

Final

PATTERSON PASS WATER TREATMENT PLANT UPGRADES AND OZONATION PROJECT

Initial Study / Mitigated Negative Declaration

Prepared for
Zone 7 Water Agency

September 2018



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1425 N. McDowell Boulevard
Suite 200
Petaluma, CA 94954
707.795.0900
www.esassoc.com



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CHAPTER 1

Introduction

1.1 Organization of the Document

This document is organized to assist the reader in understanding the potential impacts that the proposed project may have on the environment and to fulfill the requirements of the California Environmental Quality Act (CEQA).

Chapter 1, Introduction, describes this document’s purpose under CEQA, describes the public participation process, and summarizes the applicable regulatory requirements.

Chapter 2, Project Description, provides an introduction to the Project, including Project background, needs and objectives, and discusses the proposed facilities.

Chapter 3, Environmental Checklist, presents the CEQA Initial Study Environmental Checklist, analyzes environmental impacts resulting from the Project and describes mitigation measures that would avoid or reduce potential significant impacts to less-than-significant levels.

Chapter 4, List of Preparers, presents the individuals who have contributed to this Initial Study/Mitigated Negative Declaration.

Appendix 1, Air Quality and Greenhouse Gas Emissions Estimates, includes the data inputs and results of the CalEEMod modeling conducted for the Project.

Appendix 2, Special Status Species Lists, includes lists provided by resource agencies identifying threatened and endangered species that may occur in the Project area.

Appendix 3, Mitigation Monitoring and Reporting Plan, is organized in a tabular format, keyed to each mitigation measure incorporated into the Project.

Appendix 4, Comment Letters, presents the letters received by the Lead Agency during the 30-day public review period.

1.2 Purpose of the Mitigated Negative Declaration

The Alameda County Flood Control and Water Conservation District, Zone 7 (hereafter “Zone 7 Water Agency” or “Zone 7”), acting as the Lead Agency under CEQA, is proposing to design and construct the Patterson Pass Water Treatment Plant Upgrades and Ozonation Project on a Zone 7 Water Agency-owned parcel at the Patterson Pass Water Treatment Plant (PPWTP) facility.

The purpose of the following Initial Study (IS) was to provide a basis for deciding whether to prepare an Environmental Impact Report, a Mitigated Negative Declaration (MND), or a Negative Declaration. Based on its findings, Zone 7 determined that a MND would satisfy the requirements of CEQA (Public Resources Code, §21000 et seq.) and the State CEQA Guidelines (California Code of Regulations, Title 14, §15000 et seq.), as noted below.

CEQA encourages Lead Agencies and applicants to modify their projects to avoid significant adverse impacts to the environment.

Section 15063(d) of the CEQA Guidelines states the content requirements of an IS as follows:

15063(d) Contents. An Initial Study shall contain in brief form:

- (1) A description of the project including the location of the project;
- (2) An identification of the environmental setting;
- (3) An identification of environmental effects by use of a checklist, matrix, or other method, provided that entries on a checklist or other form are briefly explained to indicate that there is some evidence to support the entries;
- (4) A discussion of the ways to mitigate the significant effects identified, if any;
- (5) An examination of whether the project would be consistent with existing zoning, plans, and other applicable land use controls;
- (6) The name of the person or persons who prepared or participated in the Initial Study.

1.3 Decision to Prepare a Mitigated Negative Declaration for this Project

As noted above, this Project is subject to the requirements of CEQA and Zone 7 is the CEQA Lead Agency for this Project. Prior to making a decision to approve this Project, the Lead Agency must identify and document the potential significant environmental effects of the Project in accordance with CEQA. This IS/MND has been prepared under the direction of Zone 7 to fulfill these requirements.

The IS analysis indicates that some impacts would be potentially significant, but that Project changes and proposed mitigation measures would result in those impacts being reduced to less-than-significant levels. In accordance with CEQA Guidelines Section 15070, a MND is the appropriate document for this Project because the IS identifies potentially significant effects; however:

- a. Revisions to the project plan were made that would avoid, or reduce, the effects to a point where clearly no significant effects would occur, and;
- b. There is no substantial evidence that the project, as revised, may have a significant effect on the environment.

1.4 Public Review Process

The Draft IS/MND was circulated to local and state agencies, interested organizations, and individuals who might have had interest in, and wish to review and provide comments on, the project description, the proposed mitigation measures, or other aspects of the report. The 30-day public review period per CEQA Guidelines Section 15105(b) extended from July 20, 2018, through August 22, 2018.

The Draft IS/MND and supporting documentation was posted on the Zone 7 website during this public review period:

<http://www.zone7water.com/publications-reports/environmental-review-documents>

Printed copies of the Draft IS/MND and supporting documents were also available for review at:

Zone 7 Water Agency
100 North Canyons Parkway
Livermore, CA 94551

Via written request for a paper copy or CD
from Zone 7 (see contact information below)

Livermore Civic Center Public Library
1188 South Livermore Avenue
Livermore, CA 94550

Dublin Public Library
200 Civic Plaza
Dublin, CA 94568

Pleasanton Public Library
400 Old Bernal Avenue
Pleasanton, CA 94566

Written comments or questions regarding the Draft IS/MND were directed to the attention of Elke Rank at the address provided below.

Elke Rank
Zone 7 Water Agency
100 North Canyons Parkway
Livermore, CA 94551
Phone: (925) 454-5005
e-mail: erank@zone7water.com

Technical inquiries about the Project were also directed to the Project Manager, Mona Olmsted, at (925) 454-5033 or molmsted@zone7water.com.

One letter was received during the public review period mentioned above. The City of Livermore submitted a comment letter on August 17, 2018, indicating that the Project would be consistent with the City's 2015 Urban Water Management Plan. This letter also indicated that the future development project and transportation-related capital improvement projects [considered in the analysis of cumulative effects] were accurately reflected. No substantive comments were submitted that necessitated a change in the Project's description, the analysis of impacts, and/or requiring new or substantially revised mitigation measures, pursuant to CEQA Guidelines Section 15073.5 regarding recirculation of a [mitigated] negative declaration.

During preparation of the Project's IS, Zone 7 hosted a public workshop as an opportunity for the public to learn more about the Project and to ask Zone 7 staff questions about the proposed design and construction.

1.5 Agencies' Use of this Document

CEQA Responsible Agencies are state and local agencies that have some responsibility or authority for carrying out or approving a project. In many instances, these public agencies must make a discretionary decision to issue an approval or permit, provide right-of-way or encroachment, or provide funding or other resources that are critical to the execution of a project. Trustee agencies are state agencies that have the authority by law for the protection of natural resources held in trust for the public. The California Department of Fish and Wildlife and the State Lands Commission are examples of trustee agencies.

This IS/MND is intended to assist State and local agencies with some form of discretionary jurisdiction to carry out their responsibilities for permit review or approval authority over various aspects of a project. This Project would likely require specific permitting and/or review by the agencies listed in **Table 1.1**.

**TABLE 1.1
REQUIRED PERMITS AND APPROVALS**

Potential Permit or Approval	Agency
<ul style="list-style-type: none"> Amended Hazardous Materials Business Plan 	Alameda County
<ul style="list-style-type: none"> General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities (Order No., as amended by Order No. 2009-0009 DWQ) under the National Pollutant Discharge Elimination System (NPDES) Stormwater Pollution Prevention Plan (SWPPP) Post-Construction Stormwater Management Requirements for Development Projects 	San Francisco Bay Regional Water Quality Control Board (Region 2)
<ul style="list-style-type: none"> Permit to Construct Authority to Operate 	Bay Area Air Quality Management District
<ul style="list-style-type: none"> Encroachment Permit 	California Department of Water Resources
<ul style="list-style-type: none"> Amendment to Water Supply Permit 	State Water Resources Control Board, Division of Drinking Water

CHAPTER 2

Project Description

2.1 Introduction

The Alameda County Flood Control and Water Conservation District, Zone 7 (hereafter “Zone 7 Water Agency” or “Zone 7”) is one of 10 active zones in the county.

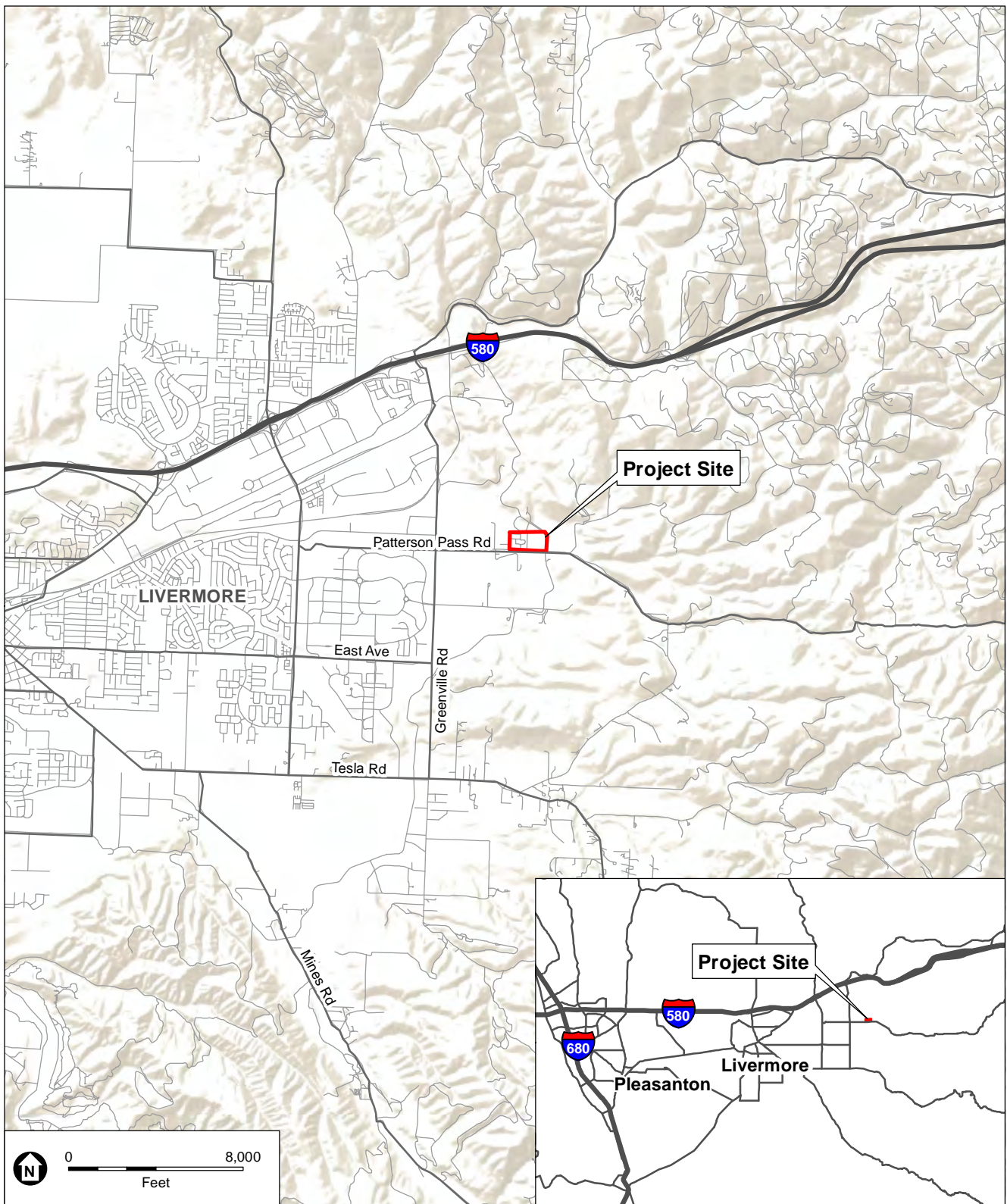
Zone 7 supplies drinking water to retailers serving about 240,000 people in Livermore, Pleasanton, Dublin, and, through special agreement with the Dublin San Ramon Services District, serving the Dougherty Valley area in San Ramon. These retail customers deliver water for municipal and industrial uses within their respective service areas.

Zone 7 also supplies raw or untreated water for agricultural purposes to 3,500 acres, primarily consisting of vineyards in the southern portion of Livermore. Additionally, Zone 7 provides flood protection in eastern Alameda County and is the groundwater basin manager of the Livermore–Amador Valley groundwater basin.

Zone 7 regularly undertakes projects involving improvement and maintenance of existing facilities, as well as construction of new facilities, and acts as the Lead Agency on projects subject to the California Environmental Quality Act (CEQA).

The Patterson Pass Water Treatment Plant (PPWTP) is the site of one of three water treatment facilities owned and operated by Zone 7 (the others being the Del Valle Water Treatment Plant in Livermore and the Mocho Groundwater Demineralization Plant in Pleasanton). It is located on Patterson Pass Road on 13.75 acres east of Livermore (see **Figure 1**). Zone 7 also owns the vacant 9.9-acre adjoining parcel immediately to the east (herein referred to as the East Parcel). PPWTP has a current water treatment capacity of approximately 19 million gallons per day (mgd).

Zone 7 is proposing to construct new facilities and modify and replace existing ones at the PPWTP to incorporate ozonation disinfection technology in its potable water treatment processes and to increase production capacity and finished water storage capacity (referred to herein as “Project”). Ozonation disinfection technology has been identified as one that would be most effective to improve taste, remove odor, and maintain or improve overall water quality for water consumers in the Zone 7 service area. In addition to improving taste and odor, ozone is more effective than other water treatment technologies (such as powdered activated carbon, chlorine and chloramines) in addressing algal byproducts and chemicals of emerging concern, including endocrine disruptors, as well as pharmaceutical and personal care product residues.



SOURCE: ESA, 2018; ESRI, 2018

PPWTP Upgrades and Ozonation Project

Figure 1
Regional and Location Map

2.2 Project Goals and Objectives

The PPWTP treats water sourced from the South Bay Aqueduct, which contains constituents with inherent treatment challenges, as well as seasonal taste and odor (T&O) issues which affect the aesthetics of the water. Powdered activated carbon (PAC) facilities have been installed as a short-term solution to remove T&O compounds. In 2008-2009, Water Quality & Treatment Solutions, Inc. (WQTS), conducted pilot testing of ozone and peroxone at the PPWTP's sister plant, the Del Valle WTP (DVWTP), to identify the most effective alternative that would improve the overall treatment process and finished water quality. Raw water ozonation was recommended as the most viable option for the DVWTP and the PPWTP (CDM Smith, 2017).

A key goal of the proposed Project is to improve finished water quality by providing a significantly more effective treatment process/technology (ozonation technology) than powdered activated carbon, chlorine and chloramines at reducing disinfection by-products (DBPs), improving tastes and odors, treating algal byproducts and chemicals of emerging concern, including endocrine disruptors, pharmaceuticals and personal care products. Other goals of the proposed Project include replacing some aging and obsolete facilities and increasing the plant capacity, as well as the finished water storage capacity.

This project would allow Zone 7 to continue to meet water demands as previously determined by the local land use authorities (i.e., Pleasanton, Livermore, Dublin, San Ramon) through the Urban Water Management Plan process. The treated water supply/production from this Project would remain within Zone 7's previously established water supply/production portfolio and would not increase the overall planned treated water supply/production for Zone 7.

The Project would include the addition of ozonation facilities, as well as the addition, replacement, and modification of support facilities, such as a new carbon dioxide (CO₂) system for pH adjustment, and modifications to the existing sodium hypochlorite and ammonia systems to provide pre-chlorination for bromate control, and pump stations and various modifications to existing process and chemical piping to accommodate the new treatment processes. The initial capacity of the ozonation facilities would be 24 mgd with the ability to expand to 36 mgd. The location and layout of the ozone and supporting facilities would take into consideration anticipated future treatment plant improvements.

The Project would also construct a total of six new filters with 12 mgd total filtration capacity. Three of the new filters would replace the existing 12 mgd media filtration system, which is approaching the end of its useful life. The other three new media filters will replace and increase the capacity of the existing 7 mgd ultrafiltration (UF) membrane system with a new nominal 12 mgd media filtration system. The Project would also add a new finished water clearwell reservoir with an approximate 5 million-gallon (MG) operational storage capacity to increase finished water storage capacity. A detention pond for site drainage and overflow management for the proposed and existing treatment processes would also be constructed.

2.3 Project Location and Setting

The PPWTP is located at 8750 Patterson Pass Road east of the City of Livermore in unincorporated Alameda County (see **Figure 1**). The proposed Project is located entirely within the PPWTP facility on property owned by Zone 7. During construction, the Project would also temporarily utilize a small, designated portion of the parcel immediately to the east (8700 Patterson Pass Road, referred to herein as the “East Parcel”), also owned by Zone 7. The PPWTP facility is secured within a chain link fence and locked gates. The land is largely disturbed due to ongoing industrial uses associated with water treatment. Vegetation at the PPWTP includes non-native ruderal and annual grasslands inter-dispersed between the developed/disturbed areas of the PPWTP facilities. Seasonal wetlands are present along the northern and western boundaries of the plant, which are hydrologically connected to wetlands west and south of the existing facility. The East Parcel, which is currently vacant, but shows signs of previous disturbance, is dominated by an assemblage of non-native grasses and other invasive forbs.

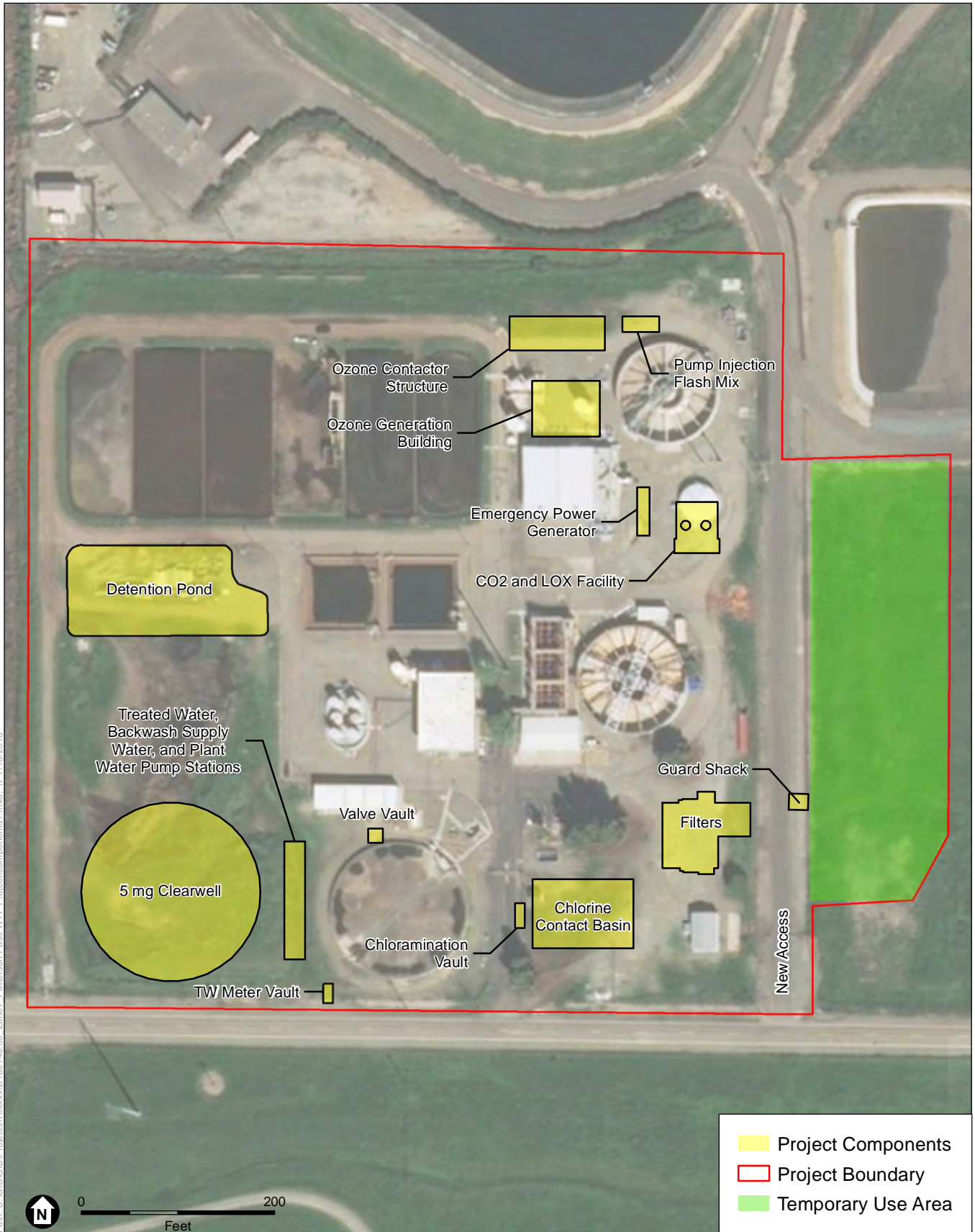
The surrounding area is generally open, rolling terrain with large agricultural-zoned parcels, rural residential development, and vineyards, with a small number of oil wells immediately west and south of the Project site and the Lawrence Livermore National Laboratory 0.7 mile further to the west. The PPWTP is bordered to the north by the South Bay Aqueduct and the Patterson Reservoir (both owned and operated by the Department of Water Resources [DWR]); to the south by Patterson Pass Road and privately-owned agricultural space; to the east by Zone 7’s East Parcel, the South Bay Aqueduct, and privately-owned agricultural space; and to the west by privately-owned agricultural space.

