	1	12"x12" Green Vinyl Floor Tile	Electrical Room - Floor	3% Chrysotile
	2	Mastic (Yellow)	Electrical Room - Floor	None Detected
28-01	1	2'x4' Ceiling Tile	Office - Ceiling	None Detected

TABLE 2

ASBESTOS CONTAINING MATERIALS ASSESSMENT

Sewerage Commission Oroville Region 2880 S. 5th Avenue Oroville, California

Material Description	Material Location	% Asb.	* F/ NF	Quantity
Overall Site Plan				
Wall Flashing	Roof - Sludge Pump Station 240	65%	NF	124 Sq.Ft.
Roof Cement	Roof Penetrations - Sludge Pump Station 240	5%	NF	20 Sq.Ft.
Control Building - North				
12"x12" White Vinyl Floor Tile & Mastic	Mechanical Rm	2-5%	NF**	140 Sq.Ft.
Drywall Taping Mud	Electrical Rm	3%	F	234 Sq.Ft.
12"x12" Green Vinyl Floor Tile	Electical Rm	3%	NF**	400 Sq.Ft.

* NF = Non-friable, F = Friable, ACCM = Asbestos Containing Construction Material

** Removal of Residual Flooring Mastic by mechanical means would change the classification to Friable (RACM) and require compliance with NESHAP and SJVAPCD requirements.

Appendix A

Laboratory Report for Asbestos & Chain of Custody (PLM Analysis)

EMC LABS, INC.

9830 S. 51st Street, Suite B109, Phoenix, AZ 85044
Phone: 800-362-3373 or 480-940-5294 - Fax: (480) 893-1726

Laboratory Report
0263108

Bulk Asbestos Analysis by Polarized Light Microscopy

NVLAP#101926-0

Client: T. BROOKS ASSOC. A DIV. OF PROVOST Job# / P.O. #: 02840-18-001 EN
Address: & PRITCHARD CONSULTING GROUP Date Received: 10/27/2021
455 W. FIR AVE Date Analyzed: 10/28/2021
CLOVIS CA 93611
Collected: 10/25/2021 Date Reported: 10/28/2021
Project Name: SEWERAGE COMMISSION OROVILLE EPA Method: EPA 600/R-93/116
Address: REGION-2880 S. 5TH AVE, OROVILLE Submitted By: TIM THOMAS
Collected By:

Lab ID Client ID	Sample Location	Layer Name / Sample Description	Asbestos Detected	Asbestos Type (%)	Non-Asbestos Constituents
0263108-001 1-01	EQUIPMENT PAD- CHLORINE CONTACT BASIN	Concrete, Beige/ Gray	No	None Detected	Quartz Gypsum Carbonates Mica Binder/Filler 100%
0263108-002 1-02	PERIMETER WALL- CHLORINE CONTACT BASIN	LAYER 1 Concrete, Beige/ Gray	No	None Detected	Quartz Gypsum Carbonates Mica Binder/Filler 100%
		LAYER 2 Caulking, Gray	No	None Detected	Carbonates Diatoms Quartz Binder/Filler 100%
0263108-003 2-01	PIPING-CHLORINE CONTACT BASIN	Paint, Gray/ Tan	No	None Detected	Carbonates Gypsum Binder/Filler 100%
0263108-004 2-02	PIPING-CHLORINE CONTACT BASIN	Paint, Green/ Brown	No	None Detected	Carbonates Gypsum Binder/Filler 100%

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Address: REGION-2880 S. 5TH AVE, OROVILLE Submitted By: TIM THOMAS
Collected By:

Lab ID Client ID	Sample Location	Layer Name / Sample Description	Asbestos Detected	Asbestos Type (%)	Non-Asbestos Constituents
0263108-005 3-01	WALL-AEROBIC DIGESTER NO 1	Concrete, Beige/ Gray	No	None Detected	Quartz Gypsum Carbonates Mica Binder/Filler 100%
0263108-006 3-02	WALL-AEROBIC DIGESTER NO 2	Concrete, Beige/ Gray	No	None Detected	Quartz Gypsum Carbonates Mica Binder/Filler 100%
0263108-007 4-01	WALL-SLUDGE DRYING BEDS	LAYER 1 Concrete, Beige/ Gray	No	None Detected	Quartz Gypsum Carbonates Mica Binder/Filler 100%
		LAYER 2 Paint, Beige/ Tan	No	None Detected	Carbonates Gypsum Quartz Binder/Filler 100%

EMC LABS, INC.

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Project Name: SEWERAGE COMMISSION OROVILLE EPA Method: EPA 600/R-93/116
Address: REGION-2880 S. 5TH AVE, OROVILLE Submitted By: TIM THOMAS
Collected By:

Lab ID Client ID	Sample Location	Layer Name / Sample Description	Asbestos Detected	Asbestos Type (%)	Non-Asbestos Constituents
0263108-008 5-01	WALL-CLARIFIER 220	LAYER 1 Concrete, Beige/ Gray	No	None Detected	Quartz Gypsum Carbonates Mica Binder/Filler 100%
		LAYER 2 Paint, Beige/ Tan	No	None Detected	Carbonates Gypsum Quartz Binder/Filler 100%
0263108-009 6-01	RAILING-CLAIFIER 220	Paint, Silver	No	None Detected	Carbonates Quartz Binder/Filler 10%
0263108-010 6-02	RAILING-BACK WASH 210	Paint, Silver	No	None Detected	Carbonates Quartz Binder/Filler 10%
0263108-011 7-01	RAILING-CLAIFIER 220	Paint, Red	No	None Detected	Carbonates Quartz Binder/Filler 100%
0263108-012 7-02	RAILING-BACK WASH 210	Paint, Red	No	None Detected	Cellulose Fiber <1%
					Carbonates Quartz Binder/Filler 99%

EMC LABS, INC.

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0263108

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CLOVIS CA 93611
Collected: 10/25/2021 Date Reported: 10/28/2021
Project Name: SEWERAGE COMMISSION OROVILLE EPA Method: EPA 600/R-93/116
Address: REGION-2880 S. 5TH AVE, OROVILLE Submitted By: TIM THOMAS
Collected By:

Lab ID Client ID	Sample Location	Layer Name / Sample Description	Asbestos Detected	Asbestos Type (%)	Non-Asbestos Constituents
0263108-013 8-01	STAIRS CLARIFIER 220	LAYER 1 Concrete, Beige/ Gray	No	None Detected	Quartz Gypsum Carbonates Mica Binder/Filler 100%
		LAYER 2 Paint, Red/ Tan	No	None Detected	Carbonates Gypsum Quartz Binder/Filler 100%
0263108-014 8-02	STAIRS BACK WASH 210	LAYER 1 Concrete, Beige/ Gray	No	None Detected	Quartz Gypsum Carbonates Mica Binder/Filler 100%
		LAYER 2 Paint, Red/ Tan	No	None Detected	Carbonates Gypsum Quartz Binder/Filler 100%
0263108-015 9-01	WALL ANACROBIC DIGESTER 690	LAYER 1 Concrete, Beige/ Gray	No	None Detected	Quartz Diatoms Carbonates Mica Binder/Filler 100%
		LAYER 2 Paint, Green/ Tan	No	None Detected	Carbonates Quartz Binder/Filler 100%

EMC LABS, INC.

9830 S. 51st Street, Suite B109, Phoenix, AZ 85044
Phone: 800-362-3373 or 480-940-5294 - Fax: (480) 893-1726

Laboratory Report
0263108

Bulk Asbestos Analysis by Polarized Light Microscopy

NVLAP#101926-0

Client: T. BROOKS ASSOC. A DIV. OF PROVOST Job# / P.O. #: 02840-18-001 EN
Address: & PRITCHARD CONSULTING GROUP Date Received: 10/27/2021
455 W. FIR AVE Date Analyzed: 10/28/2021
CLOVIS CA 93611
Collected: 10/25/2021 Date Reported: 10/28/2021
Project Name: SEWERAGE COMMISSION OROVILLE EPA Method: EPA 600/R-93/116
Address: REGION-2880 S. 5TH AVE, OROVILLE Submitted By: TIM THOMAS
Collected By:

Lab ID Client ID	Sample Location	Layer Name / Sample Description	Asbestos Detected	Asbestos Type (%)	Non-Asbestos Constituents
0263108-016 9-02	WALL ANACROBIC DIGESTER 690	LAYER 1 Concrete, Beige/ Gray	No	None Detected	Quartz Diatoms Carbonates Mica Binder/Filler 100%
		LAYER 2 Paint, Green/ Tan	No	None Detected	Carbonates Quartz Binder/Filler 100%
0263108-017 9-03	WALL-WATER EQUALIZATION 480	LAYER 1 Concrete, Beige/ Gray	No	None Detected	Quartz Diatoms Carbonates Mica Binder/Filler 100%
		LAYER 2 Paint, Green/ Tan	No	None Detected	Carbonates Quartz Binder/Filler 100%
0263108-018 9-04	WALL-WATER EQUALIZATION 480	LAYER 1 Concrete, Beige/ Gray	No	None Detected	Quartz Diatoms Carbonates Mica Binder/Filler 100%
		LAYER 2 Paint, Green/ Tan	No	None Detected	Carbonates Quartz Gypsum Mica Binder/Filler 100%