The PPWTP is visible from Patterson Pass Road. The nearest residence is located approximately 1,010 feet to the east. No designated recreational facilities exist in the immediate area.

2.4 Proposed Project

For the most part, the Project would be constructed and operated within an approximate 175,000-square-foot footprint amongst the existing PPWTP components (see **Figure 2**). To provide context, **Figure 3** graphically summarizes the water treatment process at PPWTP. The main Project components include:

- Ozone generation building
- Ozone contactor structure and associated safety features, including ozone destruct units
- Liquid oxygen (LOX) vaporizers, facility, and storage tanks
- Carbon dioxide (CO₂) facility and storage tank
- Pumped injection flash mix
- Filter-to-Waste System and Return Pump Station (PS)
- Chlorine Contact Basin
- Filter complex, housing six filters



SOURCE: CDM Smith, 2017

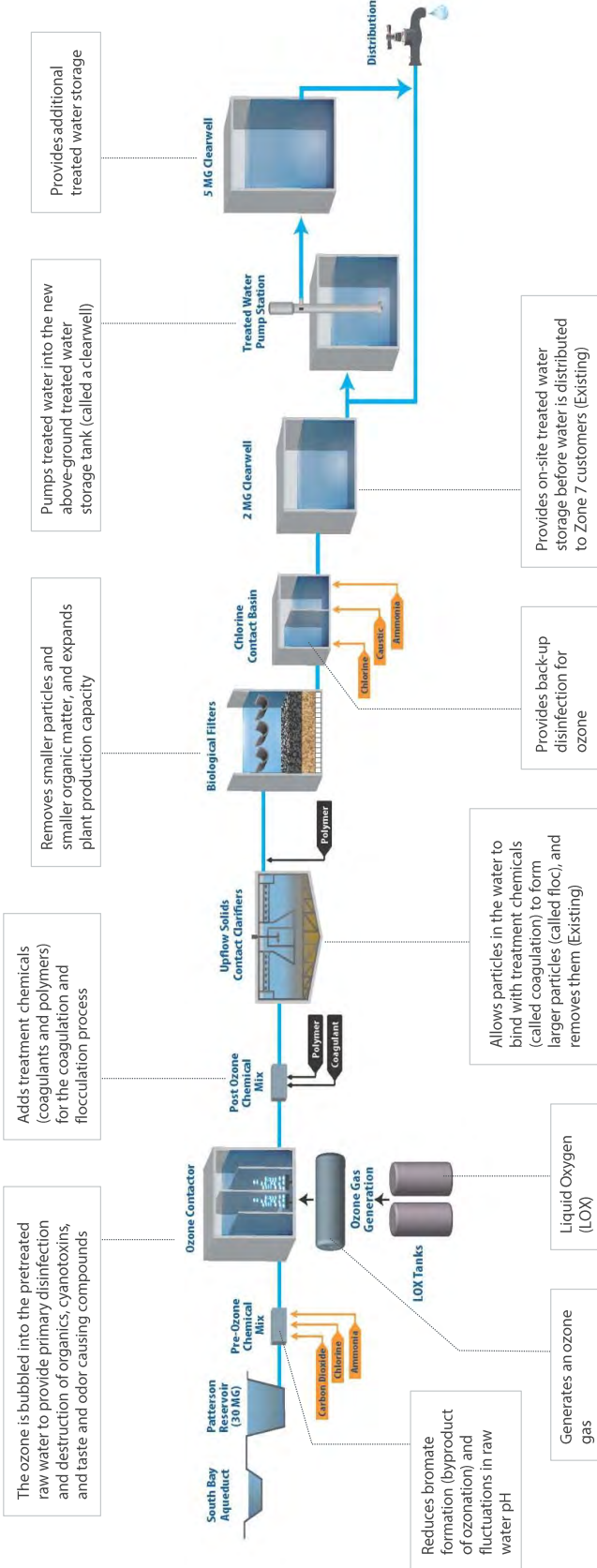
PPWTP Upgrades and Ozonation Project

Figure 2
Project Overview

WATER TREATMENT PROCESS

Emergency Power Generator (not shown): Provides back-up power in the event of an interruption of utility power

Detention Basin (not shown): Manage potential plant overflows and stormwater



Ozone Life-Safety System (not shown): An extensive life-safety system detects any ozone or oxygen leaks and prevents plant personnel from exposure to ozone gas. This system includes ozone and oxygen leak detection monitors, emergency alarm systems, ventilation equipment for ozone areas, and automatic sequences in the plant control system to issue alarms and/or initiate equipment shutdown in the event of a leak. The life-safety equipment and instruments are connected to the emergency power system, allowing them to function even during a utility power interruption.

Ozone Offgas Destruct (not shown): The portion of the applied ozone gas that doesn't react with the water is collected and converted into oxygen; the resulting ozone-free oxygen gas is continuously monitored and is discharged to the atmosphere



PPWTP Upgrades and Ozonation Project
Figure 3
Patterson Pass Water Treatment Plant Process

- Clearwell, with approximately 5 MG of operational storage
- Treated Water Pump Station
- Detention pond
- Approximately 20,000 linear feet of trenching within the treatment facility perimeter to accommodate new pipelines, pumps/ pump stations, and vaults for plant modifications to incorporate ozone technology
- Electrical upgrades, including standby generator upgrade and transformers
- Grading, paving, and concrete surfaces
- Other related, miscellaneous project components

To the extent feasible, Project components would be painted or colorized in earth-tones to match the other structures at PPWTP.

The ozone generation building would be an approximately 4,600-square-foot concrete masonry unit (CMU) structure housing the ozone generation, electrical, and cooling water equipment rooms. The ozone generation room would be considered a hazardous space and would require continuous ventilation. A dedicated outdoor air unit serving the ozone generation room would deliver air exchange and would heat and cool air as required for space temperature control. Unit heaters would also be provided near perimeter walls for addition heating capacity. The building would also house three horizontal tube ozone generators with power supply units, closed-loop cooling water equipment (pumps and heat exchanger), a supplemental nitrogen system, clean air system, and other ancillary equipment for the ozone system. The ozone generation building would be located east of the existing sludge drying beds in the northeast quadrangle of the PPWTP.

The ozone contactor structure would be a poured concrete structure approximately 3,500-square feet in size. The structure would consist of a single ozone contactor basin with a bypass line to the Chlorine Contact Basin which would allow the plant to remain operational when the ozone system is offline for maintenance. The contactor structure would be considered a hazardous space requiring continuous ventilation. However, other than the code-required ventilation, no heating or cooling would be provided in this structure because the temperature of the water in the contactors would moderate the temperature of this space. Ozone destruct units would also be installed using a chamber and catalyst, as a safety feature, to control ozone residual off-gassing. The ozone contactor structure would be located north of the ozone generation building in the northeast quadrangle of the PPWTP.

The LOX facility would be outdoors and consist of a single vertical storage tank, approximately 35 feet in height. The facility would also include three ambient air vaporizers. The LOX piping would be insulated to prevent injuries to people or wildlife from contact with cryogenic piping. The LOX facility would be located adjacent to the CO₂ facility in the northeast quadrangle of the PPWTP.

The CO₂ facility would be outdoors and include a vertical liquid CO₂ storage tank approximately 33 feet in height. This facility would also include a refrigeration unit, vaporizer, vapor heater, and

CO₂ feed equipment, all mounted on a concrete slab on grade. The CO₂ facility would be located adjacent to the LOX facility in the northeast quadrangle of the PPWTP.

The pumped injection flash mix would be comprised of two vertical turbine pumps (one on standby) for pumped water injection/mixing, as well as a set of chemical injection quills.

Smaller components of the ozonation system would consist of ceramic bubble diffusers located within the ozone contactor structure. Stainless steel piping would also be included in the ozone contactor structure to allow for transfer of ozone gas from the generation building to the bubble diffusers.

A new standby diesel powered generator providing back-up power for the entire plant, including the new ozone system, would be located within the ozonation area of the plant. Outdoors on a slab on grade, it would be equipped with a weather/noise enclosure.

The Filter-to-Waste system and Return Pump Station would consist of three to four vertical turbine pumps which would be situated on a concrete pad with no cover and with suction piping running into pumps underground. The Filter-to-Waste system and Return Pump Station would be situated along the west side of the filter complex (described below).

A post-filtration Chlorine Contact Basin would provide disinfection of bacteria as well as virus inactivation. The Chlorine Contact Basin would consist of an enclosed concrete basin with a serpentine flow path and various chemical injection points. The Chlorine Contact Basin would be located west of the Filter-to-Waste system and Return Pump Station and filter complex (described below) in the southeastern quadrangle of the PPWTP.

A new stand-alone filter complex consisting of six dual filters along with ancillary equipment including an air scour system would also be constructed in the southeastern quadrangle of the PPWTP.

The new clearwell, with approximately 5 MG of operational storage, would be an above ground welded steel tank on a concrete ring foundation. It would be sized to have approximately 25 feet usable water depth and a diameter of approximately 185 feet. The clearwell would be located in the southwest quadrangle of the PPWTP.

A detention pond would be constructed directly south of the existing sludge drying beds for site drainage and to accommodate potential overflows from treatment processes.

A number of replacements and modifications would be made to the existing chemical systems that are part of the water treatment process. Other than the installation of piping (see below), these replacements and modifications would involve very little or no surficial disturbance, as they would be part of a larger component or would occur within enclosed structures.

All of these Project components except the filters and the detention pond would be situated on an impervious paved surface. This would yield a maximum net increase in impervious surface on site of up to approximately 175,000 square feet.

To connect these components to the existing PPWTP system and to other new Project components, approximately 20,000 linear feet of new trenching would be required to accommodate placement of new pipes. All of this pipe, varying from 1/2 to 54 inches in diameter, would be buried within the confines of the plant. A Treated Water Pump Station (TWPS) that includes pumps for backwash supply and plant water would be constructed. The pumps would consist of vertical turbine pumps and draw water from the clearwells.

To provide sufficient area for new piping and to improve traffic flow within the plant, the main access to PPWTP would be moved. The existing guard shack would be removed and a new guard shack would be installed to the east to the existing roadway between the PPWTP proper and the East Parcel. The existing access point would remain as an option for chemical truck delivery egress.

2.5 Project Construction

2.5.1 Project Phasing/Schedule

Project construction is anticipated to begin in January, 2019 and be completed by December, 2021 – a period of approximately 36 months. This schedule is contingent on the successful completion of project design, the environmental review process, and receipt of bond funding.

The general construction sequence would be as follows, with many activities overlapping:

- Site preparation, clearing/grading/demolition – January - September, 2019
- Below-ground working (trenching, pipe installation) – March, 2019 - June, 2020
- Building and contactor construction, chemical system modifications – May, 2019 - September, 2021
- System testing – November, 2019 - September, 2021
- Site clean-up, restoration – July -- December, 2021

Those activities executed after site clean-up and restoration are presumed to occur within the structures and would not require outdoor ground disturbance that would require further clean-up and restoration.

Construction activities would be scheduled to minimize impacts to operations at PPWTP. Construction activities that would require lengthy shutdown of PPWTP would be coordinated with the annual plant shutdown periods, lasting one to two months. Some construction activities outside of this window would require temporary plant shutdowns lasting one or two hours to a few days. Plant shutdowns are not anticipated to cause service interruptions for Zone 7 customers, as the shutdowns would be coordinated with operation of the other water production facilities in Zone 7's water system.

The daily construction schedule is anticipated to coincide and adhere to the noise standards set forth in the Alameda County noise ordinance (Chapter 6.60.070), as follows:

- Weekdays: 7:00 AM to 7:00 PM
- Weekends: 8:00 AM to 5:00 PM

Most, if not all, of the work is expected to occur during the week. No work on holidays (e.g., Thanksgiving, Christmas) is anticipated.

2.5.2 Staging/Materials Laydown

Although construction materials and equipment would be stored within the confines of the PPWTP to the extent possible, available area would be limited due to existing facilities, construction activities, etc. To supplement staging and materials laydown, as well as accommodate construction trailers and vehicles, a 74,000-square-foot section of the East Parcel would be utilized. This area would be comprised of the existing roadway between the PPWTP and East Parcel and the disturbed portion adjacent to it.

2.5.3 Site Work, Grading, and Trenching

Prior to the start of construction, the existing Ultrafiltration (UF) Membrane System would be abandoned and demolished. This would include storage tanks, concrete pads, lines/piping, and pumps. A number of the existing components to be demolished may require special handling by specialists qualified to handle hazardous materials in accordance with associated federal, state, and local regulations.

The Project site is relatively level. While most project structures would be constructed on-grade, some excavation would be required for the ozone contactor structure, ozone generator building, CO₂ and LOX structures, new filter complex, chlorine contact basin, washwater pump station, treated water pump station, filter-to-waste pump station, and detention basin. Removal of an existing dirt mound would also be required prior to construction of the 5 MG clearwell. Overall, up to approximately 26,000 cubic yards of soil would be disturbed during Project construction and 23,000 cubic yards of spoils would be hauled off to either Republic Services Vasco Road Landfill or the Altamont Landfill, or other uses that the contractor develops which are in accordance with Federal, State, and local regulations. Prior to the onset of construction, Zone 7 will remove all existing landscaping trees and shrubs within the PPWTP facility that are in the path and vicinity of construction.

Most new structures would be situated at grade, although several structures would be partially buried. The new Treated Water Pump Station would be situated the furthest below grade, requiring excavation to approximately 25 feet. The Project would include installation of buried piping ranging in size from 1 to 54 inches and electrical and instrumentation and controls conduit. The 54-inch pipe would require excavation approximately 10 feet, 6 inches wide and at least 7 feet, 10 inches deep. The small diameter chemical pipes would be routed together in trenches approximately 4 feet wide and 4 feet deep. Asphalt cuts would be needed for some of the trenching. The groundwater level at the site is relatively shallow and can range between 6.5 and 20 feet below ground surface; therefore, dewatering of excavations may be necessary. This discharge would be used for onsite dust control, discharged onto adjacent upland areas owned by

Zone 7, and/or discharged to an existing sanitary sewer line and treated by the area's wastewater treatment provider (which would be subject to review and approval from that provider).

Upon installation of the project components and completion of construction activities, the remaining exposed surfaces, if any, would be graded to be consistent with the rest of the PPWTP site and either graveled or reseeded. All remaining debris and trash would be collected and disposed of in a manner consistent with all application regulations.

2.5.4 Construction Equipment and Workers

A range of large equipment would be used during construction, such as:

- bobcats (2)
- pick-up trucks (8)
- flatbed delivery trucks (2)
- boom crane (2)
- excavator (2)
- trencher (1)
- forklift (1)
- water truck (1)
- backhoe (2)
- concrete vibrators (2-3)
- roller/compactor (2)
- skip loader/front loader (2)
- loader (1)
- generators (2)

There would be an average of approximately 25 temporary workers daily over the duration of Project construction, ranging up to 60 workers during peak activity. It is assumed that all workers would drive to and park their personal vehicles on Patterson Pass Road near the Project site each workday.

2.5.5 Vehicle Trips and Haul Routes

There would be approximately 3,000 Project-related truck deliveries at PPWTP, ranging from large pieces of equipment, concrete deliveries, to daily deliveries of parts and tools, distributed over the course of the anticipated 36-month construction period. It is possible that there would be several on some days and none on other days. Construction vehicle trips would primarily include shipments of equipment, pumps and mechanical equipment, pipe segments; cement deliveries; water truck; and, construction trailer delivery/pickup. Construction traffic would be routed to avoid major residential and retail areas. The proposed route is from Interstate Highway 580 to Greenville Road to Patterson Pass Road to the PPWTP access road. Excluding the PPWTP access road, all of these roadways are major, well-traveled routes in the area. No access through neighboring parcels would be needed; all traffic and access would occur as under current operational conditions.

Whenever possible, construction traffic trips to and from the Project site would occur during non-commuter peak hours of 10:00 AM to 4:00 PM weekdays. A possible exception would be cement deliveries during "continuous pour" events during construction, when an entire component would be constructed and a constant pour of cement is need to complete the task.

2.5.6 System Testing

System testing and startup will involve closing off the new components, filling them with water and adding pressure to check for potential leaks or other signs of substandard integrity. The test water would be recycled though to the treatment plant headworks until it is confirmed that every process is in working order. The source and test water would be treated and disinfected in accordance with Zone 7 policy and all applicable water quality rules and guidance.

2.6 Project Operations and Maintenance

Upon commissioning, the new ozonation system, filter complex, and clearwell would be functioning components of the overall treatment system. It is anticipated that no new staff would be employed specifically to operate or perform routine maintenance on the new facilities. Materials deliveries are anticipated to be up to two per month. Major repair activities would occur as needed and not on a scheduled basis. Therefore, additional trips resulting from the operation of this system would be minimal.

Waste and byproducts resulting from the ozonation process would be handled pursuant to all applicable federal, State, and local laws and regulations. Oxygen (O₂) is a byproduct of this process and is anticipated to be released directly into the atmosphere. Stormwater draining from the new component sites would be directed to the detention pond. The stormwater would be stored in this basin and then returned into the plant's treatment system to be treated.

References

CDM Smith, 2017. Patterson Pass Water Treatment Plant Upgrades and Ozonation Project, Technical Memorandum No. 3 Basis of Design Report. October 6.

CHAPTER 3

Environmental Checklist – Initial Study

1. **Project Title:** Patterson Pass Water Treatment Plant Upgrades and Ozonation Project
2. **Lead Agency Name and Address:** Zone 7 Water Agency
100 North Canyons Parkway
Livermore, CA 94551
3. **Contact Person and Phone Number:** Elke Rank, Zone 7 Water Agency
Integrated Planning
(925) 454-5036
4. **Project Location:** Patterson Pass Water Treatment Plant
8750 Patterson Pass Road
Livermore, Alameda County
5. **Project Sponsor's Name and Address:** Zone 7 Water Agency
100 North Canyons Parkway
Livermore, CA 94551
6. **General Plan Designation(s):** Water Management Lands
7. **Zoning:** Heavy Industrial
8. **Description of Project:** (Describe the whole action involved, including but not limited to later phases of the Project, and any secondary, support, or off-site features necessary for its implementation. Attach additional sheets if necessary.)

Zone 7 is proposing to construct new facilities and modify existing facilities within the existing fenced site of the Patterson Pass Water Treatment Plant (PPWTP) to incorporate ozonation disinfection technology in its potable water treatment processes and to increase production capacity and finished water storage capacity (Project). The Project is intended to allow Zone 7 to improve the quality of drinking water it provides, while continuing to meet water demands as previously determined by the local land use authorities it serves. In addition to improving taste and odor, ozone is more effective than other water treatment technologies (such as powdered activated carbon, chlorine and chloramines) in addressing algal byproducts and chemicals of emerging concern, including endocrine disruptors, as well as pharmaceutical and personal care product residues. For additional details please refer to Chapter 2, Project Description.

9. Surrounding Land Uses and Setting. (Briefly describe the Project's surroundings.)

The PPWTP is bordered to the north by the South Bay Aqueduct and the Patterson Reservoir (both owned and operated by the California Department of Water Resources [DWR]); to the south by Patterson Pass Road and privately-owned agricultural spaces; to the east by Zone 7's East Parcel, the South Bay Aqueduct, and privately-owned agricultural space; and to the west by privately-owned agricultural space and trucking company vehicle storage.

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

- Alameda County
Hazardous Materials Business Plan Amendment

- San Francisco Bay Regional Water Quality Control Board
NPDES Construction Stormwater General Permit
Post-Construction Stormwater Management Requirements
Stormwater Pollution Prevention Plan (SWPPP)
401 Permit

- Bay Area Air Quality Management District
Permit to Construct
Authority to Operate (revised existing approval)

- California Department of Water Resources
Encroachment Permit

- State Water Resources Control Board, Division of Drinking Water
Amendment to Water Supply Permit

11. Have California Native American tribes traditionally and culturally affiliated with the Project area requested consultation pursuant to Public Resources Code section 21080.3.1? If so, has consultation begun?

As of the issuance of this Initial Study/Proposed Mitigated Declaration for public and agency review, no California Native American tribes have contacted the Lead Agency regarding this Project area. Tribal contact efforts are discussed in the Tribal Cultural Resources section of this Initial Study. Please refer to checklist Section 17 for more detail.

3.1 Environmental Factors Potentially Affected

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

- | | | |
|--|---|--|
| <input type="checkbox"/> Aesthetics | <input type="checkbox"/> Agriculture and Forestry Resources | <input checked="" type="checkbox"/> Air Quality |
| <input checked="" type="checkbox"/> Biological Resources | <input checked="" type="checkbox"/> Cultural Resources | <input checked="" 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/Traffic | <input checked="" type="checkbox"/> Tribal Cultural Resources | <input checked="" type="checkbox"/> Utilities/Service Systems |
| | | <input checked="" type="checkbox"/> Mandatory Findings of Significance |

DETERMINATION: (To be completed by the Lead Agency)

On the basis of this initial study:

- 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.

Elke Rank

7-17-2018

Elke Rank
Zone 7 Integrated Planning

Date

3.2 Environmental Checklist

3.2.1 Aesthetics

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
1. AESTHETICS — Would the Project:				
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 type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<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 daytime or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Discussion

a) **Less than Significant.** As noted in the County's East County Area Plan, designated sensitive viewsheds in the Project vicinity include the ridgelines above the vineyards south of Livermore and the Project site, the ridgelines above Vasco Road northwest of the Project site and the ridgelines surrounding Brushy Peak north of Livermore and the Project site (Alameda County, 2002).

The Project would be located within the confines of the PPWTP fence line, as well as the western portion of the East Parcel. When viewed from surrounding viewpoints, the backdrop to the Project site would be the existing industrial and related buildings and structures at the plant. The Project-related structures, tanks, pipes, and appurtenances would be painted or colorized to be consistent with the rest of the PPWTP facilities, which are mostly earth tones, to the extent possible. The Project would not block the surrounding ridgelines.

East County Area Plan Policy 106 for sensitive viewsheds states that structures may not be located on ridgelines or hilltops or where they would project above a ridgeline or hilltop as viewed from public roads, trails, parks and other public viewpoints, unless there is no other site on the parcel for the structure or on a contiguous parcel in common ownership on or subsequent to the date this ordinance becomes effective (Alameda County, 2002). In this case, the Project cannot be positioned in any other location within the PPWTP facility, as the grounds are mostly developed.

Given the existing developed setting at the site, the Project would be consistent with the existing industrial character of the Project site and would not substantially affect views from scenic vistas as designated by Alameda County. This impact would be less than significant.

b) **No Impact.** In Alameda County, Caltrans-designated State Scenic and Eligible State Scenic Highways include Interstate (I-) 580, I-680 and State Route (SR) 84 west of I-680. None of these

highways are in the visible vicinity of the Project site. There would be no impact under this criterion.

c) **Less than Significant.** The PPWTP is a public works/industrial-type facility consisting of an administration building, water treatment facilities, sludge drying beds and sludge piles, and the undeveloped adjacent East Parcel. It is located on a gentle incline within the rolling terrain of the area, large agricultural-zoned parcels, rural residential development, and vineyards, with the Lawrence Livermore National Laboratory 0.7 mile to the west. The PPWTP is bordered to the north by the South Bay Aqueduct and the Patterson Reservoir (both owned and operated by DWR); to the south by Patterson Pass Road and privately-owned agricultural space; to the east by Zone 7's East Parcel, the South Bay Aqueduct, and privately-owned agricultural space; and to the west by privately-owned agricultural space. Intervening topography, such as rolling hills, blocks views of the PPWTP from the north. Direct, publicly-accessible views of the PPWTP are limited to the industrial and residential/vineyard estate parcels and wineries to the east. The view of the Project from Patterson Pass Road, Old Patterson Pass Road, and Flynn Road South would be fleeting to motorists.

The existing character of the site itself is developed and industrial, although it is set in rolling hills that are undeveloped and natural or in vineyard. The adjacent East Parcel, where Project staging would occur, is undeveloped. Public opportunities to visually experience this setting are limited to travel along Patterson Pass Road, Old Patterson Pass Road and Flynn Road South. Although in a natural setting, the relatively limited viewing opportunities give the site a low to moderate visual quality.

The Project would be constructed and operated within the bounds of the PPWTP. Construction activities would be temporary and visually consistent with the PPWTP site. The structures and appurtenances associated with the Project would be painted or colorized to be consistent with those at the plant to the extent feasible. Within this visual setting, the visual contrast of the Project would be low. The visual character or quality of the site or its surroundings would not be substantially degraded with the presence of this Project. This impact would be less than significant.

d) **Less than Significant.** Existing sources of light in the Project area are the PPWTP and the sparsely distributed industrial and residential/vineyard estates properties to the west, south, and east. Existing glare is minimal due to limited reflective surfaces at the site and in the surrounding area.

The Project is not anticipated to include nighttime construction requiring lighting after sunset during construction. Any lighting used for nighttime construction would be shielded to direct light to the area of work and limit light trespass onto neighboring properties. Given the distance to the nearest residential receptors (i.e., over 800 feet) and low likelihood for nighttime construction, nighttime construction lighting is not anticipated to affect off-site receptors. Sources of glare would be limited to glass on construction equipment or delivery vehicles (e.g., windshields). With the movement of vehicles and dependence on sky conditions, glare associated with construction would not be substantial during the daytime and would not occur at night.

Some of the Project elements such as the Clearwell and Ozone Generation Building would include reflective surfaces such as steel or metal. However, they would be painted and within the confines of the WTP. The Project would include exterior lighting to be used only for security and as-needed maintenance activities. The existing PPWTP structures are equipped with exterior lighting for the same purposes. The incremental addition of lighting specifically serving the Project elements would not create a substantial new source of light when considered with the existing condition. This impact would be less than significant.

Mitigation Measures

No mitigation measures are required.

References

Alameda County Community Development Agency, Planning Department. May 2002 (adopted).
East County Area Plan (ECAP), Scenic Viewsheds.

3.2.2 Agricultural and Forest Resources

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
2. AGRICULTURAL AND FOREST RESOURCES —				
In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.				
Would the Project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<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"/>

Discussion

a) **No Impact.** The Project and related construction activities would occur entirely within the PPWTP facility and the western portion of the East Parcel, which is owned by Zone 7 and undeveloped. The PPWTP property is classified as Urban and Build-Up Land; the East Parcel and the rest of the land surrounding the Project site is classified as Grazing Land according to the Alameda County Important Farmland 2014 map that was drafted under the Farmland Mapping and Monitoring Program (DOC, 2016). As the Project would occur entirely within PPWTP property, no conversion of Prime or Unique Farmland or Farmland of Statewide Importance would occur. There would be no impact under this criterion.

b) **No Impact.** The land to be used for the Project is neither in conflict with existing zoning for agricultural use, nor is it under any current Williamson Act contract (DOC, 2015). Therefore, there would be no impact.

c) **No Impact.** As the Project is entirely within the PPWTP property, and neither the existing property, nor the East Parcel are classified as forest land, timberland, or Timberland Production zone, therefore would be no conflict with existing zoning (City of Livermore, 2014; DOC, 2016). There would be no impact under this criterion.

d) **No Impact.** No forest lands exist at or near the Project site. There would be no loss of forest land or conversion of forest land to non-forest use. There would be no impact under this criterion.

e) **No Impact.** As noted above, Project activities and associated construction would occur within PPWTP property and East Parcel. These parcels are not classified as Farmland or forest land, and as such would not result in any conversion of these types of land to non-agriculture or non-forest use. There would be no impact under this criterion.

Mitigation Measures

No mitigation measures are required.

References

California Department of Conservation (DOC), 2016. Alameda County Important Farmland 2014. Map. Scale 1:100,000.

California Department of Conservation (DOC), 2015. Alameda County Williamson Act FY 2014/2015. Map. Scale 1:100,000

City of Livermore, 2014. City of Livermore General Plan 2003-2025. Amended December 2014. Available online: www.cityoflivermore.net/citygov/cdd/planning/general.htm.

3.2.3 Air Quality

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
3. AIR QUALITY —				
Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations.				
Would the Project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) 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)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Discussion

a) **Less than Significant with Mitigation.** The Project site is within the San Francisco Bay Area Air Basin (Bay Area), which is regulated by the Bay Area Air Quality Management District (BAAQMD) and currently designated as a nonattainment area for state and national ozone standards, state respirable and fine particulate matter (PM₁₀ and PM_{2.5}) standards, and the federal PM_{2.5} (24-hour) standard (BAAQMD, 2017a). The most recently adopted air quality plan to address nonattainment issues for the Bay Area is the 2017 Bay Area Clean Air Plan (2017 CAP; BAAQMD, 2017b). The 2017 CAP provides a regional strategy to protect public health and protect the climate by continuing progress toward attaining all state and federal air quality standards; eliminating health risk disparities from exposure to air pollution among Bay Area communities; transitioning the region to a post-carbon economy needed to achieve greenhouse gas (GHG) reduction targets for 2030 and 2050; and providing a regional climate protection strategy that will put the Bay Area on a pathway to achieve those GHG reduction targets. The 2017 CAP includes a wide range of 85 control measures designed to decrease emissions of the air pollutants that are most harmful to Bay Area residents, such as particulate matter, ozone, and toxic air contaminants; to reduce emissions of methane and other “super-GHGs”¹ that are potent climate pollutants in the near-term; and to decrease emissions of carbon dioxide by reducing fossil fuel combustion (BAAQMD, 2017b).

¹ “Super-GHGs” are climate pollutants that have a powerful ability to contribute to global warming such as methane, black carbon, and fluorinated gases.

The BAAQMD CEQA Guidelines recommend that a project's consistency with the current CAP be evaluated using the following three criteria:

- a) The project supports the goals of the Air Quality Plan,
- b) The project includes applicable control measures from the CAP, and
- c) The project does not disrupt or hinder implementation of any control measures from the CAP.

If it can be concluded with substantial evidence that a project would be consistent with the above three criteria, then the BAAQMD considers it to be consistent with air quality plans prepared for the Bay Area (BAAQMD, 2017c).

The primary goals of the 2017 CAP are to attain air quality standards, reduce population exposure and protect public health in the Bay Area, and reduce GHG emissions and protect the climate. The BAAQMD-recommended guidance for determining if a project supports the goals in the current CAP is to compare Project-estimated emissions with BAAQMD thresholds of significance. If Project emissions would not exceed the thresholds of significance after the application of all feasible mitigation measures, the Project would be consistent with the goals of the 2017 CAP. As indicated in the following discussion with regard to air quality impact Questions b) and c), the Project would result in a potential significant impact related to construction emissions that could be reduced to less than significant with implementation of **Mitigation Measure AQ-1, Implement BAAQMD Basic Construction Mitigation Measures**, and would not result in long-term adverse air quality impacts. With implementation of Mitigation Measure AQ-1, the Project would support the primary goals of the 2017 CAP.

As noted above, the 2017 CAP contains 85 control measures aimed at reducing air pollution in the Bay Area. Projects that incorporate all feasible air quality plan control measures are considered consistent with the 2017 CAP. The 2017 CAP does not contain any measures specific to water treatment plants and, therefore, no inconsistency with the 2017 CAP is identified. With no specific control measures from the 2017 CAP applicable to water pollution control plants, the Project would not hinder implementation of CAP control measures.

In summary, the Project would be consistent with all three criteria listed above to evaluate consistency with the 2017 CAP and, therefore, would not conflict with or obstruct implementation of the 2017 CAP. This impact would be less than significant.

b) Less than Significant with Mitigation. The Federal Clean Air Act and the California Clean Air Act both require the establishment of standards for ambient concentrations of air pollutants, called Ambient Air Quality Standards (AAQS). The federal AAQS, established by U.S. Environmental Protection Agency (USEPA), are typically higher (less stringent) or the same as the state AAQS, which are established by the California Air Resources Board (CARB) and enforced by the BAAQMD based on the Project's location.

The Bay Area experiences occasional violations of ozone and particulate matter (PM₁₀ and PM_{2.5}) standards. Therefore, the Project area currently is designated as a non-attainment area for violation of the state 1-hour and 8-hour ozone standards, the federal ozone 8-hour standard, the state PM₁₀ 24-hour and annual average standards, the state PM_{2.5} annual average standard, and the federal PM_{2.5} 24-hour standard. The Project area is designated as attainment for all other state and federal standards (BAAQMD, 2017a).

Project Construction

Construction activities associated with the Project would involve use of equipment that would emit exhaust containing ozone precursors, such as reactive organic gases (ROG) and nitrogen oxides (NO_x). On-site and off-site vehicle activity associated with material transport and construction worker commutes would also generate emissions. Emission levels for these activities would vary depending on the number and types of equipment used, duration of use, operation schedules, and the number of construction workers. Criteria pollutant emissions of ROG and NO_x from these emission sources would incrementally add to the regional atmospheric loading of ozone precursors during Project construction.

Air pollutant emissions of ROG, NO_x, PM₁₀, and PM_{2.5} that would be generated by off-road construction equipment (e.g., excavators, graders, loaders) were estimated using the CalEEMod (version 2016.3.2) model along with the Project-specific construction schedule and equipment requirements that would be used during the following construction phases of the Project:

- Site preparation, clearing/grading/demolition – January – September, 2019
- Below-ground working (trenching, pipe installation) – March, 2019 – June 2020
- Building and contactor construction, chemical system modifications – May, 2019 – September, 2021
- System testing – November, 2019 – March, 2021
- Site clean-up, restoration – July – December, 2021

Project construction emissions were modeled under the assumption that construction would begin in January 2019, and would take approximately 783 workdays to complete over a period of approximately 36 months. Average daily construction emissions were estimated by dividing the total construction emissions by the number of workdays. All assumptions and calculations used to estimate the Project-related construction emissions are provided in **Appendix 1**. Estimated average daily emissions are shown in **Table 3.1** and are compared to the BAAQMD thresholds.

TABLE 3.1
AVERAGE DAILY CONSTRUCTION-RELATED POLLUTANT EMISSIONS (POUNDS/DAY)

Emissions	ROG	NO_x	Exhaust PM₁₀* 	Exhaust PM_{2.5}*
Total Project Emissions	4.2	42.7	2.3	2.1
<i>BAAQMD Construction Threshold</i>	54	54	82	54
Significant Impact?	No	No	No	No

* BAAQMD's construction-related significance thresholds for PM₁₀ and PM_{2.5} apply to exhaust emissions only and not to fugitive dust.

As indicated in Table 3.1, the average daily construction exhaust emissions would not exceed the BAAQMD's significance thresholds. Therefore, impacts associated with the potential for construction-related exhaust emissions to result in or contribute to a violation of an air quality standard would be less than significant.

In addition to exhaust emissions, emissions of fugitive dust would also be generated by construction activities associated with grading and earth disturbance, travel on paved and unpaved roads, etc. Such emissions could result in a significant impact. With regard to fugitive dust emissions, the BAAQMD Guidelines focus on implementation of recommended dust control measures rather than a quantitative comparison of estimated emissions to a significance threshold. For all projects, the BAAQMD recommends the implementation of its Basic Control Mitigation Measures (BAAQMD, 2017c). The implementation of the BAAQMD's fugitive dust Basic Control Mitigation Measures, which are listed in Mitigation Measure AQ-1, would reduce potential impacts associated with fugitive dust emissions to a less-than-significant level.

Project Operation

Once construction is complete, the only source of operational emissions would be from the periodic testing of the proposed diesel-powered emergency standby generator at the ozonation plant. The standby generator would be subject to BAAQMD Regulation 2 and would require a BAAQMD permit to operate. Routine testing for emergency generators would be restricted to 1 hour per day and a maximum of 26 days per year. In addition, the generator would be subject to Best Available Control Technology (BACT) standards as part of the permit. Based on the 60 percent design for the Project (CDM Smith, 2018), it is anticipated that the rating of the proposed emergency standby generated would be approximately 2,750 kilowatts (kW). Daily emissions that would be associated with 1 hour of proposed emergency generator testing are shown in **Table 3.2** and are compared to the BAAQMD thresholds. The emissions would be under the significance thresholds; therefore, the operational emissions of the Project would be less than significant.

TABLE 3.2
MAXIMUM DAILY EMERGENCY GENERATOR TESTING POLLUTANT EMISSIONS (POUNDS/DAY)

Emissions	ROG	NOx	PM₁₀	PM_{2.5}
Emergency Generator Testing Emissions	4.1	9.6	0.3	0.3
<i>BAAQMD Construction Threshold</i>	54	54	82	54
Significant Impact?	No	No	No	No

c) **Less than Significant with Mitigation.** In developing thresholds of significance for air pollutants, BAAQMD considered the emission levels at which a project's individual emissions would be cumulatively considerable. Therefore, if a project would result in an increase in ROG, NO_x, PM₁₀, or PM_{2.5} of more than its respective average daily emissions significance thresholds, then it would also contribute considerably to a significant cumulative impact. If a project would not exceed the significance thresholds, its emissions would not be cumulatively considerable. As presented in Question b) above, the Project's short-term construction exhaust emissions would not exceed the applicable significance thresholds and, with the implementation of Mitigation Measure AQ-1, the Project's fugitive dust emission-related impacts would also be reduced to a less-than-significant level. In addition, as the proposed emergency backup generator is the only operational source of air pollutant emissions and would be subject to permitting requirements per BAAQMD Regulation 2, and its emissions from routine testing and maintenance would not exceed the applicable significance thresholds, Project operations would not cause or contribute substantially to a significant cumulative impact. In summary, the Project's operational emissions would not be cumulatively considerable and construction-related cumulative impacts would be mitigated to a less-than-significant level.

d) **Less than Significant.** The BAAQMD recommends that lead agencies assess the incremental toxic air contaminant (TAC) exposure risk to all sensitive receptors (e.g., residences, schools) within a 1,000-foot radius of a project's fence line (BAAQMD, 2017c). Long-term TAC emissions that would be associated with the Project would be from the routine testing of the proposed diesel-powered emergency backup generator, which would emit emissions of diesel particulate matter (DPM). The generator would be required to comply with the BAAQMD's permit requirements for a stationary source. The BAAQMD would not approve an Authority to Construct or a Permit to Operate any new or modified source of a TAC, such as DPM, that exceeds a cancer risk of 10 in one million or a chronic or acute hazard index of 1.0. Therefore, the health risk impact of the backup generator would be less than significant.

Short-term Project construction activities would also generate DPM. The majority of DPM exhaust emissions that would be generated during construction would be from the use of diesel off-road equipment with a smaller amount generated by the use of heavy duty trucks to deliver building material and equipment to the site. The closest sensitive receptor is located approximately 1,010 feet southeast of the proposed onsite construction areas, across Patterson Pass Road.

The dose to which receptors are exposed is the primary factor affecting health risk from exposure to TACs. Dose is a function of the concentration of a substance or substances in the environment and the duration of exposure to the substance. According to the Office of Environmental Health

Hazard Assessment (OEHHA), health risk assessments should be based on a 9, 30, and/or 70-year exposure periods to determine the health risk to sensitive receptors from cancer or chronic noncancer health effects of TAC emissions (such as DPM). However, OEHHA also states that such health risk assessments should be limited to the duration of the emission-producing activities associated with the project, unless the activities occur for less than six months. Activities that would last more than two months, but less than six months, are recommended to be evaluated as if they would last for six months (OEHHA, 2015).

DPM emissions would be generated at the Project site over a period of 36 months. Table 3.1 above, shows that the average daily PM₁₀ exhaust emissions from construction at the Project site would be approximately 2.1 pounds per day. At this emission rate, exposure of a receptor located more than 1,000 feet from the Project over a period of 2.5 years (compared to the exposure periods used in health risk assessments) would not be considered substantial and would not result in a significant incremental cancer risk. Even though the Project would result in a less-than-significant impact related to incremental cancer risk and the exposure of sensitive receptors to substantial pollutant concentrations, the implementation of Mitigation Measure AQ-1 would further limit receptors' exposure to DPM emissions because it would require the contractor for the Project to implement anti-idling measures when operating construction equipment. The impact would be less than significant.

e) **Less than Significant.** The Project does not include any long-term sources of odor. Diesel equipment used to construct the Project may emit objectionable odors associated with combustion of diesel fuel. However, as the nearest sensitive receptors that could be affected by this would be located approximately 1,010 feet southeast from the site of construction, any odor emissions during the 36-month construction period or during the intermittent testing of the proposed backup generator would result in impacts that would be less than significant.