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Project Name: SEWERAGE COMMISSION OROVILLE EPA Method: EPA 600/R-93/116
Address: REGION-2880 S. 5TH AVE, OROVILLE Submitted By: TIM THOMAS
Collected By:

Lab ID Client ID	Sample Location	Layer Name / Sample Description	Asbestos Detected	Asbestos Type (%)	Non-Asbestos Constituents
0263108-019 10-01	OUTSIDE SLUDGE PUMP STATION 240	Asphalt, Black	No	None Detected	Quartz Gypsum Mica Carbonates Binder/Filler 100%
0263108-020 10-02	OUTSIDE SLUDGE PUMP STATION 240	Asphalt, Black	No	None Detected	Quartz Gypsum Mica Carbonates Binder/Filler 100%
0263108-021 11-01	SLUDGE PUMP STATION 240	LAYER 1 Brick, Beige/ Gray	No	None Detected	Gypsum Carbonates Quartz Mica Binder/Filler 100%
		LAYER 2 Mortar, Beige/ Tan	No	None Detected	Quartz Gypsum Carbonates Mica Binder/Filler 100%

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NVLAP#101926-0

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Address: & PRITCHARD CONSULTING GROUP Date Received: 10/27/2021
455 W. FIR AVE Date Analyzed: 10/28/2021
CLOVIS CA 93611
Collected: 10/25/2021 Date Reported: 10/28/2021
Project Name: SEWERAGE COMMISSION OROVILLE EPA Method: EPA 600/R-93/116
Address: REGION-2880 S. 5TH AVE, OROVILLE Submitted By: TIM THOMAS
Collected By:

Lab ID Client ID	Sample Location	Layer Name / Sample Description	Asbestos Detected	Asbestos Type (%)	Non-Asbestos Constituents
0263108-022 11-02	SLUDGE PUMP STATION 240	LAYER 1 Brick, Beige/ Gray	No	None Detected	Gypsum Carbonates Quartz Mica Binder/Filler 100%
		LAYER 2 Mortar, Beige/ Tan	No	None Detected	Quartz Gypsum Carbonates Mica Binder/Filler 100%
0263108-023 12-01	SLUDGE PUMP STATION 240	Window Glazing, Gray	No	None Detected	Carbonates Quartz Binder/Filler 100%
0263108-024 12-02	SLUDGE PUMP STATION 240	Window Glazing, Gray	No	None Detected	Carbonates Quartz Binder/Filler 100%
0263108-025 13-01	SLUDGE PUMP STATION 240	Paint, Gray/ Tan	No	None Detected	Quartz Carbonates Binder/Filler 100%
0263108-026 13-02	PIPING IN SLUDGE PUMP STATION 240	Paint, Red/ Gray	No	None Detected	Quartz Carbonates Binder/Filler 100%

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Bulk Asbestos Analysis by Polarized Light Microscopy

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Project Name: SEWERAGE COMMISSION OROVILLE EPA Method: EPA 600/R-93/116
Address: REGION-2880 S. 5TH AVE, OROVILLE Submitted By: TIM THOMAS
Collected By:

Lab ID Client ID	Sample Location	Layer Name / Sample Description	Asbestos Detected	Asbestos Type (%)	Non-Asbestos Constituents	
0263108-027 15-01	FOUNDATION SLUDGE PUMMP STATION 240	LAYER 1 Concrete, Beige/ Gray	No	None Detected	Quartz Gypsum Carbonates Mica Binder/Filler	100%
		LAYER 2 Paint, Red	No	None Detected	Gypsum Carbonates Quartz Binder/Filler	100%
0263108-028 16-01	ROOF SLUDGE PUMP STATION 240	LAYER 1 Roofing, Black	No	None Detected	Cellulose Fiber	30%
		LAYER 2 Roofing, Black	No	None Detected	Gypsum Quartz Binder/Filler	70%
		LAYER 3 Roofing, Black	No	None Detected	Cellulose Fiber Gypsum Quartz Binder/Filler	3% 97% 65%
0263108-029 17-01	ROOF SLUDGE PUMP STATION 240	Wall Flashing, Black/ Off White	Yes	Chrysotile 65%	Gypsum Quartz Binder/Filler	35%

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Bulk Asbestos Analysis by Polarized Light Microscopy

NVLAP#101926-0

Client: T. BROOKS ASSOC. A DIV. OF PROVOST Job# / P.O. #: 02840-18-001 EN
Address: & PRITCHARD CONSULTING GROUP Date Received: 10/27/2021
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Project Name: SEWERAGE COMMISSION OROVILLE EPA Method: EPA 600/R-93/116
Address: REGION-2880 S. 5TH AVE, OROVILLE Submitted By: TIM THOMAS
Collected By:

Lab ID Client ID	Sample Location	Layer Name / Sample Description	Asbestos Detected	Asbestos Type (%)	Non-Asbestos Constituents
0263108-030 18-01	PENETRATION- ROOF-SLUDGE PUMP STATION 240	LAYER 1 Roof Cement, Black/ Gray	Yes	Chrysotile 5%	Gypsum Quartz Binder/Filler 95%
		LAYER 2 Paint/ Coating, Silver	No	None Detected	Gypsum Quartz Carbonates Binder/Filler 100%
0263108-031 19-01	CONTROL BLDG	LAYER 1 Brick, Beige/ Tan	No	None Detected	Gypsum Quartz Carbonates Mica Diatoms Binder/Filler 100%
		LAYER 2 Mortar, Gray	No	None Detected	Quartz Gypsum Mica Carbonates Binder/Filler 100%

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Project Name: SEWERAGE COMMISSION OROVILLE EPA Method: EPA 600/R-93/116
Address: REGION-2880 S. 5TH AVE, OROVILLE Submitted By: TIM THOMAS
Collected By:

Lab ID Client ID	Sample Location	Layer Name / Sample Description	Asbestos Detected	Asbestos Type (%)	Non-Asbestos Constituents
0263108-032 19-02	MECH RM	LAYER 1 Brick, Beige/ Tan	No	None Detected	Gypsum Quartz Carbonates Mica Diatoms Binder/Filler 100%
		LAYER 2 Mortar, Gray	No	None Detected	Quartz Gypsum Mica Carbonates Binder/Filler 100%
0263108-033 20-01	CONTROL BLDG- CHLORINATION RM	LAYER 1 Concrete, Beige/ Gray	No	None Detected	Quartz Gypsum Carbonates Mica Binder/Filler 100%
		LAYER 2 Paint, Green	No	None Detected	Carbonates Quartz Binder/Filler 100%
0263108-034 21-01	PIPING BLDG- CHLORINATION RM	Paint, Green	No	None Detected	Carbonates Quartz Binder/Filler 100%
0263108-035 21-02	PIPING BLDG- CHLORINATION RM	Paint, Green	No	None Detected	Carbonates Quartz Binder/Filler 100%

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Bulk Asbestos Analysis by Polarized Light Microscopy

NVLAP#101926-0

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Address: REGION-2880 S. 5TH AVE, OROVILLE Submitted By: TIM THOMAS
Collected By:

Lab ID Client ID	Sample Location	Layer Name / Sample Description	Asbestos Detected	Asbestos Type (%)	Non-Asbestos Constituents	
0263108-036 22-01	OFFICE	Carpet Mastic, Yellow	No	None Detected	Carbonates Gypsum Quartz Binder/Filler	100%
0263108-037 22-02	OFFICE	LAYER 1 Carpet Mastic, Yellow	No	None Detected	Carbonates Gypsum Quartz Binder/Filler	100%
		LAYER 2 Concrete, Beige/ Gray	No	None Detected	Quartz Gypsum Carbonates Mica Binder/Filler	100%
		LAYER 3 Paint, White/ Off White	No	None Detected	Carbonates Quartz Binder/Filler	100%
0263108-038 23-01	MECH RM	LAYER 1 12"x12" Floor Tile, Tan	Yes	Chrysotile 2%	Carbonates Quartz Binder/Filler	98%
		LAYER 2 Mastic, Black	Yes	Chrysotile 5%	Carbonates Gypsum Quartz Binder/Filler	95%

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Bulk Asbestos Analysis by Polarized Light Microscopy

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Address: REGION-2880 S. 5TH AVE, OROVILLE Submitted By: TIM THOMAS
Collected By:

Lab ID Client ID	Sample Location	Layer Name / Sample Description	Asbestos Detected	Asbestos Type (%)	Non-Asbestos Constituents
0263108-039 23-02	MECH RM	LAYER 1 12"x12" Floor Tile, Tan	Yes	Chrysotile 2%	Carbonates Quartz Binder/Filler 98%
		LAYER 2 Mastic, Black	Yes	Chrysotile 5%	Carbonates Gypsum Quartz Binder/Filler 95%
0263108-040 24-01	MECH RM	LAYER 1 Cove Base, Brown	No	None Detected	Carbonates Quartz Binder/Filler 100%
		LAYER 2 Adhesive, Brown	No	None Detected	Carbonates Gypsum Quartz Binder/Filler 100%
0263108-041 24-02	MECH RM	LAYER 1 Cove Base, Brown	No	None Detected	Carbonates Quartz Binder/Filler 100%
		LAYER 2 Adhesive, Brown	No	None Detected	Carbonates Gypsum Quartz Binder/Filler 100%

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Bulk Asbestos Analysis by Polarized Light Microscopy

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Address: REGION-2880 S. 5TH AVE, OROVILLE Submitted By: TIM THOMAS
Collected By:

Lab ID Client ID	Sample Location	Layer Name / Sample Description	Asbestos Detected	Asbestos Type (%)	Non-Asbestos Constituents	
0263108-042 25-01	MECH RM	LAYER 1 Drywall, Off White/ Brown	No	None Detected	Cellulose Fiber Gypsum Carbonates Quartz Mica	12% 88%
		LAYER 2 Taping Mud, White/ Off White	No	None Detected	Carbonates Mica Quartz Perlite Binder/Filler	 100%
		LAYER 3 Texture, White/ Off White	No	None Detected	Carbonates Mica Quartz Perlite Binder/Filler	 100%
0263108-043 25-02	MECH RM	LAYER 1 Drywall, Off White/ Brown	No	None Detected	Cellulose Fiber Gypsum Carbonates Quartz Mica	12% 88%
		LAYER 2 Taping Mud, White/ Off White	No	None Detected	Cellulose Fiber Carbonates Mica Quartz Perlite Binder/Filler	<1% 99%

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NVLAP#101926-0

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Address: REGION-2880 S. 5TH AVE, OROVILLE Submitted By: TIM THOMAS
Collected By:

Lab ID Client ID	Sample Location	Layer Name / Sample Description	Asbestos Detected	Asbestos Type (%)	Non-Asbestos Constituents	
0263108-044 26-01	ELEC. RM	LAYER 1 Drywall, Off White/ Brown	No	None Detected	Cellulose Fiber Gypsum Carbonates Quartz Mica	12% 88%
		LAYER 2 Taping Mud, White/ Off White	Yes	Chrysotile 3%	Carbonates Mica Quartz Binder/Filler	97%
		LAYER 3 Drywall/ Taping Mud Composite, Off White/ Brown/ White Note: COMPOSITE ANALYSIS	Yes	Chrysotile <1%	Cellulose Fiber Gypsum Carbonates Mica Quartz Binder/Filler	11% 88%
0263108-045 26-02	ELEC. RM	LAYER 1 Drywall, Off White/ Brown	No	None Detected	Cellulose Fiber Gypsum Carbonates Quartz Mica	12% 88%
		LAYER 2 Taping Mud, White/ Off White	Yes	Chrysotile 3%	Carbonates Mica Quartz Binder/Filler	97%
		LAYER 3 Drywall/ Taping Mud Composite, Off White/ Brown/ White Note: COMPOSITE ANALYSIS	Yes	Chrysotile <1%	Cellulose Fiber Gypsum Carbonates Mica Quartz Binder/Filler	11% 88%

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Address: REGION-2880 S. 5TH AVE, OROVILLE Submitted By: TIM THOMAS
Collected By:

Lab ID Client ID	Sample Location	Layer Name / Sample Description	Asbestos Detected	Asbestos Type (%)	Non-Asbestos Constituents
0263108-046 27-01	ELEC. RM	LAYER 1 12"x12" Floor Tile, White/ Tan	Yes	Chrysotile 3%	Carbonates Quartz Binder/Filler 97%
		LAYER 2 Mastic, Yellow	No	None Detected	Cellulose Fiber 1% Synthetic Fiber <1% Carbonates Gypsum Quartz Binder/Filler 98%
0263108-047 27-02	ELEC. RM	LAYER 1 12"x12" Floor Tile, White/ Tan	Yes	Chrysotile 3%	Carbonates Quartz Binder/Filler 97%
		LAYER 2 Mastic, Yellow	No	None Detected	Cellulose Fiber 1% Synthetic Fiber <1% Carbonates Gypsum Quartz Binder/Filler 98%
0263108-048 28-01	OFFICE	2x4 Ceiling Tile, Beige/ Off White	No	None Detected	Cellulose Fiber 40% Mineral Wool 40% Carbonates Gypsum Quartz Perlite Binder/Filler 20%
0263108-049 29-01	GRIT WASHER	Paint, Green/ Brown	No	None Detected	Carbonates Quartz Binder/Filler 100%

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Address: REGION-2880 S. 5TH AVE, OROVILLE Submitted By: TIM THOMAS
Collected By:

Lab ID Client ID	Sample Location	Layer Name / Sample Description	Asbestos Detected	Asbestos Type (%)	Non-Asbestos Constituents
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Analyst - Matt Kettler



Signatory - Lab Director - Kurt Kettler

Distinctly stratified, easily separable layers of samples are analyzed as subsamples of the whole and are reported separately for each discernible layer. All analyses are derived from calibrated visual estimate and measured in area percent unless otherwise noted. The report applies to the standards or procedures identified and to the sample(s) tested. The test results are not necessarily indicated or representative of the qualities of the lot from which the sample was taken or of apparently identical or similar products, nor do they represent an ongoing quality assurance program unless so noted. These reports are for the exclusive use of the addressed client and that they will not be reproduced wholly or in part for advertising or other purposes over our signature or in connection with our name without special written permission. The report shall not be reproduced except in full, without written approval by our laboratory. The samples not destroyed in testing are retained a maximum of thirty days. The laboratory measurement of uncertainty for the test method is approximately less than 1 by area percent. Accredited by the National Institute of Standards and Technology, Voluntary Laboratory Accreditation Program for selected test method for asbestos. The accreditation or any reports generated by this laboratory in no way constitutes or implies product certification, approval, or endorsement by the National Institute of Standards and Technology. The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government. Polarized Light Microscopy may not be consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials.

CHAIN OF CUSTODY

EMC Labs, Inc.
 9830 S. 51st St., Ste B-109
 Phoenix, AZ 85044
 (800) 362-3373 Fax (480) 893-1726

LAB#:	263108
TAT:	1 Day
Rec'd:	OCT 27 P.M.

COMPANY NAME: T. Brooks & Assoc. A Division of Provost & Pritchard Consulting Group
455 W. Fir Ave
Clovis, CA 93611

CONTACT: Troy Brooks Tim Thomas
 Phone/Fax: (559) 298-9135 / (559) 298-2281
 Email: brooksconsult2020@gmail.com

BILL TO: _____
 (If Different Location)

Now Accepting: **VISA - MASTERCARD** Price Quoted: \$ _____ / Sample \$ _____ / Layers

COMPLETE ITEMS 1-4: (Failure to complete any items may cause a delay in processing or analyzing your samples)

1. **TURNAROUND TIME:** [Same Day RUSH] [1-Day] [2-Day] [3-4-5 Day] [6-10 Day]

****Prior confirmation of turnaround time is required
 ****Additional charges for rush analysis (please call marketing department for pricing details)
 ****Laboratory analysis may be subject to delay if credit terms are not met

2. **TYPE OF ANALYSIS:** [Bulk-PLM] [Air-PCM] [Lead] [Point Count] [Fungi: AOC, W-C, Bulk, Swab, Tape]

3. **DISPOSAL INSTRUCTIONS:** [Dispose of samples at EMC] / [Return samples to me at my expense]
 (If you do not indicate preference, EMC will dispose of samples 30 days from analysis.)

4. **Project Name:** Sewerage Commission Oroville Region- 2880 S. 5th Ave, Oroville,
P.O. Number: _____ **Project Number:** 02840-18-001 ENV

EMC SAMPLE #	CLIENT SAMPLE #	DATE & TIME SAMPLED	LOCATION/MATERIAL TYPE	Samples Accepted Yes / No	AIR SAMPLE INFO / COMMENTS		
					ON	OFF	FLOW RATE
1	1-01	10/25/21		Y N			
5	5	5		Y N			
49	29-01	10/25/21		Y N			
				Y N			
				Y N			
				Y N			
				Y N			
				Y N			
				Y N			
				Y N			
				Y N			

SPECIAL INSTRUCTIONS: _____

Sample Collector: (Print) _____ (Signature) qfson

Relinquished by: _____ Date/Time: _____ Received by: Diana Federico Date/Time: 10/27/21

Relinquished by: Diana Federico Date/Time: 10/27/21 3:00 PM Received by: [Signature] Date/Time: 10/27/21 3:40 PM

Relinquished by: _____ Date/Time: _____ Received by: _____ Date/Time: _____

** In the event of any dispute between the above parties for these services or otherwise, parties agree that jurisdiction and venue will be in Phoenix, Arizona and prevailing party will be entitled to attorney's fees and court costs.
 Rev. 09/01/08

PAGE 1 OF 5 **SAMPLING DATA & CHAIN OF CUSTODY**
 DATE 10/25/2021 TESTING LAB: EMC **TURN-AROUND TIME**
 6 HRS. 24 HRS.