Mitigation Measures

Based on the analysis presented above, implementation of the following mitigation measures would reduce the potential impacts to air resources to less than significant.

Mitigation Measure AQ-1: Implement BAAQMD Basic Construction Mitigation Measures.

The following applicable Bay Area Air Quality Management District (BAAQMD) Basic Construction Mitigation Measures shall be implemented by Zone 7 or construction contractors to reduce emissions of fugitive dust and equipment exhaust:

- All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
- All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
- All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.

- All vehicle speeds on unpaved roads shall be limited to 15 mph within the Project Area.
- All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
- Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.
- All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.
- Post a publicly visible sign with the telephone number and person to contact at Zone 7 (or its designee) regarding dust complaints. This person shall respond and take corrective action within 48 hours. The BAAQMD's phone number shall also be visible to ensure compliance with applicable regulations.

References

- BAAQMD, 2017a. Air Quality Standards and Attainment Status, available at <http://www.baaqmd.gov/research-and-data/air-quality-standards-and-attainment-status>, last updated January 1, 2017.
- BAAQMD, 2017b. Spare the Air: Cool the Climate – Final 2017 Clean Air Plan, adopted April 19.
- BAAQMD, 2017c. Bay Area Air Quality Management District (BAAQMD), California Environmental Quality Act – Air Quality Guidelines, May 2017a.
- CDM Smith, 2018. Patterson Pass Water Treatment Plant Upgrades and Ozonation Project, Project Drawings, 60% Submittal Not for Construction, April 2018.
- Office of Environmental Health Hazard assessment (OEHHA), 2015. Air Toxics Hotspot Program, Risk Assessment Guidelines - Guidance Manual for Preparation of Health Risk Assessments, February.

3.2.4 Biological Resources

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
4. BIOLOGICAL RESOURCES — Would the Project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or 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 Game 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 federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<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"/>

Discussion

a) **Less than Significant with Mitigation.** Biological resources within the Patterson Pass Water Treatment Plant (PPWTP) Upgrades and Ozonation Project (Project) site were identified by ESA biologist Brian Pittman through field reconnaissance and a wetland assessment performed on January 11, 2018. Prior to the surveys, a review of pertinent literature and database queries were conducted for the Project site and surrounding area, including the following sources:

- California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB) (CDFW, 2018);
- California Native Plant Society (CNPS) rare plant online inventory (CNPS, 2018);
- U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) environmental conservation online system (USFWS, 2018);
- Review of Biological and Wetlands Resources at the Zone 7 Patterson Pass Water Treatment Plant Environmental Constraints Technical Memorandum (ESA, 2016a); and

- Ecological Site Assessment at Patterson Pass Treatment Plant following Discharge (ESA, 2016b).

The Project site includes disturbed and developed habitat within the active PPWTP facility, and disturbed grasslands located immediately east of the facility (i.e., East Parcel). Active portions of the PPWTP inside the fenced perimeter of the site are subject to regular disturbance and maintenance from facility operations and support minimal habitat for plants and wildlife. Habitat within the facility consists of developed areas (buildings, pavement, and concrete), barren areas in graveled roads and active work areas that support few grasses and forbs, and ruderal grasslands that occur predominantly on the active spoils pile in the southwest corner of the site. Grassland species noted on the PPWTP facility include foxtail brome (*Bromus rubens*), red-stemmed filaree (*Erodium cicutarium*), black mustard (*Brassica nigra*), Italian thistle (*Carduus pycnocephalus*), cutleaf geranium (*Geranium dissectum*), and bristly ox-tongue (*Helminthotheca echioides*). The site supports few landscaping shrubs and trees, including pine trees (*Pinus sp.*), Washington fan palm (*Washingtonia robusta*), incense cedar (*Calocedrus decurrens*), and other ornamentals.

The proposed approximate 2-acre staging area is within the 10-acre parcel located to the east of the PPWTP. The entire 10-acre area was used extensively by DWR as a temporary staging area, and approximately 0.6-acre of the 2-acre area is a gravel access road and road shoulder. The entire parcel was graded by DWR in 2011 and 2012 in support of the South Bay Aqueduct (SBA) Improvement and Enlargement Project. Following completion of the SBA Project in 2012, the site was graded and has not been disturbed since. Habitat types that were observed on the 2-acre portion of the site consists of ruderal grasslands and developed (gravel and bare ground). Species observed include yellow star-thistle (*Centaurea solstitialis*), foxtail brome (*Bromus rubens*), bristly ox-tongue, and other unidentifiable annual grasses. The entire site was subject to rare plant surveys prior to site grading in 2011, which were negative.

Two drainage ditches occur west and north of PPWTP, outside the current Project site. Vegetation species found in these features include: inclusions of salt grass (*Distichlis spicata*), alkali heath (*Frankenia salina*), coyote bush (*Baccharis pilularis*), black mustard, narrowleaf cattail (*Typha angustifolia*), and great valley gumweed (*Grindelia camporum*). The channel immediately west of the PPWTP has standing water during much of the year, and is known to provide habitat for the California red-legged frog (*Rana draytonii*).

As shown in **Appendix 2**, the PPWTP is located within the geographic range of several listed and special-status species (CNDDDB, 2018), which can be expected in the local Project vicinity. A discussion of potential impacts to special-status species is provided below.

Wildlife

The California red-legged frog (federally-listed threatened [FT] and California Species of Special Concern [SSC]) and California tiger salamander (*Ambystoma californiense*) (FT and state-listed threatened [ST]) are known to occur in the local Project vicinity. California red-legged frog population is known from the drainage channel located immediately west of the site; however, habitat for this species is largely absent from the PPWTP and 2-acre staging area due to current and historic site disturbance. The western pond turtle (*Actinemys marmorata*) is not expected on the

Project site due to a lack of suitable habitat. The chain-link fence surrounding the PPWTP does not constitute a movement barrier to these species. Hence, any California tiger salamander or California red-legged frog that entered the PPWTP facility during construction activities could be subject to injury or mortality as a result of interactions with equipment. Injury to or mortality of California red-legged frog or California tiger salamander is a potentially significant impact. However, because habitat for California red-legged frog and California tiger salamander is mostly absent from the PPWTP and 2-acre staging area (which generally lacks small mammal burrows), impacts to these species can be avoided through a combination of site exclusion fencing, preconstruction surveys, and site inspection surveys during construction. Impacts to California red-legged frog and California tiger salamander would be reduced to a less-than-significant level by implementation of the **Mitigation Measure BIO-1, Preconstruction Surveys, Worker Training, Exclusion Fencing and Monitoring**.

Avian species observed in the PPWTP or in the vicinity of the Project site include: American crow (*Corvus brachyrhynchos*), mourning dove (*Zenaida macroura*), sharp-shinned hawk (*Accipiter striatus*), turkey vulture (*Cathartes aura*), rock dove (*Columba livia*), fox sparrow (*Passerella iliaca*), snowy egret (*Egretta thula*), black phoebe (*Sayornis nigricans*), Anna's hummingbird (*Calypte anna*), Western meadowlark (*Sturnella neglecta*), red-winged blackbird (*Agelaius phoeniceus*), European starling (*Sturnus vulgaris*), Canada goose (*Branta canadensis*), killdeer (*Charadrius vociferus*), American kestrel (*Falco sparverius*), Northern harrier (*Circus cyaneus*), and Brewer's blackbird (*Euphagus cyanocephalus*). Additional avian species that are likely to use the ruderal grassland and landscaped shrubs and trees for nesting habitat in or in the vicinity of the Project site include: burrowing owl (*Athene cunicularia*) (SSC), white-tailed kite (*Elanus leucurus*) (fully protected [FP]), loggerhead shrike (*Lanius ludovicianus*) (SSC), tricolored blackbird (*Agelaius tricolor*) (SSC), savannah sparrow (*Passerculus sandwichensis*), and possibly other avian species (Appendix 2). Actively nesting birds are protected under the Migratory Bird Treaty Act and California Fish and Game Code (FGC), and "take" would constitute a significant impact. The implementation of **Mitigation Measure BIO-2, Pre-Construction Bird Surveys**, would reduce potential impacts on nesting birds to a less-than-significant level.

There is no bat roosting habitat in the Project site or in the vicinity; therefore, bats would not be impacted by Project activities. Mammal species observed or sign of species in the PPWTP or in the vicinity of the Project site include: California ground squirrel (*Otospermophilus beecheyi*), California vole (*Microtus californicus*), Audubon's cottontail (*Sylvilagus audubonii*), and coyote (*Canis latrans*). The boundaries of the 2-acre staging area were defined following a biological reconnaissance-level survey to confirm the general absence of small mammal burrows. As such, California ground squirrel burrows that may support special-status amphibians (e.g., California tiger salamander and California red-legged frog) are absent from the area. In addition, the 2-acre staging area does not provide burrows that would support listed mammal species such as the San Joaquin kit fox (*Vulpes macrotis mutica*) (FE and ST) and American badger (*Taxidea taxus*) (SSC). Based on the lack of suitable burrows on the PPWTP facility, these species are not expected within the fenced facility. The implementation of **Mitigation Measure BIO-1, Preconstruction Surveys, Worker Training, Exclusion Fencing and Monitoring**, would verify the absence of suitable habitat for special-status mammals prior to ground disturbance.

Plants

Neither the developed or disturbed areas within the PPWTP, nor ruderal grasslands in the 2-acre proposed staging area, may provide suitable habitat for special-status plant species that are known from the local vicinity. The PPWTP is subject to regular disturbances from facility maintenance and operations that would preclude the presence of special-status plants. The 2-acre staging area was surveyed for rare plants with negative findings prior to DWR's use of the site from 2011 to 2012. This site was subject to grading and land uses for several years and presently only supports ruderal vegetation. No sensitive habitat such as alkali wetlands occur on the site that would support locally occurring rare species, and no rare plant populations are known from the local PPWTP vicinity that would seed a rare plant population on the site. Based on the negative survey findings and the recent history of site disturbance, no impacts are anticipated to special-status plants, which are considered absent from the site. There would be no impact under this criterion.

b) **No Impact.** No riparian or sensitive natural communities are located within the PPWTP or in the 2-acre staging area adjacent to the facility. The PPWTP facility is located in a disturbed area and ground cover consists of pavement, gravel, bare ground, ruderal grassland, and landscaped shrubs and trees. Two drainage ditches occur on the western and northern fringes of the treatment plant boundary that support wetlands habitat subject to jurisdiction of the U.S. Army Corps of Engineers (ACOE) and CDFW. These ditches are located outside of the proposed Project site, and as such, the Project would not impact jurisdictional wetlands or riparian habitat.

Additionally, vegetation immediately adjacent to the PPWTP consists of disturbed non-native grassland. There would be no impact under this criterion.

c) **Less Than Significant with Mitigation.** No wetlands are located within the PPWTP facility or the Project site. The nearest potential wetland areas are two drainage ditches located outside of the facility on the western and northern fringes of the PPWTP. The Project would not directly impact these jurisdictional features. It is not anticipated that any runoff from the facility would reach these water bodies. However, **Mitigation Measure WQ-1, Stormwater Pollution Prevention Plan**, in the Hydrology and Water Quality section of this Initial Study would be implemented to minimize the potential for pollutants in runoff from the facility. This impact would be less than significant.

d) **Less than Significant.** The entire Project site is within PPWTP property, a portion of which is which is fenced. The Project site, including the 2-acre staging area, is generally bounded to the north and east by the DWR's South Bay Aqueduct, which is a barrier to wildlife movement. Much of the Project activities would occur within the active PPWTP facility, which is an active public works/industrial site that provides limited opportunities for movement of any native resident or migratory fish.

Movement corridors can be identified through CDFW's BIOS online viewer of California essential habitat connectivity (CEHC) areas, which depicts areas of wildlands and areas between wildlands that are essential to the continued support of California's diverse natural communities in the face of human development and climate change (CDFW, 2018a). Identified essential connectivity areas serve to connect at least two natural landscape blocks, which are large,

relatively natural habitat areas that support native biodiversity. The Project site is outside of interstate connections, natural landscape blocks, and essential connectivity areas. Located 2.4 miles to the east of the Project site is a permeable section of essential connectivity area that connects two natural landscape blocks in Contra Costa County and Alameda County. While many native wildlife species occur in the regional vicinity of the PPWTP, and they may occasionally pass on or near the facility, the Project would not alter the existing, limited site uses by wildlife. Project activities would not obstruct or interfere with wildlife corridors or impede the use of wildlife nursery sites. This impact would be less than significant.

e) **No Impact.** The Project would be located in ruderal grassland, gravel, and bare ground areas of the PPWTP facility and in the developed portion and ruderal grasslands area of the 2-acre proposed staging area adjacent to the facility. Prior to the onset of construction, Zone 7 would remove all existing landscaping trees and shrubs within the PPWTP facility that are in the path and vicinity of construction. In the case that trees need to be removed as part of this Project, the Project would adhere to the Alameda County Tree Ordinance (Alameda County, 2016). No other local policies or ordinances protect biological resources that could be affected by construction or operation of the Project. There would be no impact under this criterion.

f) **No Impact.** The Project site is not within an area subject to any Habitat Conservation Plan (CDFW, 2018b) adopted pursuant to the federal Endangered Species Act, or any Natural Community Conservation Plan (CDFW, 2018c), or other approved local, regional, or state habitat conservation plan, therefore there would be no impact under this criterion.

Mitigation Measures

Based on the analysis presented above, implementation of the following mitigation measures would reduce the potential impacts to biological resources to less-than-significant.

Mitigation Measure BIO-1: Preconstruction Surveys, Worker Training, Exclusion Fencing and Monitoring

- a. Prior to construction, Zone 7 shall engage a qualified biologist². During the preconstruction survey, the qualified biologist shall investigate all potential habitat, including examination of materials on the current PPWTP facility and inspection of any mammal burrows, such as California ground squirrels or gophers. Site review shall also be performed in the 2-acre staging area. If any California red-legged frogs or California tiger salamanders are found on the existing PPWTP or in the staging area, the qualified biologist will contact the USFWS and/or CDFW to determine if moving the individual is appropriate. Only a qualified biologist and USFWS-approved shall capture, and handle California red-legged frogs or California tiger salamanders.
- b. Prior to construction, a qualified biologist shall conduct a training session for construction personnel working on the Project. At a minimum, the training shall describe the listed species and their habitat, their importance, and the mitigation measures that are being implemented to conserve these species as they relate to the proposed action. All personnel will be required to attend and sign attendance sheet

² The general minimum qualifications for the qualified biologist are a 4-year degree in biological sciences or other appropriate training and/or experience in surveying, identifying, and handling the listed species.

- along with their printed name, company or agency, email address, and telephone number.
- c. A wildlife exclusion fence shall be installed at the perimeter of the work area and maintained for the duration of construction by the construction contractor.
 - i. The qualified biologist shall determine the placement of the fence.
 - ii. The fence shall be installed at least 2 weeks prior to the start of the Project activities.
 - iii. The fence shall contain exit funnels to allow any California tiger salamander or California red-legged frog within the construction area to leave without human intervention, while preventing entry into the construction zone.
 - iv. Exit funnels shall be placed no more than 100 feet apart along the fence.
 - v. The exit funnels shall be installed at ground level.
 - vi. Fencing shall be 36 inches in height, or specified by manufacturer. The lower portion of the fence would be buried a depth of 6 inches and the top would extend at least 30 inches above ground level.
 - vii. The fence shall be secured to metal posts and/or wooden stakes to ensure that it remains upright and doesn't fall over. Posts or stakes would be placed on the inner side of the fence to limit the possibility of animals using them to climb over.
 - viii. Work shall be prohibited outside the exclusion fencing.
 - ix. The contractor shall remove the fence upon completion of construction.
 - d. Immediately prior to removal of vegetation within the PPWTP facility and the 2-acre staging area (or the onset of any construction activities in the case where no vegetation is being removed), a qualified biologist shall conduct a walking survey to ascertain that California red-legged frog and California tiger salamander are not present where vegetation removal would occur.
 - e. The qualified biologist shall be present for all vegetation removal.
 - i. A "no take" approach shall be taken for work activities. The qualified biologist shall be contacted if any California red-legged frogs or California tiger salamanders are observed. If these species are encountered during construction activities, they shall be allowed to leave the Project site on their own initiative, or alternately may be relocated with USFWS and/or CDFW approval. Construction activities shall cease near the identified animal until the area is determined to be free of these species.
 - f. A biologist shall conduct regular (e.g., weekly or bi-weekly) site checks throughout the duration of the Project. These surveys shall consist of walking the Project limits and within the Project site to ascertain the possible presence of the species, and check that the exclusion fence is installed and in proper working condition.

Mitigation Measure BIO-2: Pre-Construction Bird Surveys.

If construction or vegetation removal must be performed during the nesting period (February 1 through August 31), a qualified biologist shall survey the Project site to verify the presence or absence of nests no more than 7 days prior to the start of construction activities, including the clearance of vegetation. If no nests are found and the site is cleared of vegetation, no further survey will be required. If active nests are observed, the construction contractor, in consultation with a qualified biologist, shall establish buffer zones around nest areas. Typical starting nest buffers are 100 feet for passerine birds, depending upon the nature of proposed activities and the sensitivity of the identified bird to disturbance, and 150 to 250 feet for raptors. Construction activities shall be avoided or modified within the buffer area until young birds have fledged, which shall be confirmed by the qualified biologist. Buffer sizes may be reduced from the initially established distances following review by the qualified biologist and/or coordination with CDFW.

Mitigation Measure WQ-1: Stormwater Pollution Prevention Plan.

Please refer to Section 9, Hydrology and Water Quality, for the full text of this mitigation.

References

- Alameda County, 2016, Revised Tree Ordinance O-2016-66. <https://static1.squarespace.com/static/57573edf37013b15f0435124/t/58f64e2515d5dbcc64e54302/1492536870104/BOS+signed+Tree+Ordinance+and+Fees+and+Fines+Schedule+-+ADOPTED+12-2016.pdf>
- California Department of Fish and Wildlife (CDFW), 2018. California Natural Diversity Database (CNDDDB). Generated list on January 8, 2018 via: <https://map.dfg.ca.gov/rarefind/view/RareFind.aspx#>
- CDFW, 2018a. BIOS: California Essential Habitat Connectivity (CEHC). Online webmap accessed on January 8, 2018 via: <https://www.wildlife.ca.gov/Data/BIOS>
- CDFW, 2018b. NCCP Plan Summaries. Accessed on January 8, 2018 via: <https://map.dfg.ca.gov/metadata/ds0760.html>
- CDFW, 2018c. Conservation Plan Boundaries, HCP and NCCP. Data downloaded on January 8, 2018 via: <https://www.wildlife.ca.gov/conservation/planning/nccp/plans>
- California Native Plant Society (CNPS), 2018. Rare Plant Rank: Plant List. Generated list on January 8, 2018 via: <http://www.rareplants.cnps.org/result.html?adv=t&quad=3712177:3712176:3712175:3712167:3712166:3712165:3712157:3712156:3712155>
- Environmental Science Associates (ESA), 2016a. Memorandum: Review of Biological and Wetland Resources at the Zone 7 Patterson Pass Water Treatment Plant. Sent April 1, 2016 to Elke Rank, Zone 7 from Even Holmboe, ESA.
- ESA, 2016b. Memorandum: Ecological Site Assessment at Patterson Pass Treatment Plant following Discharge. Sent May 25, 2016 to Emily Moshier, Zone 7 from Brian Pittman, ESA.

United States Fish and Wildlife Service (USFWS), 2018. Information for Planning and Consultation (IPaC) environmental conservation online system. Generated list on January 8, 2018 via: <https://ecos.fws.gov/ipac/>

3.2.5 Cultural Resources

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
5. CULTURAL RESOURCES — Would the Project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Discussion

a) **No Impact.** CEQA Guidelines Section 15064.5 requires the lead agency to consider the effects of a project on historical resources. An historical resource is defined as any building, structure, site, or object listed in or determined to be eligible for listing in the California Register, or determined by a lead agency to be significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, or cultural annals of California. The following discussion focuses on architectural and structural resources. Archaeological resources, including archaeological resources that are potentially historical resources according to CEQA Guidelines Section 15064.5, are addressed under Question b) below.