BILL TO: **T. BROOKS & ASSOCIATES**
 A Division of **PROVOST & PRITCHARD CONSULTING GROUP**

PROJECT INFORMATION
 PROJECT NAME: Sewerage Commission Oroville Region
 ADDRESS: 2880 S. 5th Ave, Oroville
 PROJECT #: 02840-18-001 ENV
 CONTACT: TROY B. TIM T. TREVOR B.
 MOBIL # (559) 287-8357 284-5573 301-2568

ANALYSIS
 PLM STANDARD LEAD PAINT
 D = Drywall, TM = Taping Mud, T = Texture, CB&A = Cove Base Adhesive
 VFT = Vinyl Floor Tile, VSF = Vinyl Sheet Flooring, CM = Carpet Mastic,
 CT = Ceiling Tile, ACS = Spray-on Acoustical Ceiling Material,

SAMPLE #	SAMPLE DESCRIPTION	SAMPLE LOCATION	W-Wall C-Ceiling F-Floor	Condition (Good, Fair, Poor)	S-Surfacing T-Thermal M-Misc.	F-Friable NF-Non Friable	Quantity
1 1-01	concrete	Equipment Pad Chlorine contact Basin	-				
2 -02	concrete	Perimeter wall	W				
3 2-01	Paint	Piping Chlorine contact Basin	-				
4 -02	Paint	Piping " " "	-				
5 3-01	concrete	Wall Aerobic Digester No 1	U				
6 -02	concrete	Wall Aeration Basin No 2	W				
7 4-01	concrete w/Paint	Wall Sludge Drying Beds	U				
8 5-01	concrete w/Paint	Wall Clarifier 220	W				
9 6-01	Paint - silver	Railing Clarifier 220	-				
10 -02	Paint - Silver	Railing Back Wash 210	-				

TRANSACTIONS

(RELINQUISHED BY SIGNATURE) [Signature] DATE: 10-26-21 (APPROVED BY SIGNATURE) [Signature] DATE: 10/29/21

(RELINQUISHED BY SIGNATURE) [Signature] DATE: 10/21/21 (APPROVED BY SIGNATURE) [Signature] DATE: 10/29/21

SHIPPING PAID BY :
 LAB
 CLIENT _____
 BROOKS _____

PAGE 2 OF 5 **SAMPLING DATA & CHAIN OF CUSTODY**

DATE 10/25/2021 TESTING LAB: Emc

TURN-AROUND TIME
 6 HRS. 24 HRS.

BILL TO: **T. BROOKS & ASSOCIATES**
 A Division of **PROVOST & PRITCHARD CONSULTING GROUP**

PROJECT INFORMATION
 PROJECT NAME: Sewerage Commission Oroville Region
 ADDRESS: 2880 S. 5th Ave, Oroville
 PROJECT #: 02840-18-001 ENV
 CONTACT: TROY B. TIM T. TREVOR B.
 MOBIL # (559) 287-8357 284-5573 301-2568

ANALYSIS:
 PLM STANDARD LEAD PAINT

D = Drywall, TM = Taping Mud, T = Texture, CB&A = Cove Base Adhesive
 VFT = Vinyl Floor Tile, VSF = Vinyl Sheet Flooring, CM = Carpet Mastic,
 CT = Ceiling Tile, ACS = Spray-on Acoustical Ceiling Material

SAMPLE #	SAMPLE DESCRIPTION	SAMPLE LOCATION	W-Wall C-Ceiling F-Floor	Condition (Good, Fair, Poor)	S-Surfacing T-Thermal M-Misc.	F-Friable NF-Non Friable	Quantity
11 7-01	Paint - Red	Railing Clarifier 220	/				
12 -02	Paint - Red	Railing Back wash 210	/				
13 8-01	Concrete w/paint	stairs Clarifier 220	/				
14 -02	Concrete w/paint	stairs Back wash 210	/				
15 9-01	concrete w/paint	wall Anaerobic Digester 690	W				
16 -02	concrete w/paint	wall " " "	W				
17 -03	concrete w/paint	wall water equalization 480	W				
18 -04	concrete w/paint	wall " " "	W				
19 10-01	Asphalt walkway	outside sludge pump station 240	F				
20 -02	Asphalt walkway	" " " "	F				

TRANSACTIONS

(RELINQUISHED BY SIGNATURE) [Signature] DATE: 10-26-21

(RELINQUISHED BY SIGNATURE) Diana Federico DATE: 10/27/21

TRANSACTIONS

(APPROVED BY SIGNATURE) [Signature] DATE: 10/27/21

(APPROVED BY SIGNATURE) [Signature] DATE: 10/27/21

SHIPPING PAID BY :
 LAB X
 CLIENT _____
 BROOKS _____

PAGE 3 OF 5 **SAMPLING DATA & CHAIN OF CUSTODY**

DATE 10/25/2021 TESTING LAB: EML

TURN-AROUND TIME
 6 HRS. 24 HRS.

BILL TO: **T. BROOKS & ASSOCIATES**
 A Division of **PROVOST & PRITCHARD CONSULTING GROUP**

PROJECT INFORMATION
 PROJECT NAME: Sewerage Commission Oroville Region
 ADDRESS: 2880 S. 5th Ave, Oroville
 PROJECT #: 02840-18-001 ENV
 CONTACT: TROY B. TIM T. TREVOR B.
 MOBIL # (559) 287-8357 284-5573 301-2568

ANALYSIS
 PLM STANDARD LEAD PAINT

D = Drywall, TM = Taping Mud, T = Texture, CB&A = Cove Base Adhesive
 VFT = Vinyl Floor Tile, VSF = Vinyl Sheet Flooring, CM = Carpet Mastic,
 CT = Ceiling Tile, ACS = Spray-on Acoustical Ceiling Material

SAMPLE #	SAMPLE DESCRIPTION	SAMPLE LOCATION	W-Wall C-Ceiling F-Floor	Condition (Good, Fair, Poor)	S-Surfacing T-Thermal M-Misc.	F-Friable NF-Non Friable	Quantity
21	11-01 Brick & mortar	Sludge Pump Station 240	W				
22	-02 " "	" " " "	W				
23	12-01 Window glazing	" " " "	W				
24	-02 " "	" " " "	W				
25	13-01 Paint	Piping outside sludge pump station 240	-				
26	-02 Paint	Piping in sludge pump station 240	-				
27	14 No sample						
28	15-01 concrete	Foundation Sludge pump station 240	F				
29	16-01 BUR	Roof - Sludge Pump Station 240	-				
30	17-01 Wall Flashing	" " " "	-				

TRANSACTIONS

(RELINQUISHED BY SIGNATURE) [Signature] DATE: 10-25-21

(RELINQUISHED BY SIGNATURE) Diana Federico DATE: 10/27/21

TRANSACTIONS

(APPROVED BY SIGNATURE) [Signature] DATE: 10/27/21

(APPROVED BY SIGNATURE) [Signature] DATE: 10/27/21

SHIPPING PAID BY :
 LAB X
 CLIENT _____
 BROOKS _____

PAGE 4 OF 5 **SAMPLING DATA & CHAIN OF CUSTODY**

DATE 10/25/2021 TESTING LAB: Emc

TURN-AROUND TIME
 6 HRS. 24 HRS.

BILL TO: **T. BROOKS & ASSOCIATES**
 A Division of **PROVOST & PRITCHARD CONSULTING GROUP**

PROJECT INFORMATION:
 PROJECT NAME: Sewerage Commission Oroville Region
 ADDRESS: 2880 S. 5th Ave, Oroville
 PROJECT #: 02840-18-001 ENV
 CONTACT: TROY B. TIM T. TREVOR B.
 MOBIL # (559) 287-8357 284-5573 301-2568

ANALYSIS:
 PLM STANDARD LEAD PAINT

D = Drywall, TM = Taping Mud, T = Texture, CB&A = Cove Base Adhesive
 VFT = Vinyl Floor Tile, VSF = Vinyl Sheet Flooring, CM = Carpet Mastic,
 CT = Ceiling Tile, ACS = Spray-on Acoustical Ceiling Material,

SAMPLE #	SAMPLE DESCRIPTION	SAMPLE LOCATION	W-Wall C-Ceiling F-Floor	Condition (Good, Fair, Poor)	S-Surfacing T-Thermal M-Misc.	F-Friable NF-Non Friable	Quantity
30 18-01	Plastic Roof cement	Penetration Roof - Skidly & pump Station 240	-				
32 19-01	Brick & mortar	Control Bldg	W				
32 -02	" "	mech. Rm	W				
39 20-01	Concrete - Foundation	Control Bldg - Chlorination Rm	F				
34 21-01	Paint	Piping - Chlorination Rm	-				
35 -02	Paint	Piping - Chlorination Rm	-				
36 22-01	Carpet Mastic	office	F				
37 -02	" " w/ Concrete	office	F				
38 23-01	12x12 VFT White w/ mastic	mech Rm	F				
39 -02	" " "	mech Rm	F				

TRANSACTIONS		TRANSACTIONS		SHIPPING PAID BY :	
(RELINQUISHED BY SIGNATURE) 	DATE: 10-25-21	(APPROVED BY SIGNATURE) Diana Federico	DATE: 10/27/21	LAB <u>X</u> CLIENT _____ BROOKS _____	
(RELINQUISHED BY SIGNATURE) Diana Federico	DATE: 10/27/21	(APPROVED BY SIGNATURE) 	DATE: 10/27/21		

PAGE 5 OF 5 **SAMPLING DATA & CHAIN OF CUSTODY**

DATE 10/25/2021 TESTING LAB: EMC

TURN-AROUND TIME
 6 HRS. 24 HRS.