Through a records search, background research, and a field survey, no historical resources were identified in the Project area. As such, there are no architectural or structural resources in the Project area that qualify as historical resources, as defined in CEQA Guidelines Section 15064.5. There would be no impact under this criterion.

b) **Less than Significant with Mitigation.** This section discusses archaeological resources, both as historical resources according to CEQA Guidelines Section 15064.5, as well as unique archaeological resources, as defined in PRC Section 21083.2(g). A significant impact would occur if the Project would cause a substantial adverse change to an archaeological resource through physical demolition, destruction, relocation, or alteration of the resource.

ESA completed a records search at the Northwest Information Center (NWIC) of the California Historical Resources Information System on January 2, 2018 (File No. 17-1705). The review included the Project area and a ½-mile radius. Previous surveys, studies, and site records were accessed. Records were also reviewed in the Historic Property Directory for Alameda County, which contains information on places of recognized historical significance including those evaluated for listing in the *National Register of Historic Places*, the *California Register of Historical Resources*, the *California Inventory of Historical Resources*, *California Historical Landmarks*, and *California Points of Historical Interest*. The purpose of the records search was to (1) determine whether known cultural resources have been recorded within the Project vicinity;

(2) assess the likelihood for unrecorded cultural resources to be present based on historical references and the distribution of nearby sites; and (3) develop a context for the identification and preliminary evaluation of cultural resources.

Results of the records search indicate that no prehistoric or historic-era cultural resources have been previously recorded in the Project area. Three resources with archaeological components have been recorded in the vicinity of the Project area. GandA-509-12H (P-01-011507) and GandA-509-14H (P-01-011508) are historic-era artifact scatters in the vicinity of the Project area. GandA-509-12H comprised three historic-era artifacts including a white-improved earthenware fragment, a cut nail, and a ceramic vessel fragment (Garcia and Associates, 2009a). GandA-509-14H is a scatter of 23 historic-era artifacts including fragments of metal, glass, white-improved earthenware, ceramic, and brick (Garcia and Associates, 2009b). Additionally, ISO-509-13 (P-01-011512), an isolate consisting of a unifacially flaked chert gravel was identified by Garcia and Associates south of the Project area (Garcia and Associates, 2009c).

William Self Associates, Inc. previously surveyed a portion of the Project area in 2000. They did not identify any prehistoric or historic-era archaeological sites in the Project area.

On January 11, 2018, ESA archaeologists conducted a survey of the Project area. A large portion of the area was paved and showed evidence of disturbed soils. Additionally, much of the area was paved or built upon with components of the PPWTP. Dense vegetation, in addition to the pavement, limited ground visibility. Areas where soil was visible were intuitively surveyed for cultural material. These areas included the unpaved areas around the current location of the PPWTP and the entirety of the newly acquired parcel to the east. No evidence of prehistoric or historic-era resources were identified during the field survey.

Based on the results of the records search, background research, and surface survey, no archaeological resources have been identified in the Project area and the Project area has a low potential to uncover buried archaeological resources. As such, the Project is not anticipated to impact any archaeological resources pursuant to CEQA Guidelines Section 15064.5.

While unlikely, if any previously unrecorded archaeological resources are identified during Project ground disturbing activities and were found to qualify as an historical resource per CEQA Guidelines Section 15064.5 or a unique archaeological resource, as defined in PRC Section 21083.2(g), any impacts to the resource resulting from the Project could be potentially significant. Any such potential significant impacts would be reduced to a less than significant level by implementing **Mitigation Measure CUL-1. Inadvertent Discovery of Cultural Resources.**

c) **Less than Significant with Mitigation.** Holocene-age alluvial deposits are mapped at the surface within the Project site. These deposits have low-to-high paleontological sensitivity, increasing with depth, with older, high sensitivity Pleistocene alluvium present at depth. Ground disturbing activity is anticipated to be up to 25 feet in depth at parts of the Project site and is, therefore, likely to disturb geologic units with high paleontological sensitivity. The destruction of fossils would be a potentially significant impact to paleontological resources. Therefore, in order to reduce impacts to paleontological resources to less than significant, mitigation measures are recommended.

With the implementation of **Mitigation Measure CU-2: Inadvertent Discovery of Paleontological Resources**, this Impact would be reduced to a less-than-significant level. If any significant fossil resources are encountered during Project activities, the implementation of paleontological monitoring would ensure they are salvaged and repositied with an appropriate institution, such that the Project would not result in the loss or destruction of significant paleontological resources, as required by CEQA.

d) **Less than Significant with Mitigation.** Through a records search and background research, no human remains are known to exist in the Project area. Therefore, the Project is not anticipated to impact human remains, including those interred outside of formal cemeteries.

While unlikely, if any previously unknown human remains were encountered during ground disturbing activities, any impacts to the human remains resulting from the Project could be potentially significant. Any such potential significant impacts would be reduced to a less than significant level by implementing **Mitigation Measure CUL-3. Inadvertent Discovery of Human Remains.**

Mitigation Measures

Mitigation Measure CUL-1. Inadvertent Discovery of Cultural Resources: If prehistoric or historic-period archaeological resources are encountered, all construction activities within 100 feet shall halt and Zone 7 shall be notified. Prehistoric archaeological materials might include obsidian and chert flaked-stone tools (e.g., projectile points, knives, scrapers) or toolmaking debris; culturally darkened soil (“midden”) containing heat-affected rocks, artifacts, or shellfish remains; and stone milling equipment (e.g., mortars, pestles, handstones, or milling slabs); and battered stone tools, such as hammerstones and pitted stones. Historic-era materials might include deposits of metal, glass, and/or ceramic refuse. A Secretary of the Interior-qualified archaeologist shall inspect the findings within 24 hours of discovery. If it is determined that the Project could damage a historical resource or a unique archaeological resource (as defined pursuant to the CEQA Guidelines), mitigation shall be implemented in accordance with PRC Section 21083.2 and Section 15126.4 of the CEQA Guidelines, with a preference for preservation in place. Consistent with Section 15126.4(b)(3), this may be accomplished through planning construction to avoid the resource; incorporating the resource within open space; capping and covering the resource; or deeding the site into a permanent conservation easement. If avoidance is not feasible, a qualified archaeologist shall prepare and implement a detailed treatment plan in consultation with Zone 7. Treatment of unique archaeological resources shall follow the applicable requirements of PRC Section 21083.2. Treatment for most resources would consist of (but would not be not limited to) sample excavation, artifact collection, site documentation, and historical research, with the aim to target the recovery of important scientific data contained in the portion(s) of the significant resource to be impacted by the Project. The treatment plan shall include provisions for analysis of data in a regional context, reporting of results within a timely manner, curation of artifacts and data at an approved facility, and dissemination of reports to local and state repositories, libraries, and interested professionals.

Mitigation Measure CUL-2: Inadvertent Discovery of Paleontological Resources. If potential fossils are discovered during Project implementation, all earthwork or other types of ground disturbance within 100 feet of the find shall stop immediately until a qualified professional paleontologist can assess the nature and importance of the find. Based on the scientific value or uniqueness of the find, the paleontologist may record the find and allow work to continue, or recommend salvage and recovery of the fossil. The paleontologist may also propose modifications to the stop-work radius based on the nature of the find, site geology, and the activities occurring on the site. If treatment and salvage is required, recommendations will be consistent with Society of Vertebrate Paleontology guidelines (2010) and currently accepted scientific practice. If required, treatment for fossil remains may include preparation and recovery of fossil materials so that they can be housed in an appropriate museum or university collection, and may also include preparation of a report for publication describing the finds.

Mitigation Measure CUL-3. Inadvertent Discovery of Human Remains: In the event of discovery or recognition of any human remains during construction activities, such activities within 100 feet of the find shall cease until the Alameda County Coroner has been contacted to determine that no investigation of the cause of death is required. The Native American Heritage Commission (NAHC) shall be contacted within 24 hours if it is determined that the remains are Native American. The NAHC will then identify the person or persons it believes to be the most likely descendant from the deceased Native American, who in turn would make recommendations to Zone 7 for the appropriate means of treating the human remains and any grave goods.

References

- Garcia and Associates. DPR 523 Site Record form for GANDA-509-12H. On file at the Northwest Information Center of the California Historical Resources Information System, Rohnert Park, California, P-01-011507, 2009a.
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- Garcia and Associates. DPR 523 Site Record form for ISO-509-13. On file at Northwest Information Center of the California Historical Resources Information System, Rohnert Park, California, P-01-011512, 2009c.
- Natural Resources Conservation Service (NRCS), 2017. Web Soil Survey. Available online at: <http://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx>. Accessed December, 2017.
- Northwest Information Center (NWIC), File No. 17-1705. California Historical Resources Information System at Sonoma State University, Rohnert Park. On file at ESA, January 2, 2018.
- Society of Vertebrate Paleontology (SVP). *Assessment and mitigation of adverse impacts to nonrenewable paleontological resources: standard guidelines*, Society of Vertebrate Paleontology News Bulletin. 2010.

University of California Museum of Paleontology (UCMP). *Collections Database Search Results*.
Available at: www.ucmp.berkeley.edu/science/collections.php. Accessed December 2017.

3.2.6 Geology, Soils, and Seismicity

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
6. GEOLOGY and Soils —				
Would the Project:				
a) Expose people or structures to potential substantial adverse effects, including by exacerbating the existing 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 checked="" type="checkbox"/>	<input type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input 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 Uniform Building Code (1994), creating or exacerbating 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 waste water?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion

a.i) **Less than Significant.** The Project is not located in Zone of Required Investigation as delineated on an Alquist-Priolo Earthquake Fault Zoning Map. However, the Project site is directly adjacent to one of these zones, with the zone boundary intersecting Patterson Reservoir near the Project site. Although the Project site is not included in a fault zone boundary, it is less than 1.0 mile from two known active faults, the Greenville fault zone to the northeast and the Las Positas fault to the southwest.

According to the U.S. Geologic Survey and others, human activities that remove or add remove substantial amounts of pressure to the geography of an area can cause that area to shift, which can result in induced earthquakes. Such activities include fluid injection (e.g., wastewater injection and hydraulic fracturing or “fracking”), the construction of artificial lakes, and the drilling of geothermal energy wells (USGS 2015; Templeton 2015). The Project does not propose, and would not result in, any activity that would add or remove a large amount of pressure to the geography of the area. The Project includes no components that would increase the risk of fault rupture. The

Project does not propose and would not result in any activity that would exacerbate the existing risk of loss, injury, or death. This impact would be less than significant.

a.ii) **Less than Significant.** Due to the close proximity to the Greenville Fault zone to the northeast and the Las Positas fault to the southwest, any people or structures in the area would be subject to strong seismic ground shaking. However, the Project does not propose and would not result in any activity that would exacerbate the existing risks associated with strong seismic ground shaking. In addition, the design specifications detailed in the geotechnical investigation report for the Project area would be implemented to minimize any adverse effects associated with seismic ground shaking. This impact would be less than significant.

a. iii) **Less than Significant.** According to an Earthquake Planning Scenario and ShakeMap³ for a hypothetical magnitude 7.0 event in the Greenville fault zone, the Project area is subject to strong seismic groundshaking. Adherence to the geotechnical design recommendations outlined in the geotechnical investigation report (CDM Smith, 2017) for the Project area would ensure that all necessary precautions are taken into consideration during construction. This would, in turn, ensure that all development associated with the Project is constructed to proper standards such that the Project would not exacerbate the existing risk of loss, injury, or death. The impact would be less than significant.

a. iv) **Less than Significant.** Due to the gently sloping terrane surrounding the area, the potential for landslides as a result of earthquakes is considered low. According to the Seismic Hazards Zone Map of the Altamont 7.5-Minute quadrangle (CGS, 2010), the Project site is not in an area that is mapped as having historic landslide movement, or where conditions indicate a potential to experience landslides, such that mitigation would be required. This impact would be less than significant.

b) **Less than Significant with Mitigation.** Project construction would involve ground disturbance of approximately 26,000 cubic yards of soil during on site grading, and some placement of on-site soils as fill. In a storm event, erosion could occur on-site, with sediment from the Project area becoming entrained in stormwater runoff from the site. This could result in a potential significant impact. However, the potential impact of erosion and loss of sediment from the site during construction would be reduced to a less-than-significant level with implementation of **Mitigation Measure WQ-1, Stormwater Pollution Prevention Plan**, as discussed in greater detail in the Hydrology and Water Quality analysis. The mitigation includes Best Management Practices (BMPs) that would reduce the opportunity and effects of erosion and topsoil loss, making this impact less than significant with mitigation.

c) **Less than Significant.** According to the Project's geotechnical analysis, the Project site is on Quaternary alluvial sediments (CDM Smith, 2017). Alluvial sediments are a combination of sand, silt, and clay; this type of material could become unstable as a result of groundshaking in the

³ Earthquake Planning Scenarios and ShakeMaps are generated by the U.S. Geological Survey and are used as a planning tool used to prepare for intensity of future earthquakes. The scenarios are hypothetical and are generated using data compiled by the USGS (USGS, 2016).

event of an earthquake. Liquefaction of soils is a potential risk associated with unconsolidated sediments, however a geotechnical investigation report for the Project area indicates that a majority of the site is not susceptible to liquefaction, and only some isolated layers have the potential to liquefy in the event of a strong earthquake⁴ (CDM Smith, 2017). Furthermore, the Project does not propose and would not result in any activity that would affect the geologic unit underlying the site or cause soils to become unstable. This impact would be less than significant.

d) **Less than Significant.** The surficial clay fill of the Project site is moderately expansive and may cause some damage to the shallow concrete pad or shallow foundation due to changes in moisture content or infiltration of surface water. The geotechnical investigation report prepared for the Project suggests a thickened edge or deepened perimeter footing for the shallow concrete pad to minimize potential for changes in moisture content. In addition, the upper clayey soils can be removed and replaced with a non-expansive alternative (CDM Smith, 2017). Adherence to the recommendations in the geotechnical investigation report could reduce the risks associated with expansive soils to less-than-significant level.

e) **No Impact.** The Project does not have any components that would involve the disposal of wastewater or use of septic tanks or other alternative wastewater disposal system. There would be no impact under this criterion.

Mitigation Measures

See **Mitigation Measure WQ-1, Stormwater Pollution Prevention Plan**, in Hydrology and Water Quality, below.

References

- California Department of Conservation, 2015. Fault Activity Map of California (2010). <http://maps.conservation.ca.gov/cgs/fam/>.
- California Geological Survey (CGS), 2010. Landslide Inventory Map of the Altamont Quadrangle. Map. Scale 1:24,000.
- CGS, 2008. Earthquake Zones of Required Investigation, Altamont Quadrangle. Map. Scale 1:24,000.
- CDM Smith, 2017. Geotechnical Investigation Report: *Patterson Pass Water Treatment Plant—Upgrades and Ozonation Project*.
- Society of Vertebrate Paleontology (SVP), 2010.
- Templeton, Graham, 2015. Human Activity Is Causing Significantly More Earthquakes. Motherboard. [https://motherboard.vice.com/en_us/article/human-activity-is-causing-significantly-more-earthquakes].
- United States Geological Survey (USGS), 2016. Earthquake Planning Scenario: Greenville ShakeMap. Map. Scale not specified.

⁴ In this context, a “strong earthquake” is considered a magnitude 6.35 or above (CDM Smith, 2017).

United States Geological Survey (USGS), 2015. 6 Facts about Human-Caused Earthquakes.
[https://www2.usgs.gov/blogs/features/usgs_top_story/6-facts-about-human-caused-earthquakes/]

3.2.7 Greenhouse Gas Emissions

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
7. GREENHOUSE GAS EMISSIONS — Would the Project:				
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"/>

Discussion

a) **Less than Significant.** Based on the following analysis, construction and operation of the Project would not generate greenhouse gas (GHG) emissions, either directly or indirectly, that would have a significant impact on the environment.

Construction activities that would be associated with the Project would include site preparation; below ground work such as boring, trenching, and pipe installation; building construction and tank installation; system testing; and cleanup and restoration. Construction activities would occur over a period of approximately 36 months, between January 2019, and December 2021. The majority of the Project-related GHG emissions would be generated on-site due to the use of heavy-duty off-road equipment and a smaller amount of emissions would be generated off-site from trucks transporting equipment and material to the site.

For stationary source projects such as this Project, the 2017 Bay Area Air Quality Management District (BAAQMD) CEQA Guidelines recommend an operational significance threshold of 10,000 metric tons per year of CO₂e (BAAQMD, 2017). Stationary-source projects include land uses that would accommodate processes and equipment that emit GHG emissions and would require a BAAQMD permit to operate. BAAQMD has not adopted significance thresholds for construction-related GHGs; however, it requires that the lead agency disclose those emissions and make a determination of impacts in relation to meeting AB 32 reduction goals. For construction-related GHGs, other air districts (e.g., South Coast Air Quality Management District) have recommended that total emissions from construction be amortized over 30 years, representing the lifetime of the project, and added to operational emissions and then compared to the operations significance threshold (SCAQMD, 2008).

GHG emissions from construction activities were estimated using the CalEEMod emissions model with the same assumptions as discussed in the Air Quality analysis. The results of the CalEEMod run indicate that the Project would generate a total of approximately 1,043 metric tons of CO₂e over the 36-month Project construction period. Amortized over an estimated Project life of 30 years, the annual GHG emissions from Project construction would be 35 metric tons of CO₂e. Operational emissions from the testing and maintenance of the emergency standby generator would be minimal at 25 metric tons per year. The indirect emissions associated with the Project's electricity use were estimated using Pacific Gas and Electric Company's (PG&E) power

grid emission factor for year 2020 (i.e., 0.131 metric tons CO₂ per megawatt per hour [MWh]; PG&E, 2015). Nitrous oxide (N₂O) and methane (CH₄) emission factors for electricity use were obtained from The Climate Registry (TCR, 2017). Based on input from the Project applicant (CDM Smith, 2018b), it is estimated that the Project's maximum annual electricity demand would be approximately 13,000 MWh per year. This would equate to approximately 1,715 metric tons CO_{2e} emissions per year. Refer to Appendix 1 for all assumptions used to estimate Project-related GHG emissions.

The sum of Project construction and operational GHG emissions would be approximately 1,715 metric tons CO_{2e} per year, which would be well below the 10,000 metric tons CO_{2e} per year significance threshold. Therefore, the Project would not generate GHG emissions that may have a significant impact on the environment. This impact would be less than significant.

b) **Less than Significant.** The Project would be located within an unincorporated area of Alameda County. The Alameda County Community Climate Action Plan (Plan) addresses reduction of GHG emissions within the unincorporated areas of Alameda County through a series of 37 local programs and 80 recommended policy measures related to transportation, land use, building energy, water, waste, and green infrastructure. The Plan, approved in February 2014, would enable the County to reduce its community-wide emissions by more than 15 percent by the year 2020 (Alameda County, 2014).

The Project's emissions of CO_{2e} represent a negligible amount when compared to the total annual GHG emissions generated for the entire County. Furthermore, the Project GHG emissions from construction would be a one-time occurrence and would not continually contribute to the County's annual emissions, nor would it hinder the County's progress towards its reduction targets. GHG emissions from the operation of the emergency backup generator would be minimal, as the generator would be routinely operated only for testing and maintenance for a maximum of 1 hour per day, 26 days per year, and indirect emissions from electricity usage would be limited to approximately 1,715 metric tons CO_{2e} emissions per year. Therefore, operational emissions would not result in the Project conflicting with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions. This impact would be less than significant.

With regard to consistency with the applicable air district plan, the BAAQMD's 2017 Clean Air Plan (2017 CAP) contains 85 control measures aimed at reducing air pollution in the Bay Area. The 2017 CAP does not contain any measures specific to water treatment plants and, therefore, no inconsistency with the 2017 CAP is identified. This impact would be less than significant.

Mitigation Measures

No mitigation measures are required.

References

Alameda County, Community Climate Action Plan – An Element of the Alameda County General Plan, February 4, 2014.

CDM Smith, 2018. Patterson Pass Water Treatment Plant Upgrades and Ozonation Project, Project Drawings, 60% Submittal Not for Construction, April 2018. Bay area Air Quality Management District (BAAQMD), California Environmental Quality Act – Air Quality Guidelines, May 2017.

Pacific Gas and Electric Company (PG&E), 2015. Greenhouse Gas Emission Factors: Guidance for PG&E Customers, November 2015. Available online at: https://www.pge.com/includes/docs/pdfs/shared/environment/calculator/pge_ghg_emission_factor_info_sheet.pdf. Accessed May 23, 2018.