BILL TO: **T. BROOKS & ASSOCIATES**
 A Division of **PROVOST & PRITCHARD CONSULTING GROUP**

PROJECT INFORMATION
 PROJECT NAME: Sewerage Commission Oroville Region
 ADDRESS: 2880 S. 5th Ave, Oroville
 PROJECT #: 02840-18-001 ENV
 CONTACT: TROY B. TIM T. TREVOR B.
 MOBIL # (559) 287-8357 284-5573 301-2568

ANALYSIS
 PLM STANDARD LEAD PAINT

D = Drywall, TM = Taping Mud, T = Texture, CB&A = Cove Base Adhesive
 VFT = Vinyl Floor Tile, VSF = Vinyl Sheet Flooring, CM = Carpet Mastic,
 CT = Ceiling Tile, ACS = Spray-on Acoustical Ceiling Material,

SAMPLE #	SAMPLE DESCRIPTION	SAMPLE LOCATION	W-Wall C-Ceiling F-Floor	Condition (Good, Fair, Poor)	S-Surfacing T-Thermal M-Misc.	F-Friable NF-Non Friable	Quantity
40 24-01	4" Brown CB & A ch	Mech. Rm	W				
41 -02	" "	Mech Rm	W				
42 25-01	Drywall / TM	Mech Rm	W				
43 -02	" "	Mech Rm	W				
44 26-01	Drywall / TM	Elec. Rm	W				
45 -02	" "	Elec Rm	W				
46 27-01	12x12 green VFT x mastic	Elec Rm	W				
47 -02	12x12 green VFT x mastic	Elec Rm	W				
48 28-01	2x4 CT	office	W				
49 29-01	Paint	grit washer	-				

TRANSACTIONS

(RELINQUISHED BY SIGNATURE) [Signature] DATE: 10-25-21

(RELINQUISHED BY SIGNATURE) Diana Federico DATE: 10/27/21

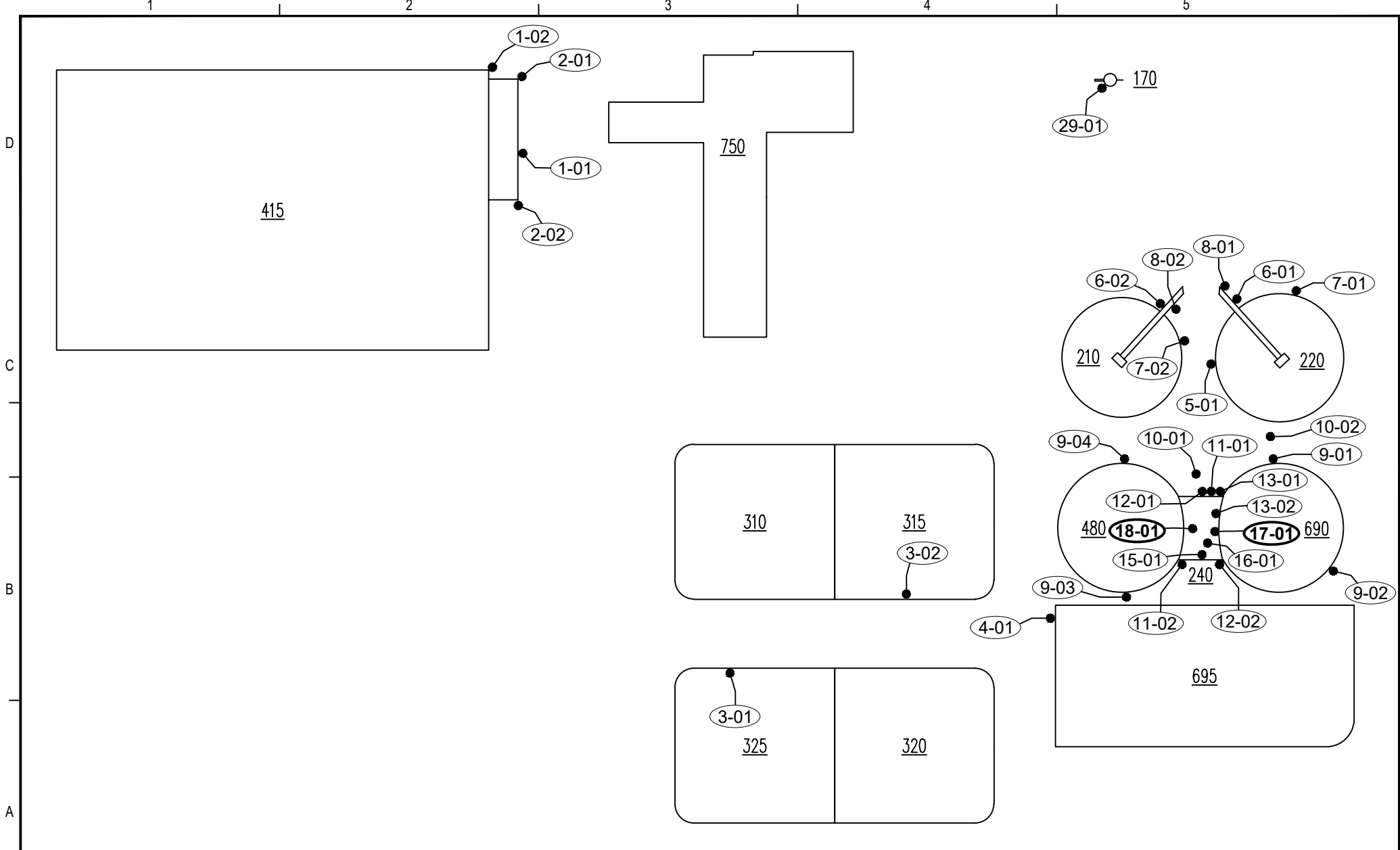
(APPROVED BY SIGNATURE) [Signature] DATE: 10/27/21

(APPROVED BY SIGNATURE) [Signature] DATE: 10/27/21

SHIPPING PAID BY :
 LAB X
 CLIENT _____
 BROOKS _____

Appendix B

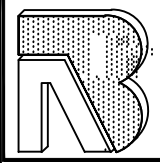
Site Plans Indicating Asbestos Sample Locations & Lead Sampling Orientation



OVERALL SITE

⓪ DENOTES ASBESTOS SAMPLE

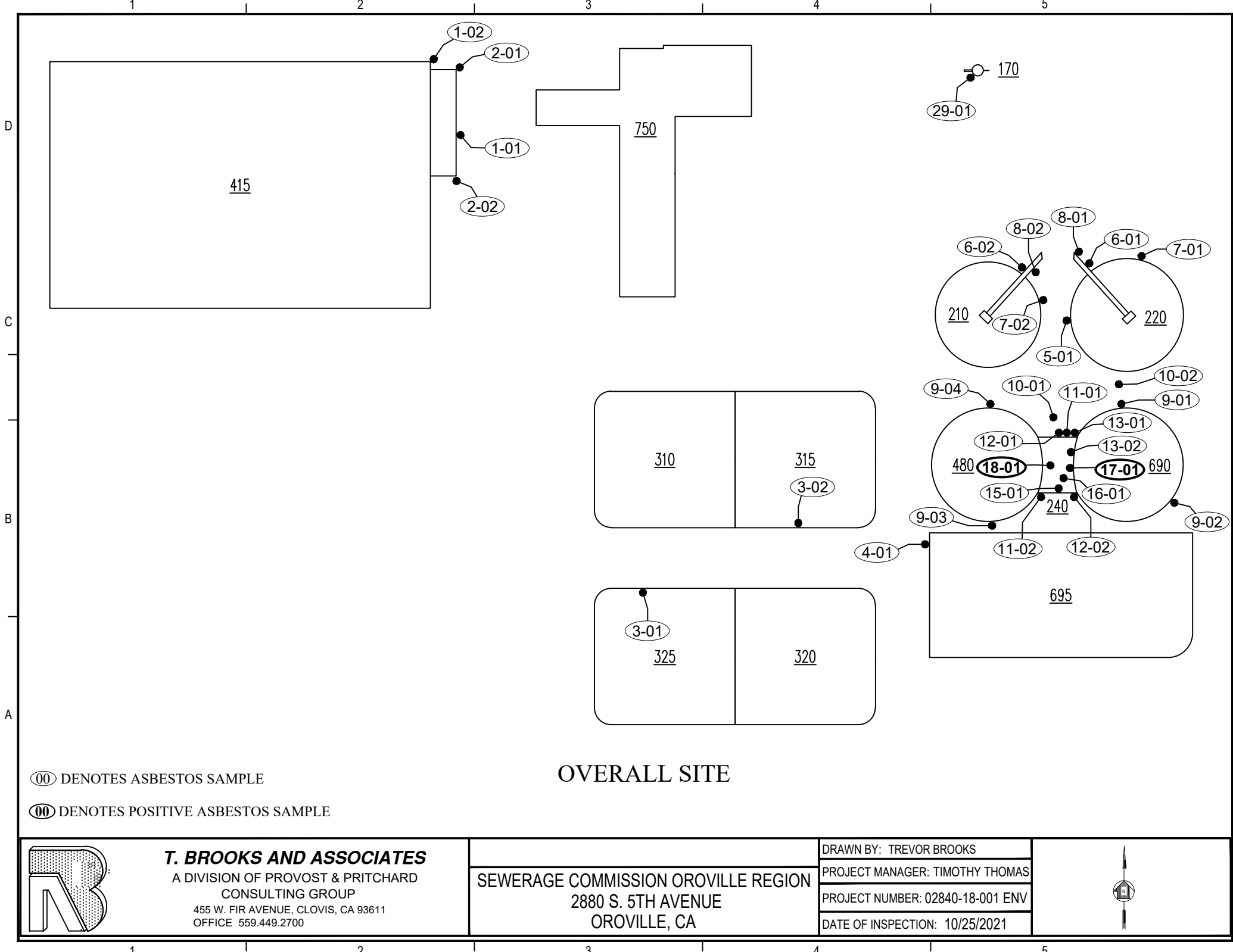
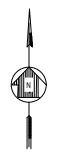
⓪ DENOTES POSITIVE ASBESTOS SAMPLE



T. BROOKS AND ASSOCIATES
 A DIVISION OF PROVOST & PRITCHARD
 CONSULTING GROUP
 455 W. FIR AVENUE, CLOVIS, CA 93611
 OFFICE 559.449.2700

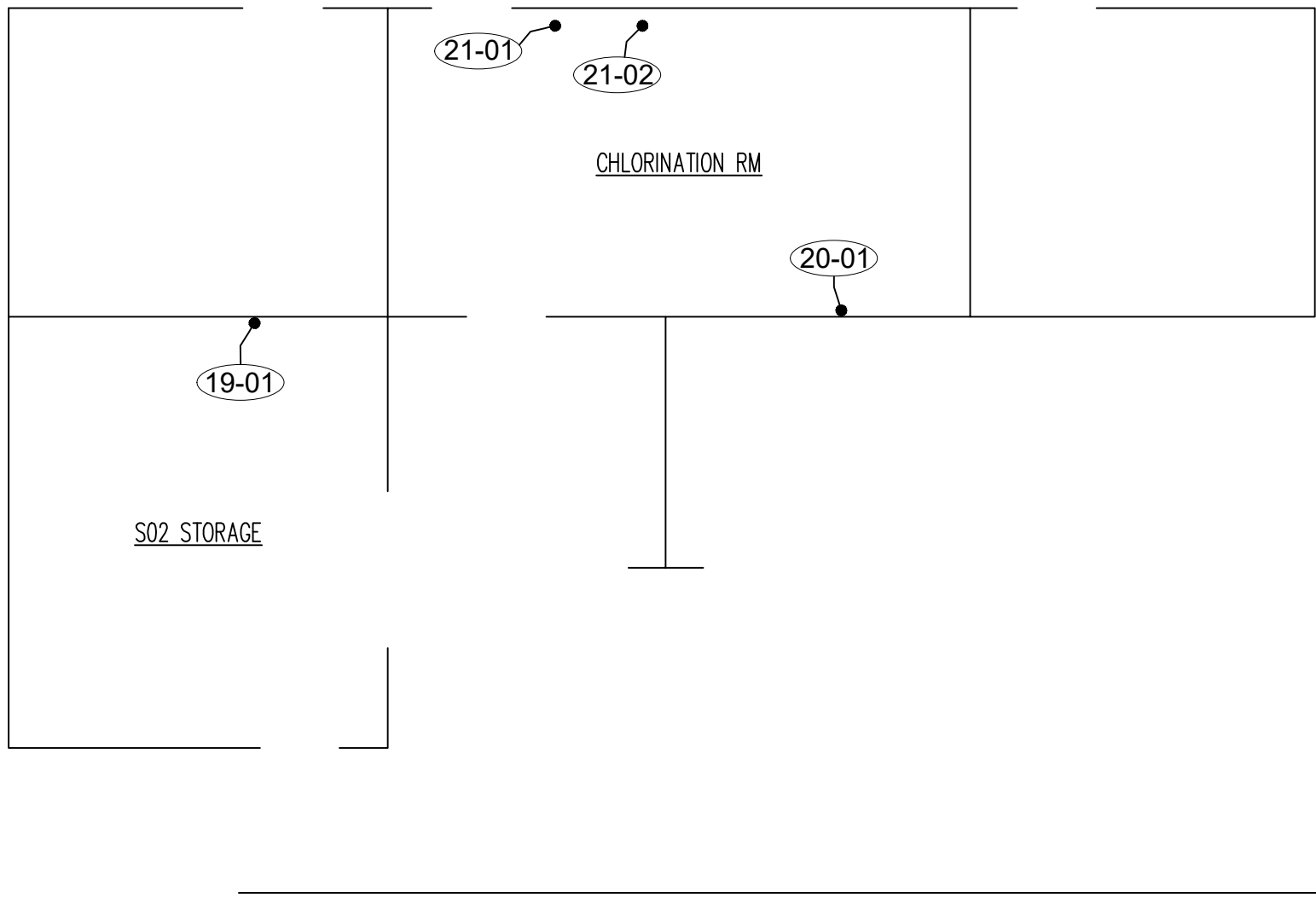
SEWERAGE COMMISSION OROVILLE REGION
 2880 S. 5TH AVENUE
 OROVILLE, CA

DRAWN BY: TREVOR BROOKS
 PROJECT MANAGER: TIMOTHY THOMAS
 PROJECT NUMBER: 02840-18-001 ENV
 DATE OF INSPECTION: 10/25/2021



1 2 3 4 5

D
C
B
A



CONTROL BUILDING - SOUTH

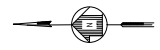
- ⓪ DENOTES ASBESTOS SAMPLE
- Ⓢ DENOTES POSITIVE ASBESTOS SAMPLE



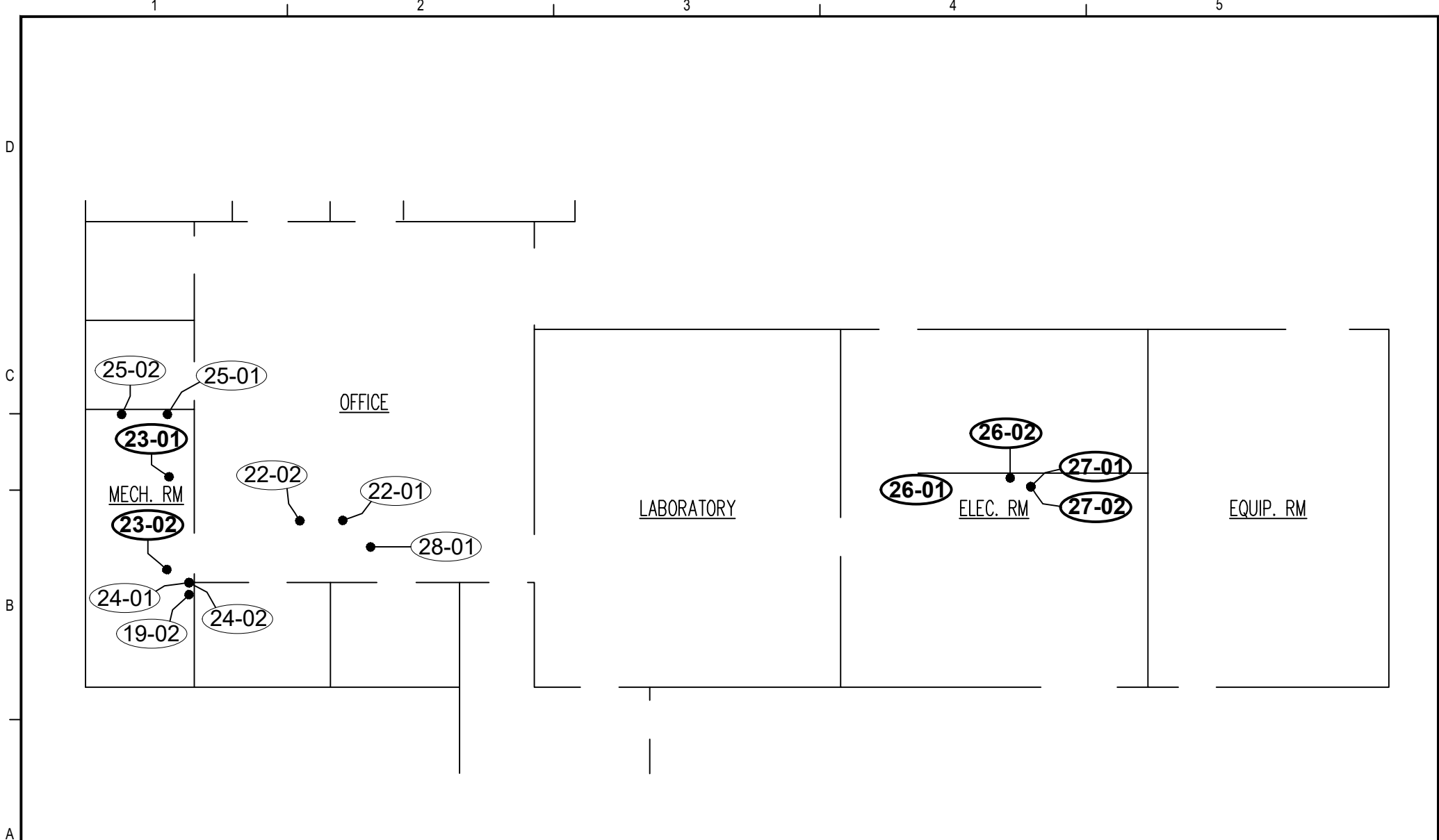
T. BROOKS AND ASSOCIATES
 A DIVISION OF PROVOST & PRITCHARD
 CONSULTING GROUP
 455 W. FIR AVENUE, CLOVIS, CA 93611
 OFFICE 559.449.2700