South Coast Air Quality Management District (SCAQMD), Interim CEQA GHG Significance Threshold for Stationary Sources, Rules and Plans, December 5, 2008.

The Climate Registry (TCR), 2017. Climate Registry 2017 Default Emission Factors, released March 2017.

3.2.8 Hazards and Hazardous Materials

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
8. HAZARDS AND HAZARDOUS MATERIALS — Would the Project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input 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 for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
h) Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Discussion

a) **Less than Significant.** Project construction would require the transportation, storage, use, and disposal of certain hazardous substances, such as, but not limited to, fuels, lubricants, degreasers, and oil routinely used during construction activities. Inadvertent release of these materials into the environment could adversely impact soil, surface water, or groundwater quality and potentially result in a significant hazard-related impact.

Construction activities must comply with numerous hazardous materials and stormwater regulations designed to ensure that hazardous materials are transported, used, stored, and disposed of in a safe manner to protect worker safety, and to reduce the potential for accidental releases of construction-related fuels or other hazardous materials that could affect stormwater and downstream receiving water bodies. For example, the California Health and Safety Code and the California Fire Code require contractors to develop and implement a Hazardous Materials Management Plan (HMBP) for their activities that involve the use of hazardous materials. These

requirements would ensure that hazardous materials used for construction would be stored in appropriate containers, with secondary containment to contain a potential release, and to have a spill response plan in place to respond to accidents. With these measures in place, potential impacts from construction-related hazardous materials would be less than significant.

As described in Chapter 2, Project Description, the Project would include an ozone generation room as part of the ozone generation building and the ozone contractor structure, both of which would be designated as hazardous spaces due to the presence of hazardous materials (e.g., ozone, chlorine disinfection compounds). To manage this, these spaces would be equipped with continuous ventilation. The horizontal tube ozone generators and ancillary components would be housed inside the ozone generation building. The liquid oxygen (LOX) and carbon dioxide storage facilities would include vertical storage tanks and cryogenic piping. The piping would be insulated to prevent injury from contact with cryogenic piping. The carbon dioxide facility would include a vertical liquid carbon dioxide tank and ancillary components that would be housed on a concrete slab. The Project would also include the use of a diesel-fueled generator providing back-up power for the new ozone system.

Operation and maintenance activities of the Project would include the routine transport of hazardous materials (e.g., ozone, chlorine disinfection compounds). The regulations under HMBPs, U.S. Department of Transportation (USDOT), and the California Highway Patrol (CHP) include requirements that the transport of hazardous materials be conducted by licensed hazardous materials transporters in containers appropriate for the hazardous material. The transporters are also required to have spill response procedures in place. With compliance with hazardous materials regulations, this impact would be less than significant.

b) Less than Significant with Mitigation. Project construction would involve ground excavation, removal of an existing dirt mound, and some soil disturbance during grading of the Project area. The potential exists to encounter underground facilities such as sewer lines and for leaks in those structures to expose workers to hazardous materials.

The potential to encounter hazardous materials in the subsurface during Project construction due to existing hazardous sites is considered to be low as discussed in Question d) below. However, if soil, groundwater, or other environmental medium with contamination is unexpectedly encountered during excavation or other construction activities, the Project could exacerbate the condition by exposing existing contaminants to the air (allowing volatilization), or to soil or water (enabling environmental or human exposure pathways that could increase the extent of the hazard). Implementation of **Mitigation Measure HAZ-1, Unanticipated Soil or Groundwater Contamination**, would reduce impacts related to unanticipated exacerbation of existing risks relating to hazardous materials to less than significant.

It can reasonably be assumed that Project construction planning would include avoidance of overhead electrical power lines. Excavation activities could encounter underground utility lines (e.g., other water, sanitary sewer pipes and communication lines) in the Project vicinity. However, underground utility regulations require excavators to contact the regional notification center (e.g., Underground Services Alert or Dig Alert) at least two days prior to excavation of any

subsurface installations, which will notify the utilities that may have buried lines within 1,000 feet of the Project. Representatives of the utilities are then notified and are required to mark the specific location of their facilities within the work area prior to the start of Project activities in the area. With compliance with these regulations, these potential impacts would be reduced to a less-than-significant impact.

Operation and maintenance activities of the Project would include the routine transport of hazardous materials (e.g., ozone, chlorine disinfection compounds). The regulations under HMBPs, USDOT, and CHP include requirements that the transport of hazardous materials be conducted by licensed hazardous materials transporters in containers appropriate for the hazardous material. The transporters are also required to have spill response procedures in place. With compliance with hazardous materials regulations, this impact would be less than significant.

c) **No Impact.** No schools are located within 0.25 mile of the Project site. There would be no impact under this criterion.

d) **No Impact.** The Project site is not included on any of the lists of hazardous materials sites maintained by the State Water Resources Control Board (SWRCB, 2018) or the Department of Toxic Substances Control (DTSC, 2018) that are compiled pursuant to Government Code Section 65962.5. Therefore, no impact would occur.

e) **No Impact.** The Project area is located approximately 7 miles from the Livermore Municipal Airport. The Project is not within the boundaries of the Part 77 Airspace Protection Surfaces as defined in the Alameda County Airport Land Use Compatibility Plan for Livermore Executive Airport (Alameda County, 2012). There would be no impact under this criterion.

f) **No Impact.** The Project is not located within the vicinity of a private airstrip. The nearest private airstrip, Meadowlark Field Airport, is located approximately 2 miles from the Project area. There would be no impact under this criterion.

g) **Less than Significant.** The Project site is within coverage of the Alameda County Catastrophic Earthquake Transportation and Evacuation Plan and the Alameda County Human Evacuation Plan. The Project would not interfere with the designated agency responsibilities and reporting in the event of an emergency, because no roads would be completely closed, and construction and operational activities would occur within the existing PPWTP boundaries. The carrying capacities of the roadways during this time would not be affected. This impact would be less than significant.

h) **Less than Significant with Mitigation.** The California Department of Forestry and Fire Protection (CAL FIRE) maps wildland fire threats through the State of California through an indexing system based on the combination of potential fire behavior (Fuel Rank) and expected fire frequency (Fire Rotation). The Project area is subject to a moderate threat of fire (CAL FIRE, 2007).

Potential sources of ignition could include equipment with internal combustion engines and gasoline-powered tools. Smoking by onsite construction personnel would also be a potential

source of ignition. If these or other Project activities sparked a wildland fire, a potential significant impact related to the risk of loss, injury, or death would result. This impact could be reduced to less than significant through the implementation of **Mitigation Measure HAZ-2, Fire Safety Practices**.

Facilities and equipment associated with the operation of the ozonation system would be contained and/or fitted with components to eliminate the potential for fire ignition. Operation of the Project would result in no impact associated with wildland fire-related risk.

Mitigation Measures

With implementation of the following mitigation measures, potentially significant impacts attributable to unanticipated contamination, encountering underground utilities, and fire would be reduced to a less-than-significant level.

Mitigation Measure HAZ-1: Unanticipated Soil or Groundwater Contamination.

Zone 7 shall require the construction contractor to follow the procedures below, at the minimum, in the event contaminated soil or groundwater is encountered (either visually, through odor detection, or another method) during construction:

- Stop work in the vicinity of the suspected materials;
- Secure the area of suspected contamination;
- Notify Zone 7 or its designee immediately, who shall then contact the appropriate regulatory agencies;
- Identify the nature and extent of contamination;
- Contain the areas of contamination;
- Perform appropriate clean up procedures (such as segregate, profile, and dispose of all contaminated soil). Required disposal method will depend on the type and concentration of contamination identified; and
- Any site investigation or remediation shall be performed in accordance with applicable regulations. Work shall not resume in the area(s) affected until the above measures have been implemented under the oversight of Zone 7 or regulatory agency, as appropriate.

Mitigation Measure HAZ-2: Fire Safety Practices.

Zone 7 shall require the construction contractor to ensure that, at a minimum, the following fire safety construction practices are implemented:

- Earthmoving and portable equipment with internal combustion engines shall be equipped with a spark arrestor to reduce the potential for igniting a wildland fire;
- Appropriate fire suppression equipment shall be maintained at the construction site;
- Flammable materials shall be removed to a distance of 10 feet from any equipment that could produce a spark, fire, or flame; and

- Construction personnel shall be trained in fire safe work practices, use of fire suppression equipment, and procedures to follow in the event of a fire.

References

Alameda County, 2012. Livermore Executive Airport – Airport Land Use Compatibility Plan. August 2012.

California Department of Forestry and Fire Protection (CALFIRE), 2007. Fire Hazard Severity Zones in SRA, adopted by CAL FIRE on November 7, 2007.

California Department of Toxic Substances Control (DTSC), 2018. EnviroStor Database search, www.envirostor.dtsc.ca.gov/public, accessed March 9, 2018.

State Water Resources Control Board (SWRCB), 2018. GeoTracker Database search, geotracker.waterboards.ca.gov, accessed March 9, 2018.

3.2.9 Hydrology and Water Quality

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
9. HYDROLOGY AND WATER QUALITY — Would the Project:				
a) Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input 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, in a manner which would result in substantial erosion or siltation on- or off-site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Place within a 100-year flood hazard area structures that would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
j) Inundation by seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Discussion

a, c, d, e, f) **Less than Significant with Mitigation.** The nearest major water body to the Project site is the Patterson Reservoir adjacent to the north perimeter of the Project. The Patterson Reservoir is owned and operated by DWR as part of the South Bay Aqueduct. Additionally, two drainage ditches are found on the western and northern fringes of the treatment plant boundary. Stormwater from the PPWTP is currently collected by an onsite storm drain system. Some of the stormwater flow is directed to onsite facilities and returned to the head of the plant for treatment. The remainder is directed through the drain system to an outfall into the western drainage ditch. Stormwater runoff from the proposed site components would be directed to the proposed concrete-lined detention pond. The stormwater would be stored in this pond and then returned into the plant's treatment system to be treated. The pond is designed to provide storage for a 10-

year 24-hour design storm. Flows in excess of the pond's storage volume are routed to the site's existing drainage system.

Site preparation for the Project would require disturbing up to approximately 26,000 cubic yards of native soil materials. This could potentially result in erosion and siltation to the tributary on the western border of the Project, as well as the ditch on the northern side of the treatment plant parcel. In addition, due to relatively shallow groundwater which can be anywhere between 6.5 and 20 feet below ground surface, dewatering excavations may be necessary. ~~If needed, dewatering would not discharge any groundwater but would be treated onsite through the existing treatment system.~~ As noted in Section 2.5.3, this discharge would be used for onsite dust control, discharged onto adjacent upland areas owned by Zone 7, and/or discharged to an existing sanitary sewer line and treated by the area's wastewater treatment provider (which would be subject to review and approval from that provider). However, in order to reduce or avoid other potential discharges to surface waters during construction, **Mitigation Measure WQ-1, Stormwater Pollution Prevention Plan** would be implemented. Zone 7 would require the construction contractors to follow a Stormwater Pollution Prevention Plan (SWPPP) as part of a NPDES General Construction Activities Stormwater Permit for the Project to prevent the discharge of pollutants to stormwater runoff to the maximum extent practicable by implementing Best Management Practices (BMPs), including installation of silt barriers during construction to avoid erosion and discharge of silty runoff offsite. With implementation of a SWPPP, the Project would not violate water quality standards for construction activities, including sedimentation, entrainment and discharge of contaminants, and/or flooding. Potential impacts to water quality resulting from construction related discharges would be considered less than significant with the incorporation of Mitigation Measure WQ-1, Stormwater Pollution Prevention Plan.

The placement of up to 175,000 square feet of net new impervious surface area would result in a net change to existing drainage conditions. However, the Project would be required to adhere to post-construction stormwater requirements of the Municipal Regional Stormwater NPDES Permit (MRP) (Order No. R2-2015-0049, NPDES Permit No. CAS61 2008). These permit requirements would ensure that the proposed improvements include source control drainage features that address runoff pollutant discharges and prevent increases in runoff flows. These goals are meant to be achieved through implementation of low impact development (LID) techniques to the extent feasible. Therefore, with adherence to the drainage control requirements, the Project would not generate additional stormwater runoff that would leave the PPWTP property and would not lead to significant amounts of sediment or other contamination being transported off-site or cause flooding on- or off-site. Water utilized for hydro-testing of the new proposed ozonation system components would be recycled through the headworks of the treatment plant to confirm acceptable treatment process functionality in accordance with Zone 7 policy and applicable water quality mandates.

With adherence to the existing regulatory requirements for construction and post-construction, the incorporated mitigation, the SWPPP, BMPs, and drainage control features including the detention pond, the potential impacts to water quality and drainage control would be reduced to less-than-significant levels.

b) **Less than Significant Impact.** No groundwater production or use is proposed as part of this Project. The placement of up to 175,000 square feet of net new impervious surface area would be for all the Project components except the filters and the detention pond within the 13.75-acre PPWTP grounds and would be required to adhere to the NPDES MRP permit requirements which require LID measures such as the detention pond. Therefore, the stormwater runoff produced from the proposed elements would be retained onsite and would not substantially reduce the amount of stormwater available for groundwater recharge. This impact would be less than significant.

g) **No Impact.** The Project is within the existing PPWTP facility and does not include housing. There would be no impact under this criterion.

h) **No Impact.** The Project site would be constructed within the existing PPWTP property fence line. The PPWTP property is not located within any mapped 100-year flood zone (FEMA, 2009). There would be no impact under this criterion.

i) **Less than Significant.** The Project site is located adjacent to the Patterson Reservoir and the South Bay Aqueduct. It is unlikely that Project construction activities would produce sufficient vibration to cause failure of the reservoir or aqueduct based on the type and duration of construction that would be required for the proposed Project components. Otherwise, the reservoir is under the jurisdiction of the California Division of Safety of Dams (DSOD) and must meet seismic design criteria and routine inspections that make the potential for failure relatively remote. This impact would be less than significant.

j) **Less than Significant.** The Project site is located at over 670 feet elevation above mean sea level (msl) and is located adjacent to the Patterson Reservoir which, as an enclosed body of water, would have a moderate potential for experiencing seiche waves from a seismic event. However, none of the proposed elements are located immediately adjacent to the reservoir and in the event that seiche waves caused water to overtop the reservoir sidewalls, the potential damage would likely be relatively minor. The site has no risk of tsunami hazard, based on the inland location (CDM Smith, 2017). The Project site is within gently sloping terrain and not within an area that would experience the effects of a mudflow. This impact would be less than significant.

Mitigation Measures

Implementation of the following mitigation measure would reduce potential hydrologic and water quality impacts to a less-than-significant level.

Mitigation Measure WQ-1: Stormwater Pollution Prevention Plan.

Zone 7 or its construction contractor shall prepare a site-specific SWPPP in accordance with the terms of the NPDES General Construction Activities Stormwater Permit (Order No. 0014-DWQ, NPDES No. CAS000002, or current version). It shall require the construction contractor to incorporate the SWPPP's Best Management Practices (BMP) into all aspects of the Project. The BMPs shall include measures for management and operation of the construction site to control and minimize potential contribution of pollutants to stormwater runoff from these areas. These measures shall address site-specific methods for preventing and minimizing erosion and delivery of sedimentation

through construction management practices to ensure control of potential water pollution sources.

Construction phase BMPs shall be in accordance with the NPDES General Construction Activities Stormwater Permit and shall include, but are not limited to the following:

- Pre-construction inspection by a Qualified SWPPP Practitioner (QSP) or their designee to verify placement of storm water and erosion control devices sufficient to avoid off-site impacts.
- Dust control measures, as outlined under Mitigation Measure AQ-1, and as stated in the NPDES General Construction Activities Stormwater Permit, shall be conducted while minimizing excessive use of water, such that water is not permitted to pool or generate conditions leading to excessive delivery of sediments through runoff.
- Stabilize stockpiled soils by covering piles and using perimeter sediment barriers before/during rain events or if they are unused for an extended period of time.
- Placement of (non-polymer) silt barriers, straw wattles, or other appropriate protective devices around inlets of all storm drains on site to minimize discharge of silty water or runoff, as determined by Qualified SWPPP Developer (QSD).
- Inspect and clean, if necessary, storm drain inlets weekly and before/after rain events.
- The site shall be swept or otherwise cleared of all debris, including garbage and plastics daily and at the conclusion of the construction period.
- Measures shall be taken on site to ensure that oils (as may be used in routine maintenance of construction equipment) are prevented from spilling or otherwise reaching surfaces that could result in eventual delivery to storm drains. The construction site shall be checked daily at the conclusion of the workday to ensure that fuels, oils, and other potentially toxic substances are secured.
- The measures included in the SWPPP shall be monitored on a weekly basis, or greater as required by Permit, for effectiveness at limiting delivery of sediments or other toxic substances to the storm drains. If a measure is found to be ineffective, it shall be redesigned or replaced without delay.
- Additional BMPs as determined by Zone 7 in order to maintain compliance with the terms of its NPDES (Municipal Regional Stormwater NPDES Permit, "MRP") permit, or other regulatory requirement deemed applicable shall be incorporated into the SWPPP, as appropriate.

Post-construction phase BMPs shall be in accordance with the NPDES General Construction Activities Stormwater Permit and shall include, but are not limited to the following:

- The site shall be inspected by Zone 7 personnel, or designated qualified monitor at the conclusion of the construction period to ensure correct placement of post-construction erosion control measures.
- Any additional post-construction BMPs, as determined by Zone 7 in order to maintain compliance with the terms of its NPDES (MRP) permit including Provision

C.3, or other regulatory requirement deemed applicable shall be incorporated into the SWPPP, as appropriate.

References

CDM Smith, 2017. Patterson Pass Water Treatment Plant – Upgrades and Ozonation Project Geotechnical Investigation Report. December 12, 2017.

Federal Emergency Management Agency (FEMA) Flood Map Service Center, 2009, available online at:
<https://msc.fema.gov/portal/search?AddressQuery=8750%20Patterson%20Pass%20Road%20Livermore%2C%20CA#searchresultsanchor>, accessed March 12, 2018.

3.2.10 Land Use and Land Use Planning

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
10. LAND USE AND LAND USE PLANNING — Would the Project:				
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion

a) **No Impact.** The Project would be constructed entirely within the PPWTP grounds and the adjacent East Parcel, also owned by Zone 7. It would not include any land use changes that would physically divide an established community. There would be no impact under this criterion.

b) **No Impact.** The Project would be located entirely within the existing PPWTP fence line and within the East Parcel, also owned by Zone 7, inside the City of Livermore's sphere of influence. According to the Land Use Element of the Livermore General Plan, the property is designated as Water Management Lands, with Open Space, Large Parcel Agriculture lands surrounding the area (City of Livermore, 2013). According to the City of Livermore Zoning Map, the existing PPWTP and the adjacent East Parcel are designated Heavy Industrial zone (City of Livermore, 2017). The Project would not conflict with either of these land use designations, therefore, there would be no impact under this criterion.

c) **No Impact.** The Project site is not within an area subject to any Habitat Conservation Plan (CDFW, 2018b) adopted pursuant to the federal Endangered Species Act, or any Natural Community Conservation Plan (CDFW, 2018c), or other approved local, regional, or state habitat conservation plan, therefore there would be no impact under this criterion.

Mitigation Measures

No mitigation measures are required.

References

CDFW, 2018b. NCCP Plan Summaries. Accessed on January 8, 2018 via:
<https://map.dfg.ca.gov/metadata/ds0760.html>

CDFW, 2018c. Conservation Plan Boundaries, HCP and NCCP. Data downloaded on January 8, 2018 via: <https://www.wildlife.ca.gov/conservation/planning/nccp/plans>

City of Livermore, 2017. City of Livermore Zoning Map. Last updated August 24, 2017.

City of Livermore, 2013. City of Livermore General Plan, Land Use Element. Amended
December 2013.

3.2.11 Mineral Resources

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
11. MINERAL RESOURCES — Would the Project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<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"/>

Discussion

a, b) **No Impact.** The Project site is not located within an area classified as a mineral resource by the State Geologist (City of Livermore, 2014; CGS, 1982). Given that the Project is neither located in or a near a mineral resource recovery site, nor is it located in an area of regional significance, there would be no loss of availability of a known mineral resource (City of Livermore, 2014). There would be no impact under this criterion.

Mitigation Measures

No mitigation measures are required.

References

California Geological Survey (CGS), 1982. Mineral Land Classification Map, Altamont Quadrangle. Map. Scale 1:24,000.