SEWERAGE COMMISSION OROVILLE REGION
 2880 S. 5TH AVENUE
 OROVILLE, CA

DRAWN BY: TREVOR BROOKS
 PROJECT MANAGER: TIMOTHY THOMAS
 PROJECT NUMBER: 02840-18-001 ENV
 DATE OF INSPECTION: 10/25/2021



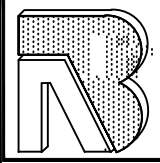
1 2 3 4 5



CONTROL BUILDING - NORTH

⓪ DENOTES ASBESTOS SAMPLE

⓪⓪ DENOTES POSITIVE ASBESTOS SAMPLE



T. BROOKS AND ASSOCIATES
 A DIVISION OF PROVOST & PRITCHARD
 CONSULTING GROUP
 455 W. FIR AVENUE, CLOVIS, CA 93611
 OFFICE 559.449.2700

SEWERAGE COMMISSION OROVILLE REGION
 2880 S. 5TH AVENUE
 OROVILLE, CA

DRAWN BY: TREVOR BROOKS
 PROJECT MANAGER: TIMOTHY THOMAS
 PROJECT NUMBER: 02840-18-001 ENV
 DATE OF INSPECTION: 10/25/2021



Appendix C

XRF Results for Lead All Readings

LEAD-BASED PAINT INSPECTION

ALL READINGS

Site: Sewerage Commission Oroville Region
2880 S. 5th Avenue
Oroville, California

Project No. 02840-18-001 ENV

Prepare For: Sewerage Commission - Oroville Region

Date: October 25, 2021

No.	Lead Lvl	± Prec	Results	Sec	Date	Time	Room	Component	Substrate	Condition	Color
1	0.90	0.10	Negative	5.00	10/25/2021	22:13:35		CALIBRATION - FRONT			
2	0.90	0.10	Negative	5.00	10/25/2021	22:13:51		CALIBRATION - FRONT			
3	0.90	0.10	Negative	5.00	10/25/2021	22:14:07		CALIBRATION - FRONT			
4	0.10	0.30	Negative	2.00	10/25/2021	22:31:27	Chlor Piping		Metal	Intact	Gray
5	0.60	0.20	Negative	2.00	10/25/2021	22:32:23	Chlor Piping		Metal	Intact	Lt-Green
6	0.10	0.30	Negative	1.00	10/25/2021	22:51:09	Aeration Piping		Metal	Intact	Gray
7	0.40	0.30	Negative	1.00	10/25/2021	23:58:27	220		Concrete	Peeling	Tan
8	0.00	0.20	Negative	2.00	10/26/2021	0:00:05	220	Rail Cap	Wood	Peeling	Red
9	0.40	0.30	Negative	1.00	10/26/2021	0:01:23	220	Stair Stringer	Concrete	Peeling	Red
10	0.40	0.30	Negative	1.00	10/26/2021	0:02:38	220	Hand Rail	Metal	Peeling	Silver
11	0.50	0.30	Negative	2.00	10/26/2021	0:03:19	210	Hand Rail	Metal	Peeling	Silver
12	0.20	0.30	Negative	1.00	10/26/2021	0:04:22	210	Stair Stringer	Concrete	Peeling	Red
13	0.00	0.20	Negative	2.00	10/26/2021	0:05:06	210	Hand Rail	Wood	Peeling	Red
14	0.30	0.30	Negative	1.00	10/26/2021	0:06:02	210	Tank	Concrete	Peeling	Tan
15	0.30	0.30	Negative	2.00	10/26/2021	0:11:47	240	Door	Metal	Intact	Brown
16	0.10	0.30	Negative	1.00	10/26/2021	0:13:10	240	Tank	Concrete	Intact	White
17	0.40	0.30	Negative	2.00	10/26/2021	0:14:29	240	Pipe	Metal	Intact	Gray
18	-0.20	0.30	Negative	1.00	10/26/2021	0:15:39	240	Wall	Brick	Intact	Off-White
19	0.20	0.30	Negative	2.00	10/26/2021	0:58:57	Elec. Room	Wall	Drywall	Intact	Blue
20	0.10	0.30	Negative	2.00	10/26/2021	1:00:08	Mech. Room	Wall	Drywall	Intact	White
21	-0.10	0.30	Negative	2.00	10/26/2021	1:04:27	Grit Washer		Metal	Intact	Gray
22	0.00	0.30	Negative	1.00	10/26/2021	1:04:47	Grit Washer		Metal	Intact	Gray
23	1.00	0.10	Positive	5.00	10/26/2021	1:06:53		CALIBRATION - BACK			
24	1.00	0.10	Positive	5.00	10/26/2021	1:07:06		CALIBRATION - BACK			
25	1.00	0.10	Positive	5.00	10/26/2021	1:07:20		CALIBRATION - BACK			

**LEAD-BASED PAINT INSPECTION
ALL READINGS**

Site: Sewerage Commission Oroville Region
2880 S. 5th Avenue
Oroville, California

Project No. 02840-18-001 ENV

Prepare For: Sewerage Commission - Oroville Region

Date: October 25, 2021

No.	Lead Lvl	± Prec	Results	Sec	Date	Time	Room	Component	Substrate	Condition	Color
-----	----------	--------	---------	-----	------	------	------	-----------	-----------	-----------	-------

*** Indications as to Positive or Negative are based on comparison to 1.0 mg/cm².
Cal/OSHA regulates operations which disturb lead in any detectable amount.
Refer to the enclosed Cal/OSHA Regulation 8 CCR 1532.1 for requirements.**

Appendix D

Calibration Check Test Results

PROVOST & PRITCHARD CONSULTING
 455 W. Fir Avenue
 Clovis, California 93611
 (559) 449-2700 - office

PROJECT NO. 02840-18-001 ENV
DATE 10/25/2021

CALIBRATION CHECK TEST RESULTS

TBA FORM #7

Address / Unit No. Sewerage Commission Oroville Region
2880 S. 5th Avenue
Oroville, California
Name of Inspector Trevor Brooks
Device Viken Detection Spectrum Analyzer
XRF Serial No. 1029

Calibration Check Tolerance Used 0.8 - 1.2

First Calibration Check

Calibration Acceptable Range: 0.80 - 1.20 mg/cm ²			First Average	Result
First Reading	Second Reading	Third Reading		
0.90	0.90	0.90	0.90	Pass

Second Calibration Check

Calibration Acceptable Range: 0.80 - 1.20 mg/cm ²			First Average	Result
First Reading	Second Reading	Third Reading		
1.00	1.00	1.00	1.00	Pass

Third Calibration Check

Calibration Acceptable Range: 0.80 - 1.20 mg/cm ²			First Average	Result
First Reading	Second Reading	Third Reading		

Fourth Calibration Check

Calibration Acceptable Range: 0.80 - 1.20 mg/cm ²			First Average	Result
First Reading	Second Reading	Third Reading		

* If the average of the three (3) Calibration readings is outside the specified range, consult the manufacturer's recommendations to bring the instrument back into control. Retest all testing combinations tested since the last successful Calibration Check test.