City of Livermore, 2014. City of Livermore General Plan 2003-2025—Open Space and Conservation Element.

3.2.12 Noise

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
12. NOISE — Would the Project result in:				
a) Exposure of persons to or generation of, noise levels 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) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input 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 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"/>
f) For a project located in the vicinity of a private airstrip, 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"/>

Discussion

a) **Less than Significant.** The Project would be located in an unincorporated area of Alameda County east of the City of Livermore. The nearest residence is located approximately 1,010 feet southeast of the Project site boundary, along Patterson Pass Road. Pursuant to Alameda County General Plan Policy 290, the County requires new development projects to incorporate mitigation if the project would result in a day-night noise level (DNL) that would exceed 60 A-weighted decibels (dBA) at a residential property line (Alameda County, 2002). This noise level is applicable to long-term sources of noise, such as those that would be associated with operation of the Project. According to Chapter 6.60.040, it is unlawful for any person to expose an adjacent sensitive receptor to noise levels that would exceed 50 dBA L_{eq} during the daytime hours and 45 dBA L_{eq} during the nighttime hours. Chapter 6.60.070 of the Alameda County municipal code exempts construction noise from the County's ordinance provided activities occur from 7:00 AM to 7:00 PM on weekdays and 8:00 AM to 5:00 PM on weekends (most, if not all, of the work is expected to occur during the week).

As discussed further under Question c), the primary source of noise during Project operation would be the onsite pumps and emergency power generator. The generator would be routinely operated only for testing a maximum of 1 hour per day and would be fully enclosed. As shown in **Table 3.3**, the nearest sensitive receptor to the Project site would not be exposed to noise levels that would exceed the County's 60 dBA DNL or nighttime 45 dBA L_{eq} standards for residential uses during the operation of the onsite pumps and emergency power generator. With regard to construction, these short-term activities would only take place during the least-noise sensitive

daytime hours between 7:00 AM and 7:00 PM on weekdays and 8:00 AM to 5:00 PM on weekends, which would be consistent with the Alameda County Noise Ordinance.

Therefore, the Project would not expose persons to or generate noise levels in excess of standards established in the local general plan or noise ordinance. This impact would be less than significant.

**TABLE 3.3
SUMMARY OF OPERATIONAL NOISE EXPOSURE AT SENSITIVE RECEPTORS LOCATIONS
STATIONARY SOURCES**

Noise Sources	Reference Noise Level at a distance of 50 Feet ¹	Number of Units	Distance to nearest Sensitive Receptor (feet) ²	Attenuated Noise Level at nearest Sensitive Receptor, 1-hour L_{eq} ³	Attenuated Noise Level at nearest Sensitive Receptor, DNL ⁴
Flash Mix Pumps	59	1	1,400	23	29
Chlorine Contract Basin Mixing Pumps	56	1	1,255	21	27
Treat Water Pumps	66	5	1,555	36	42
Backwash Pumps	65	3	1,555	32	38
Plant Water Jockey Pumps	70	3	1,555	37	43
Washwater Recovery Pumps	58	3	1,555	25	31
FTW Return Pump Station	61	3	1,500	29	35
Emergency Power Generator Testing	81	1	1,390	25	12
Cumulative Noise Level, DNL dBA				41	47
Ambient, DNL dBA					55
Ambient + Project, DNL dBA					56
Increase Over Ambient, dB					1
Exceed Alameda County's 45 dBA L_{eq} Nighttime Noise Standard (yes or no)? ⁵					No
Exceed Alameda County's 60 dBA L_{dn} Noise Standard (yes or no)? ⁵					No
Exceed Applied 5 dB Substantial Noise Increase threshold (yes or no)? ⁵					No

NOTES:

- 1 Pump and generator reference noise levels were obtained from the Federal Transit Administration's *Transit Noise and Vibration Impact Assessment* (FTA, 2006) and David A. Bies' *Engineering Noise Control* (Bies, 2009).
- 2 Measured distance from the nearest sensitive receptor to the Project site to the proposed onsite pump station or emergency power generator location.
- 3 Assumed an attenuation rate of 7.5 dB per doubling of distance (i.e., soft site) and emergency power generator would be fully enclosed.
- 4 Assumed generators would operate for only 1 hour during the daytime hours and all pumps would operate 24-hours a day.
- 5 The Alameda County General Plan contains a 60 dBA L_{dn} noise standard and limits noise to 45 dBA during the nighttime hours. For this analysis, a 5 dB increase over ambient would be considered a substantial noise increase.

SOURCES: FTA, 2006; Bies, 2009

b) Less than Significant. Vibration can be interpreted as energy transmitted as waves through the ground. These energy waves generally dissipate with distance from the vibration source. Since energy is lost during the transfer of energy from one particle to another, vibration attenuates rapidly with distance. Operations and maintenance of the Project would not include any sources of vibration that would be considered excessive. Groundborne vibration and noise associated with some construction activities, including the use of pile drivers, blasting, and jack hammers can cause excessive vibration. The Project would not include any such activities. Groundborne vibration and noise levels generated by equipment required to construct the Project would be minimal and would not be perceptible beyond a distance of 25 feet from the source (FTA, 2006). No existing structures are located close enough to the Project site such that any damage related to

groundborne vibration from construction activities would occur. The nearest residence is located approximately 1,010 feet southeast of the Project site boundary. From this distance, groundborne vibration from Project construction equipment would not be noticeable at the nearest sensitive receptor. This impact would be less than significant.

c) **Less than Significant.** This evaluation uses a 5 dB increase in noise exposure, which is considered a readily perceptible increase in noise levels (Caltrans, 2013), to assess the significance of operational noise increases in ambient noise. That is, a significant impact would occur if the Project would increase ambient noise levels by 5 dB or greater.

The area surrounding the Project site can be characterized as rural, which includes low-volume traffic noise along Patterson Pass Road. The nearest sensitive receptor to the Project site (1,010 feet to the southeast) is itself located approximate 235 feet from the centerline of Patterson Pass Road. According to the Federal Transit Administration's (FTA) *Transit Noise and Vibration Impact Assessment*, a sensitive receptor located within 200 to 400 feet of a roadway with traffic speeds of 55 miles per hour would be exposed to vehicular traffic noise of roughly 55 dBA DNL (FTA, 2006).

Noise generated by the onsite pumps and the emergency power generator were estimated using reference noise levels found in the FTA's *Transit Noise and Vibration Impact Assessment* (FTA, 2006) and David Bies' *Engineering Noise Control* (Bies, 2009) using site plans and specifications provided by the Project applicant. For this analysis, it is assumed that all onsite pumps would operate 24-hours a day and would not be fully enclosed. The emergency power generator would be routinely operated only for testing for a maximum of 1-hour per day and 50 hours per year, and would be fully enclosed. **Table 3.3** presents the noise levels associated with proposed onsite stationary noise sources, ambient noise levels, and estimated ambient-plus-Project noise levels at the nearest sensitive receptor to the Project site. As shown in Table 3.3, sensitive receptors in the vicinity of the onsite pumps and emergency power generator would not be exposed to operational noise that would exceed the applied 5 dB substantial increase threshold. This impact would be a less than significant.

d) **Less than Significant.** Construction noise levels at and near the Project site would fluctuate depending on the type, number, and duration of use of various pieces of construction equipment. Given the low level of construction-related vehicle trips associated with hauling and commuting workers (estimated to be less than an average of 30 trips per day), these trips would not be expected to raise ambient noise levels along haul routes. **Table 3.4** shows typical noise levels produced by various types of construction equipment that would operate at the Project site.

Noise impacts from construction generally result when construction activities occur during the noise-sensitive times of the day (early morning, evening, or nighttime hours), in areas immediately adjacent to sensitive receptors, or when construction noise lasts for extended periods of time. Noise generated from the noisiest construction equipment (i.e., a concrete vibrator at 82 dBA L_{eq}) would attenuate to approximately 49 dBA L_{eq} at the closest residence location.

TABLE 3.4
REFERENCE CONSTRUCTION EQUIPMENT NOISE LEVELS
(50 FEET FROM SOURCE)

Type of Equipment	L _{max} , dBA	Hourly L _{eq} , dBA/Percent Used ¹
Backhoe	80	76/40
Compactor	80	73/20
Bobcat	80	76/40
Boom Crane	85	77/16
Excavator	85	81/40
Trencher	84	80/40
Forklift	85	78/20
Concrete Vibrator	85	82/50
Front Loader	80	76/40
Generator	82	79/50

NOTES:

¹ "Percent used" data were obtained from the FHWA Roadway Construction Noise Model User's Guide.

SOURCE: FHWA, 2006.

Although there are no applicable local policies or standards available to judge the significance of short-term daytime construction noise levels, the FTA's *Transit Noise and Vibration Impact Assessment* has identified a daytime 1-hour L_{eq} level of 90 dBA as a noise level where adverse community reaction could occur at residential land uses (FTA, 2006). This noise level is used here to assess whether construction-related noise levels would cause a substantial temporary or periodic increase in ambient noise levels at sensitive receptor locations. Although Project-related construction noise levels may be audible at the nearest sensitive receptor locations, they would not exceed the 90 dBA L_{eq} threshold, and therefore would not result in a significant impact. This impact would be less than significant.

e, f) **No Impact.** The Project area is located approximately 7 miles from the Livermore Municipal Airport and is not within an airport land use plan. The Project is not located within the vicinity of a private airstrip (i.e., 2 miles). Therefore, the Project would not expose people residing or working in the Project area to excessive noise levels due to aircraft operations. There would be no impact under this criterion.

Mitigation Measures

No mitigation measures are required.

References

Alameda County Community Development Agency, 2002. *East County Area Plan – Volume 1: Goals, Policies and Programs*, last amended in May 2002.

Bies, 2009. *Engineering Noise Control*. 2009

California Department of Transportation (Caltrans), 2013. *Technical Noise Supplement to the Traffic Noise Analysis Protocol*. September 2013.

Federal Highway Administration (FHWA), 2006. *FHWA Roadway Construction Noise Model User's Guide*. January 2006.

Federal Transit Administration (FTA), 2006. *Transit Noise and Vibration Impact Assessment*. May 2006

3.2.13 Population and Housing

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
13. POPULATION AND HOUSING — Would the Project:				
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 housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion

a) **No Impact.** As noted in Section 2.2, the Project does not intend to independently induce substantial population growth, although the Project would increase the amount of water that can be held at the facility. Zone 7 would continue to meet water demands as previously determined by the local land use authorities it serves (Pleasanton, Livermore, Dublin, San Ramon) through the Urban Water Management Plan process. The treated water supply from the Project would remain within the Zone 7’s previously established water supply portfolio and, because it would not increase the overall planned supply for Zone 7, no new growth inducing impacts are anticipated. There would be no impact under this criterion.

b, c) **No Impact.** The Project would be constructed with the existing property line of the PPWTP. It does not involve demolition of existing housing or require the construction of homes elsewhere. The Project would not displace any existing housing or people. There would be no impact under this criterion.

Mitigation Measures

No mitigation measures are required.

3.2.14 Public Services

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
14. PUBLIC SERVICES — Would the Project:				
a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered government 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 following public services:				
i) Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iii) Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv) Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
v) Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion

a.i-v) **No Impact.** There would be no increase in the existing PPWTP staff levels, nor any increase in the treated water service capacity levels provided by Zone 7 as a result of the Project. The intent of the project is to improve water quality at the existing level of supply. Therefore, no demand increases are expected for public services that support new residents, schools, utilities, parks, fire or police protection through expanded facilities at PPWTP or induced growth. In addition, the Project would be developed within the fenced and secured location; there would not be a significant increase in the demand for police and fire protection onsite. The Project would not alter or create a need for any additional public facilities. There would be no impact under this criterion.

Mitigation Measures

No mitigation measures are required.

References

Livermore Area Recreation and Park District (LARPD), 2017. Available online at: <http://www.larpd.org/parks/parks.html>. Accessed February 16, 2018.

3.2.15 Recreation

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
15. RECREATION:				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<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"/>

Discussion

a) **No Impact.** The Project would not increase the use of existing parks or other recreational resources such that substantial physical deterioration of the facility would occur or be accelerated. Brushy Peak Regional Preserve is the closest recreational area, approximately 3.5 miles from the Project site. East Bay Regional Park District owns an adjacent portion of the preserve and provides both public and group tours of the preserve (LARPD, 2017). The intent of the Project is to improve drinking water quality and increase plant and storage capacity to continue to meet the water demands of the local land use authorities through the Urban Water Management Plan process and Zone 7's established water supply portfolio. As such, it would not encourage induced growth that would increase the use of recreational facilities and opportunities over the existing levels. There would be no impact under this criterion.

b) **No Impact.** The Project does not include any development of parks or other recreational facilities, nor would it require construction of new or expansion of existing recreational facilities, as the intent of the Project is to improve the finished water quality and storage at PPWTP. There would be no impact under this criterion.

Mitigation Measures

No mitigation measures are required.

References

Livermore Area Recreation and Park District (LARPD), 2017. Available online at: <http://www.larpd.org/parks/parks.html>. Accessed February 16, 2018.

3.2.16 Transportation and Traffic

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
16. TRANSPORTATION/TRAFFIC —				
Would the Project:				
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 type="checkbox"/>	<input checked="" type="checkbox"/>
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results 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 checked="" type="checkbox"/>	<input 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"/>

Discussion

a) **Less than Significant.** Construction of the Project would temporarily increase local traffic due to the transport and delivery of construction equipment and materials, as well as from daily worker trips. Regional access to the Project work sites would occur from I-580, with local access occurring via various roads, including Greenville Road, Patterson Pass Road, and the PPWTP access road.

Direct traffic impacts, such as local congestion and disruption of traffic flow from construction of the Project would be short-term and temporary. All construction activities would be limited to weekdays during the hours of 7:00 AM to 7:00 PM, with weekend work during the hours of 8:00 AM to 5:00 PM (most, if not all, of the work is expected to occur during the week). Construction activities would generate offsite traffic associated with the delivery of construction vehicles and equipment to the Project site, the daily arrival and departure of construction workers, and the delivery of materials throughout the construction period.

The estimated truck traffic would vary depending on the construction activity, primarily consisting of materials delivery and spoils off-haul. As materials delivery would occur on an as-needed basis throughout most of the 36-month construction period, this analysis assumes a

maximum of about 8 trucks (16 one-way truck trips) per day⁵. However, the removal of the existing dirt mound on the site of the 5 MG clearwell would temporarily generate an increase in daily average truck trips. This mound is estimated to total 8,000 cubic yards of material, which would generate 500 truck trips. During the site preparation phase, this 30-day task would add approximately 17 trucks, bringing the daily average to 25 trucks through the limited duration of the task. The number of construction personnel likewise would vary depending on the construction activity, with a typical crew size estimated to vary between 25 and 60 workers per day, generating up to about 150 one-way vehicle trips per day (120 commute trips plus 30 midday trips [e.g., for lunch]). The total daily trip generation (trucks plus workers) would be up to about 166 one-way vehicle trips.

The East County Area Plan (Alameda County 2002) Policy 193 states that the traffic level-of-service (LOS) on intercity arterial roads shall not exceed LOS D or LOS E on I-580. Construction-generated traffic increases would be temporary and vary with the construction phase. Also, the City of Livermore has plans to install a traffic signal at the intersection of Patterson Pass and Greenville roads, which could be functioning during the Project's construction, thereby improving the operation of this intersection. Therefore, it would not result in any long-term degradation in operating conditions on local roadways used for the Project, although drivers could experience delay if they were traveling behind a heavy truck. The impact from Project-generated traffic volume during construction would be less than significant.

Once the Project is in operation, it is anticipated that no new staff would be employed specifically to operate or perform routine maintenance on the new facilities. Materials delivery would constitute up to two additional trips per month. Major repair activities would occur as needed and not on a scheduled basis. Therefore, additional trips resulting from the operation of this system would be minimal. This impact would be less than significant.

b) **No Impact.** Congestion management programs (and LOS standards established by congestion management agencies and defined above) are intended to monitor and address long-term traffic conditions related to future development that generate permanent (on-going) traffic increases, and do not apply to temporary impacts associated with construction projects. Updated every two years, Alameda County's Congestion Management Program (CMP) aligns with the long-range Countywide Transportation Plan, the 2013 Regional Transportation Plan and Sustainable Communities Strategy, and other related efforts and legislative requirements.

As described in Question a) above, following construction, traffic increases associated with Project operation and maintenance would be limited to up to two per month. The Project would be operated and maintained by existing PPWTP staff and would not require additional workers. Thus, there would not be a substantial increase in vehicle trips resulting from the Project. There would be no impact under this criterion.

⁵ During the 36-month construction period, approximately 3,000 truck deliveries to the PPWTP would occur. Spread evenly over the 36-month period, there would be an average of approximately 4 truck deliveries (8 one-way truck trips) per day; a maximum of up to about 16 one-way truck trips on any given day is assumed occur.

c) **No Impact.** The nearest airport (Livermore Municipal Airport) is located approximately 7 miles from the Project site. The nearest private airstrip is located approximately 2 miles from the Project site. Project construction would not change air traffic patterns. In addition, the Project would not involve the installation of structures that could interfere with air space. There would be no impact under this criterion.

d) **Less than Significant.** The Project would not introduce any new intersections or adjusted roadway geometry that would have the potential to introduce a hazardous driving condition. Additionally, as noted in Question a) above, the Project would not introduce a substantial number of large construction or delivery vehicles to area roadways during the construction phase. This impact would be less than significant.

e) **Less than Significant.** The Project would not change the configuration of the Project area's road network, and would not require temporary lane closures which would create reduced traffic capacity issues. As described in Question a) above, construction would cause a less-than-significant increase in congestion on area roadways, though slow-moving construction-related vehicles could temporarily interfere with emergency response to the work site (e.g., emergency service vehicles traveling behind the slow-moving truck). However, all vehicles are required by law to yield to responding emergency vehicles that have warning apparatus in operation, and it is not considered likely that heavy construction-related traffic would result in inadequate emergency access. Adherence to existing traffic rules-of-the-road would ensure that the Project's construction impacts to emergency access would be less than significant.

f) **Less than Significant.** The Project would neither directly nor indirectly eliminate existing or planned alternative transportation corridors or facilities (e.g., bike paths, lanes, etc.), including changes in policies or programs that support alternative transportation, nor construct facilities in locations for which future alternative transportation facilities may be planned. The Project would not conflict with the policies set forth in the East County Area Plan supporting alternative transportation (Alameda County, 2002). As described in Question a) above, construction activities associated with the Project would not generate traffic volume increases that would significantly affect traffic flow on area roadways. The performance of public transit, bicycle and pedestrian facilities in the area likewise would not be adversely affected. This impact would be less than significant.

Mitigation Measures

No mitigation measures are required.

References

Alameda County Community Development Agency, *East County Area Plan – Volume 1: Goals, Policies and Programs*, last amended in May 2002.

3.2.17 Tribal Cultural Resources

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

Background

Tribal cultural resources are: 1) sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are listed, or determined to be eligible for listing in the California Register of Historical Resources (California Register), or local register of historical resources, as defined in PRC Section 5020.1(k); or, 2) a resource determined by the lead CEQA agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in PRC Section 5024.1(c). For a cultural landscape to be considered a tribal cultural resource, it must be geographically defined in terms of the size and scope of the landscape (PRC Section 21074[b]). Also, an historical resource, as defined in PRC Section 21084.1, unique archaeological resource, as defined in PRC Section 21083.2(g), or non-unique archaeological resource, as defined in PRC Section 21083.2(h), may also be a tribal cultural resource.

ESA sent a Sacred Lands File search request to the Native American Heritage Commission (NAHC) on December 19, 2017. ESA received a response from the NAHC on January 5, 2018. The NAHC recommended that agencies should provide information regarding any cultural resources assessment completed for the Project to date, including the results of the Sacred Lands File search request; the NAHC search of the Sacred Lands File produced negative results. ESA provided the NAHC letter and recommendations to Zone 7 on January 12, 2018. Zone 7 will complete Native American consultation as required by PRC 21080.3.1 and 21080.3.2.

ESA completed a records search at the Northwest Information Center (NWIC) of the California Historical Resources Information System on January 2, 2018 (File No. 17-1705). The purpose of the records search was to (1) determine whether known cultural resources have been recorded within or adjacent to the Project area; (2) assess the likelihood for unrecorded cultural resources to be present based on historical references and the distribution of nearby sites; and (3) develop a context for the identification and preliminary evaluation of cultural resources.