Appendix E

Regulatory Resource List for Asbestos & Lead

REGULATORY RESOURCE LIST – ASBESTOS

California Occupational Safety & Health Administration (Cal/OSHA): 8 CCR 1529 Asbestos in Construction Standard

Websites: <http://www.dir.ca.gov/title8/1529.html> (Regulation)
<http://www.dir.ca.gov/dosh/ACRU/ACRUhome.html> (Report of Use)

Summary of Regulation:

1. Regulates Friable and Non-Friable ACBMs which contain asbestos in excess of 0.1% by weight.
2. Applicable to workers engaged in disturbance of ACBM (>1.0%) and ACCM (0.1 - 1.0%) and workers in close proximity to the work area.
3. Contractors who disturb in excess of 100 sq. ft. must be a “Certified Abatement Contractor” with the State of California Contractors State License Board and have an ASB attachment on their license with the exception of flooring, roofing, and asbestos-cement products.
4. Contractors that disturb less than 100 sq. ft. must also file a “Report of Use” with the State of California.
5. Contractors who disturb any amount of ACBM must ensure worker protection by providing accredited training, medical surveillance, PPE and a negative exposure assessment.
6. All work must be conducted in accordance with the regulation.

NESHAP Regulation – United States Environmental Protection Agency: 40 CFR Part 6, Subpart M- National Emission Standard for Asbestos

Website: <http://www.epa.gov/asbestos/pubs/asbreg.html>

Summary of Regulation:

1. Regulates renovation projects on all commercial structures, certain residential properties, and multi-family properties with four (4) or more units.
2. Has jurisdiction over projects involving disturbance of greater than 160 sq. ft. or 260 lin. ft. of ACBM (>1.0%) or “Presumed Asbestos-Containing Material.”
3. Regulates all demolition, regardless of whether asbestos is present on targeted structures.
4. Enforced by local air quality management district or EPA region office in non-delegated districts.

San Joaquin Valley Air Pollution Control District

Website: <http://www.valleyair.org/busind/comply/asbestosbultn.htm>

Summary of Regulation:

1. Enforces NESHAP regulation.
2. Requires filing of completed notification, payment of fees, and ten (10) day waiting-period prior to commencing abatement related work in excess of threshold levels of RACM, non-friable ACBM which may become friable, and for all demolition activities.
3. Requires that an asbestos survey be conducted and prepared by a Certified Asbestos Consultant and that a copy be submitted to the air district along with the completed notification.

REGULATORY RESOURCE LIST – LEAD

California Occupational Safety & Health Administration (Cal/OSHA): 8 CCR 1532.1 (Lead in Construction Standard)

Website: http://www.dir.ca.gov/title8/1532_1.html

Summary of Regulation:

1. Regulates all work-related activities in which workers may be exposed to lead and any workers in close proximity to the work area.
2. Regulated levels of lead are based on level of training and experience of contractor and maintenance of historical data based on initial exposure assessments for individual “trigger tasks”.
3. Contractors that disturb in excess of 100 sq. ft. must file a “Temporary Jobsite Notification” with the local Cal/OSHA Compliance Office at least 24 hours prior to start of work.
4. Contractor shall be licensed with the State of California, Contractors State License Board and have provided all employees who will engage in the work or enter a lead “regulated area” with level of training commensurate with anticipated exposure level.
5. Employees are required under certain circumstances to be certified by the State of California Department of Public Health (CDPH) to conduct lead work.
6. The employer or contractor must send notification prior to the start of the job unless:
 - the lead content of the material disturbed is less than 0.5 percent, (5,000 parts per million) or 1.0 mg./cm²;
 - the amount of lead-containing material is less than 100 square feet or 100 linear feet;
 - the only task is torch cutting or welding for no longer than one hour per shift.
7. Contractors who disturb any amount of lead must ensure worker protection by providing accredited training, medical surveillance, PPE and conduct an initial exposure assessment per “trigger task”.
8. Employers are required to conduct biological monitoring on employees based on the schedule mandated by OSHA.

State of California – Department of Public Health – Title 17, Division 1, Chapter 8

Website: <http://www.cdph.ca.gov/programs/CLPPB/Documents/Title17.pdf>

Summary of Regulation:

1. Regulates projects involving disturbance of “Lead-Based Paint” on public and residential structures.
2. If conducting “Abatement”, defined as work designed to reduce or eliminate lead hazards, only CDPH accredited workers and supervisor may conduct the work, and a completed 8551 form shall be filed with CDPH a minimum of five (5) days prior to commencing abatement operations.
3. For work classified as “Abatement”, a Lead Clearance is required. Standard includes a minimum standard for performance of work and states that all lead related work shall be conducted in accordance with the HUD Guidelines.

HUD Guidelines

Website:

http://portal.hud.gov/hudportal/HUD?src=/program_offices/healthy_homes/lbp/hudguidelines

A standard developed by the Department of Housing and Urban Development which has generally been adopted as “state of the art” in the lead industry. This standard has been adopted by the State of California as a regulatory requirement.

U.S. Environmental Protection Agency Repair, Renovation & Painting Rule

Website: www.epa.gov/lead/pubs/renovation.htm

Summary of Regulation:

1. Regulates all contractors that engage in work involving disturbance of lead in pre-1978 residential housing and child-occupied facilities.
2. Requires that painted finishes to be impacted by proposed scope of work must be tested to determine if they are classified as “Lead-Based Paint” or presumed as such.
3. Requires that contractors utilize lead safe work practices.
4. In California, only a CDPH certified Inspector/Assessor may test for the presence of Lead-Based Paint.
5. Contractors must provide a copy of the “Renovate Right” pamphlet to owners or occupants of properties prior to commencing work which falls under the regulation.
6. Each job regulated under the RRP requires at least one RRP Certified Renovator be present on any job which falls under the regulation. In addition, each firm must also be RRP certified.
7. Regulation allows contractors to conduct their own clearance test known as a “Cleaning Verification”.
8. The homeowner may elect to hire a ‘third-party’ consultant to conduct clearance testing on their behalf.

Appendix F

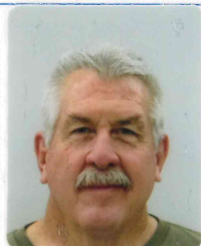
Certifications

- Professional**
- Laboratory**

State of California
Division of Occupational Safety and Health
Certified Asbestos Consultant

Troy F Brooks

Name



Certification No. 92-0186

Expires on 07/22/22

This certification was issued by the Division of Occupational Safety and Health as authorized by Sections 7180 et seq. of the Business and Professions Code.

Troy F. Brooks
Certified Asbestos Consultant

State of California
Division of Occupational Safety and Health
Certified Asbestos Consultant

Timothy W Thomas

Name



Certification No. **09-4487**

Expires on **02/19/22**

This certification was issued by the Division of Occupational Safety and Health as authorized by Sections 7180 et seq. of the Business and Professions Code.

Timothy W. Thomas
Certified Asbestos Consultant



STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC HEALTH



LEAD-RELATED CONSTRUCTION CERTIFICATE

INDIVIDUAL:



Troy Brooks

CERTIFICATE TYPE:

Lead Inspector/Assessor
Lead Project Monitor
Lead Supervisor

NUMBER:

LRC-00000193
LRC-00000194
LRC-00000192

EXPIRATION DATE:

6/10/2021
6/10/2021
6/10/2021

Disclaimer: This document alone should not be relied upon to confirm certification status. Compare the individual's photo and name to another valid form of government issued photo identification. Verify the individual's certification status by searching for Lead-Related Construction Professionals at www.cdph.ca.gov/programs/clppb or calling (800) 597-LEAD.



STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC HEALTH



LEAD-RELATED CONSTRUCTION CERTIFICATE

INDIVIDUAL:



Timothy Thomas

CERTIFICATE TYPE:

Lead Inspector/Assessor

NUMBER:

LRC-00008088

EXPIRATION DATE:

2/3/2022

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United States Department of Commerce
National Institute of Standards and Technology



Certificate of Accreditation to ISO/IEC 17025:2017

NVLAP LAB CODE: 101926-0

EMC Labs, Inc.
Phoenix, AZ

*is accredited by the National Voluntary Laboratory Accreditation Program for specific services,
listed on the Scope of Accreditation, for:*

Asbestos Fiber Analysis

*This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017.
This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality
management system (refer to joint ISO-ILAC-IAF Communique dated January 2009).*

2021-07-01 through 2022-06-30

Effective Dates



For the National Voluntary Laboratory Accreditation Program

A handwritten signature in blue ink, appearing to read "Dana S. Lamm", is written over a horizontal line. The signature is fluid and cursive.



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

EMC Labs, Inc.
9830 S. 51st St. Suite B-109
Phoenix, AZ 85044-5677
Mr. Kurt A. Kettler
Phone: 480-940-5294 Fax: 480-893-1726
Email: kkettler@earthlink.net
<http://www.emclabs.com>

ASBESTOS FIBER ANALYSIS

NVLAP LAB CODE 101926-0

Bulk Asbestos Analysis

<u>Code</u>	<u>Description</u>
18/A01	EPA -- 40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples
18/A03	EPA 600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials

For the National Voluntary Laboratory Accreditation Program