Results of the records search indicate that four (4) cultural resources have been identified within the ½-mile records search radius. None of these resources are recorded within the Project site. These resources consist of historic-era remnants of homesteads and agricultural activities, a historic-era aqueduct segment, and an isolated prehistoric flake tool.

Holocene-age alluvial deposits are mapped at the surface within the Project area. These deposits have the potential to contain buried soil surfaces with associated archaeological resources. Increasing with depth, the alluvium becomes Pleistocene in age, which has a low archaeological sensitivity. Buried site sensitivity within Holocene-age sediments increases with proximity to perennial water sources, the stability of the landform, and other factors that make the location more desirable for human habitation. The PPWTP is approximately 175 feet north of an unnamed intermittent stream that was channelized in the recent past. No cultural resources were identified during the surface survey of the Project area completed by an archaeologist on January 11, 2018 and no prehistoric archaeological sites were identified in close proximity to the Project area during the NWIC records search. The Project area has been disturbed by the construction of the existing water treatment plant and other activities. Therefore, while there is the potential for buried archaeological deposits in Holocene-age surficial sediments, the environmental context of the Project area and the paucity of nearby archaeological resources lessens the archaeological sensitivity.

Discussion

a) **Less than Significant with Mitigation.** Based on the results of correspondence with the NAHC and the NWIC records search, no known tribal cultural resources listed or determined eligible for listing in the California Register, or included in a local register of historical resources as defined in PRC Section 5020.1(k), pursuant to PRC Section 21074(a)(1), would be impacted by the Project.

However, if any previously unrecorded archaeological resource were identified during ground-disturbing construction activities and were found to qualify as a tribal cultural resource pursuant to PRC Section 21074(a)(1) (determined to be eligible for listing in the California Register or in a local register of historical resources), any impacts to the resource resulting from the Project could be potentially significant. Any such potential significant impacts would be reduced to a less than significant level by implementing **Mitigation Measure CUL-1. Inadvertent Discovery of Cultural Resources** (refer to Section 5).

b) **Less than Significant with Mitigation.** Based on the results of correspondence with the NAHC and the NWIC records search, Zone 7 did not determine any resource that could potentially be affected by the Project to be a tribal cultural resource significant pursuant to criteria set forth in PRC Section 5024.1(c). Therefore, the Project is not anticipated to impact any such resources.

However, if any previously unrecorded archaeological resource were identified during Project implementation, particularly ground-disturbing construction activities, and were found to qualify as a tribal cultural resource pursuant to PRC Section 21074(a)(2) (determined by the lead agency to be significant pursuant to criteria set forth in PRC Section 5024.1[c]), any impacts to the

resource resulting from the Project could be potentially significant. Any such potential significant impacts would be reduced to a less than significant level by implementing **Mitigation Measure CUL-1. Inadvertent Discovery of Cultural Resources** (refer to Section 5).

Mitigation Measures

See **Mitigation Measure CUL-1. Inadvertent Discovery of Cultural Resources** in Section 5, Cultural Resources, above.

References

Meyer, Jack and Jeffrey Rosenthal, Geoarchaeological Overview of the Nine Bay Area Counties in Caltrans District 4, prepared by Far Western Anthropological Research Group, Inc., prepared for California Department of Transportation, Oakland, CA, 2007.

Northwest Information Center (NWIC), File No. 17-1705. California Historical Resources Information System at Sonoma State University, Rohnert Park. On file at ESA, January 2, 2018.

3.2.18 Utilities and Service Systems

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
18. UTILITIES AND SERVICE SYSTEMS —				
Would the Project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) 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"/>
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g) Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Discussion

a) **No Impact.** The ozonation process results in the byproduct of oxygen (O₂) and does not result in the production of wastewater. Therefore, the Project would not interfere with or conflict with any applicable Regional Water Quality Control Board requirements for wastewater treatment. For a discussion of stormwater discharges and water quality associated with Project construction, please refer to the Hydrology and Water Quality section of this Initial Study. There would be no impact under this criterion.

b) **Less than Significant with Mitigation.** The Project would provide improved drinking water quality and more operational storage to continue to meet current commitments. Therefore, it is considered an expansion of an existing water treatment system. The environmental impacts associated with the Project are disclosed in this Initial Study, with mitigation measures proposed as necessary to reduce any potentially significant impacts to a less-than-significant level. As such, impacts of the Project would be less than significant with mitigation.

c) **Less than Significant.** Storm water drainage from this site would be directed to the detention pond. The stormwater stored in the basin would then return to the plant's treatment system. The detention pond would be constructed directly south of the existing sludge drying beds for site drainage and overflow management for the proposed and existing treatment processes. Approximately 175,000 square feet of impervious surfaces would be increased on site. As the

increase is negligible when compared to the PPWTP site as a whole, and as storm water discharge from the Project site would remain on site. This impact would be less than significant.

d) **Less than Significant.** The Project would require limited water during construction in support of dust suppression. Toward the conclusion of the construction process, the new Project components would undergo system check-out and testing. Water leakage testing will be performed on new process treatment structures and piping to confirm their integrity. In addition, equipment, system and facility checkout and testing would be performed to confirm these are working properly. During testing, water used for testing would be returned to the head of the treatment plant until the facility or facilities pass required performance criteria. Existing water supplies at the PPWTP would be sufficient to enable construction and operation of the Project without requiring any new or expanded entitlements, or other new sources of water supply. This impact would be less than significant.

e) **No Impact.** The Project would not generate wastewater, nor would it expand water supply beyond Zone 7's current planned commitments. Therefore, the area's wastewater treatment provider would not require additional wastewater treatment capacity in order to serve the Project. There would be no impact under this criterion.

f) **Less than Significant.** During construction, the Project would generate minimal construction-related waste and debris. Clearing, grading, and demolition is scheduled between January to September, 2019. However, construction-related wastes would include minimal amounts of metals, concrete, plastics, etc. Waste and byproducts resulting from the ozonation process would be handled pursuant to all applicable federal, state, and local laws and regulations.

To the extent feasible, recyclable construction materials would be recycled. Non-recyclable materials would be landfilled or otherwise disposed of in accordance with applicable regulatory requirements. The Project would utilize either the Vasco Road Sanitary or Altamont landfills north and northeast of Livermore to dispose of construction-related solid wastes from the project, while recycling would rely on a local franchised recycler. Given that either landfill has at least another five years and 8 million cubic yards of permitted available landfill capacity (CalRecycle, 2018), and that the Project would generate a relatively limited volume of solid waste, available landfill capacity would not be substantially affected by the Project.

As part of ongoing Project maintenance, some waste would be generated from the clean out of the ozone contactor drains and related building wash water. This material would be directed to existing sludge drying beds and disposed of according to regulatory requirements, as is currently the case with sludge disposal. Given the recycling/reuse opportunities, available landfill capacity, and adherence to existing practice and regulations, this impact is would be less than significant.

g) **Less than Significant.** Project construction and operation would comply with all applicable regulatory requirements related to solid waste. Specifications for Project construction would contain requirements for the handling, storage, cleanup, and disposal of any hazardous materials, cement, or other construction pollutants. For additional discussion of hazardous materials and potentially hazardous materials handling and impacts, please refer to the Hazards and Hazardous Materials analysis in this Initial Study. This impact would be less than significant.

Mitigation Measures

No mitigation measures are required, aside from those referred to in Question b) and presented in the analyses in this IS/MND.

References

CalRecycle, 2017. *Facility/Site Summary Details: Altamont Landfill & Resource Recv'ry (01-AA-0009)*. <http://www.calrecycle.ca.gov/SWFacilities/Directory/01-AA-0009/Detail/> Accessed April 18, 2018.

CalRecycle, 2017. *Facility/Site Summary Details: Vasco Road Sanitary Landfill (01-AA-0010)*. <http://www.calrecycle.ca.gov/SWFacilities/Directory/01-AA-0010/Detail/> Accessed April 18, 2018.

3.2.19 Mandatory Findings of Significance

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
19. MANDATORY FINDINGS OF SIGNIFICANCE —				
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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Discussion

a, c) **Less than Significant with Mitigation.** The analysis presented in this Initial Study has identified a number of potentially significant environmental impacts attributable to the Project. To ameliorate these impacts, a number of mitigation measures are proposed that will be included in the Project’s Mitigation Monitoring and Reporting Program (MMRP) upon adoption of this Mitigated Negative Declaration and approval of the Project. As required by CEQA, these mitigation measures are required to be implemented as directed herein. With implementation of the mitigation measures presented herein, the Project does not have the potential to degrade the quality of the environment, including fish or wildlife species or their habitat, plant or animal communities, important examples of the major periods of California history or prehistory, or adverse effects on human beings. These impacts would be less than significant with mitigation.

b) **Less than Significant.** Consideration of past, present, and reasonably foreseeable projects in the Project area and vicinity indicate that the proposed Zone 7 Patterson Pass Water Treatment Plant Upgrades and Ozonation Project would have a less than significant cumulative impact. In the Project vicinity, the closest projects include a warehouse/manufacturing building at 6755 Brisa Street that is currently under construction, a new spec industrial building at 225 Greenville Road that is currently under review and grading and underground utilities for an apartment complex at Brisa Street and South Vasco Road that is ready to issue. The proposed route for the Project is from Interstate Highway 580 to Greenville Road to Patterson Pass Road to the PPWTP access road. The project under review at 225 Greenville Road would also be accessed via Greenville Road, which would be the primary access site for the Project. Given the low number of anticipated construction-related trips for the Project (approximately 16 one-way trips per day) and the limited distance on Greenville Road that would be affected (i.e., I-580 to north of

Marathon Drive, approximately 1.25 miles), the Project's impact to traffic in this area would not be cumulatively considerable.

The California Water Company currently has two projects under construction or review in the City. These consist of replacing a 50,000-gallon redwood tank with a 50,000-gallon steel tank, and a new chloramination building. Neither of these projects would require additional service from the PPWTP in excess of that currently provided. In fact, the Project would improve the quality of potable water provided to this retail provider. There are no other present or reasonably foreseeable projects within the boundary of the PPWTP.

With implementation of the Project, Zone 7 would continue to meet water demands as previously determined by the local land use authorities (Pleasanton, Livermore, Dublin, San Ramon) through the Urban Water Management Plan process. The treated water supply from the Project would remain within the Zone 7's previously established water supply portfolio and, because it does not increase the overall planned supply for Zone 7, no new growth inducing or cumulatively considerable impacts are anticipated as a result.

The Project would not have impacts to agriculture or forestry resources, land use and planning, mineral resources, population and housing, public services, or recreation that would combine with other projects. The proposed activities could have impacts with respect to aesthetics, biological and cultural resources, geology, soils, and seismicity, hazards and hazardous materials, hydrology and water quality, noise, transportation and traffic, tribal cultural resources, and utilities and service systems. However, such impacts would be limited to the Project site and, where necessary, mitigated such that they would not substantially combine with other off-site impacts.

However, the Project's potential construction impacts with respect to air quality and GHG emissions could extend beyond the site to combine with impacts from other projects. As described in above in Air Quality and Greenhouse Gas Emissions, BAAQMD considered the emission levels at which a project's individual emissions would be cumulatively considerable in developing its CEQA significance thresholds. BAAQMD considers projects that result in emissions that exceed its CEQA significance thresholds to result in individual impacts that are cumulatively considerable and significant. As discussed in these sections, the Project's emissions would be limited to the construction period and to periodic testing of the proposed emergency standby generator at the ozonation plant during operations and would be below BAAQMD's cumulatively considerable threshold. This impact would be less than significant.

Mitigation Measures

The following mitigation measures will be implemented to ensure that the Project would not have a cumulative effect on the environment when considered together with other projects. The full text of these measures is found in the respective resource analysis in this Initial Study.

Mitigation Measure AQ-1: Implement BAAQMD Basic Construction Mitigation Measures

Mitigation Measure BIO-1, Preconstruction Surveys, Worker Training, Exclusion Fencing and Monitoring

Mitigation Measure BIO-2, Pre-Construction Bird Surveys

Mitigation Measure CUL-1, Inadvertent Discovery of Cultural Resources

Mitigation Measure CUL-2, Inadvertent Discovery of Paleontological Resources

Mitigation Measure CUL-3, Inadvertent Discovery of Human Remains

Mitigation Measure HAZ-1, Unanticipated Soil or Groundwater Contamination

Mitigation Measure HAZ-2, Fire Safety Practices

Mitigation Measure WQ-1, Stormwater Pollution Prevention Plan

References

Livermore, City of, Community Development Department, 2018. *Summary of Major Development Projects*. April 9.

CHAPTER 4

Report Preparers

4.1 Lead Agency

Zone 7 Water Agency

100 North Canyons Parkway
Livermore, CA 94551

Elke Rank	<i>Zone 7 Integrated Planning</i>
Mona Olmsted	<i>Zone 7 Facilities Engineering</i>

4.2 Consultants

Environmental Science Associates (ESA)

1425 North McDowell Blvd. Ste. 200
Petaluma, California 94954

Jim O'Toole	<i>Project Director</i>
David Davis, AICP	<i>Project Manager, Sr. Technical Reviewer</i>
Tessa Verhoef	<i>Deputy Project Manager, Aesthetics, Hazards & Hazardous Materials, Hydrology & Water Quality, Mandatory Findings of Significance</i>
Matthew Fagundes	<i>Sr. Technical Reviewer</i>
Heidi Koenig, RPA	<i>Sr. Technical Reviewer</i>
Brian Pittman, CWB	<i>Sr. Technical Reviewer</i>
Eric Schiewind	<i>Sr. Technical Reviewer</i>
Stan Armstrong	<i>Air Quality, Greenhouse Gas Emissions, Noise</i>
Brandon Carroll	<i>Agriculture & Forest Resources, Geology, Soils and Paleontology, Land Use and Land Use Planning, Mineral Resources, Population and Housing</i>
Jack Hutchison	<i>Transportation and Traffic</i>
Julie McNamara	<i>Biological Resources</i>
Ashleigh Sims	<i>Cultural and Tribal Resources</i>
Ally Sung-Jereczek	<i>Public Services, Recreation, Utilities and Service Systems</i>

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Appendix 1

Air Quality and Greenhouse Gas Emissions Estimates

Average Daily Construction-related Pollutant Emissions

Year	ROG	NOx	PM10	PM2.5
2019	0.9254	9.47	0.5018	0.4632
2020	0.4766	4.7031	0.2497	0.2328
2021	0.259	2.5481	0.1337	0.1243
Total Tons	1.661	16.7212	0.8852	0.8203
Total Pounds	3322	33442.4	1770.4	1640.6
Pounds per workday	4.2	42.7	2.3	2.1

Note: The Project would take an estimated 783 workdays to complete.

*Obtained from CalEEMod output file that follows this page.

Emergency Generator Rating

KW	load HP	Load Factor*
2750.0	3687.8	0.50

1 horsepower (metric) = 0.7457 kW

*Obtained from Applicant

Emergency Generator Testing Emissions

Units	ROG	NOx	PM10	PM2.5	CO2e
tons or metric tons/year*	0.0539	0.2409	0.00793	0.00793	25.2999
pounds/year	107.8	481.8	15.86	15.86	--
pounds/day (26 days/yr)	4.14615385	9.636	0.3172	0.3172	--

Note: Generator testing would be limited to 26 hours per year year.

*Obtained from CalEEMod output file that follows this page. CO2 is provided in metric tons, all other emissions are tons.

Indirect Annual GHG Emissions from Electricity Consumption

GHGs from Electricity Consumption				
GHG	Factor (metric ton/MWh)	Max Electricity Consumption MWhr	metric tons	CO ₂ e* (metric tons)
CO ₂	0.13100	13,000	1,703.00	1,703.00
CH ₄	1.50141E-05	13,000	0.20	4.88
N ₂ O	1.81439E-06	13,000	0.00	7.03
			Total =	1,714.91

Notes: The emission factor for CO₂ was obtained from PEA, 2016. Emission factors for CH₄ and N₂O are from TCR, 2017.

*Global Warming Potential for CH₄ = 25; GWP for N₂O = 298 (CARB, 2017a).

PG&E, Pacific Gas and Electric Company (PG&E), 2015. Greenhouse Gas Emission Factors: Guidance for PG&E Customers, November 2015.

The Climate Registry (TCR), 2017. The Climate Registry 2017 Default Emission Factors, last updated March 2017. Table 14.1

Total GHG Emissions

Source	GHG
Construction Amortized	35
Emergency Generator	25
Indirect Emissions from Electricity Use	1,714.91
Total (metric tons per year)	1,775

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Patterson Pass WTP
Alameda County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	11,000.00	User Defined Unit	13.75	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	63
Climate Zone	4			Operational Year	2022
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW/hr)	641.35	CH4 Intensity (lb/MW/hr)	0.029	N2O Intensity (lb/MW/hr)	0.006

1.3 User Entered Comments & Non-Default Data

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Project Characteristics -

Land Use - Project Specific

Construction Phase - Assumed construction schedule

Off-road Equipment - Assumed construction equipment

Off-road Equipment - Assumed construction equipment

Off-road Equipment - Assumed construction equipment

Off-road Equipment - Assumed construction equipment

Off-road Equipment - Assumed construction equipment

Trips and VMT - Assumed 10,000 cy of soil would be removed from the project site and total of 3,000 haul trips.

Stationary Sources - Emergency Generators and Fire Pumps -

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Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	300.00	632.00
tblConstructionPhase	NumDays	10.00	195.00
tblConstructionPhase	NumDays	10.00	368.00
tblConstructionPhase	NumDays	10.00	153.00
tblLandUse	LotAcreage	0.00	13.75
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	6.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	6.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblOffRoadEquipment	UsageHours	7.00	4.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblTripsAndVMT	HaulingTripNumber	0.00	714.00
tblTripsAndVMT	HaulingTripNumber	0.00	2,286.00
tblTripsAndVMT	WorkerTripNumber	30.00	25.00
tblTripsAndVMT	WorkerTripNumber	20.00	25.00
tblTripsAndVMT	WorkerTripNumber	20.00	0.00
tblTripsAndVMT	WorkerTripNumber	0.00	25.00
tblTripsAndVMT	WorkerTripNumber	3.00	25.00
tblTripsAndVMT	WorkerTripNumber	3.00	0.00
tblTripsAndVMT	WorkerTripNumber	8.00	25.00

2.0 Emissions Summary

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2.1 Overall Construction
Unmitigated Construction

Year	tons/yr										MT/yr					
	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
2019	0.9254	9.4700	6.2303	0.0115	1.8719	0.5018	2.3737	0.9969	0.4632	1.4601	0.0000	1,035.680 ₉	1,035.680 ₉	0.2885	0.0000	1,042.892 ₇
2020	0.4766	4.7031	4.1428	7.7200e-003	0.1242	0.2497	0.3739	0.0321	0.2328	0.2649	0.0000	681.8641	681.8641	0.1611	0.0000	685.8908
2021	0.2590	2.5481	2.5552	4.4600e-003	0.0620	0.1337	0.1957	0.0162	0.1243	0.1405	0.0000	393.9050	393.9050	0.0948	0.0000	396.2740
Maximum	0.9254	9.4700	6.2303	0.0115	1.8719	0.5018	2.3737	0.9969	0.4632	1.4601	0.0000	1,035.680₉	1,035.680₉	0.2885	0.0000	1,042.892₇

Mitigated Construction

Year	tons/yr										MT/yr					
	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
2019	0.9254	9.4700	6.2303	0.0115	1.8719	0.5018	2.3737	0.9969	0.4632	1.4601	0.0000	1,035.679 ₈	1,035.679 ₈	0.2885	0.0000	1,042.891 ₅
2020	0.4766	4.7031	4.1428	7.7200e-003	0.1242	0.2497	0.3739	0.0321	0.2328	0.2649	0.0000	681.8634	681.8634	0.1611	0.0000	685.8901
2021	0.2590	2.5481	2.5552	4.4600e-003	0.0620	0.1337	0.1957	0.0162	0.1243	0.1405	0.0000	393.9046	393.9046	0.0948	0.0000	396.2736
Maximum	0.9254	9.4700	6.2303	0.0115	1.8719	0.5018	2.3737	0.9969	0.4632	1.4601	0.0000	1,035.679₈	1,035.679₈	0.2885	0.0000	1,042.891₅

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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
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-1-2019	3-31-2019	2.0426	2.0426
2	4-1-2019	6-30-2019	3.1412	3.1412
3	7-1-2019	9-30-2019	3.5038	3.5038
4	10-1-2019	12-31-2019	1.7141	1.7141
5	1-1-2020	3-31-2020	1.5824	1.5824
6	4-1-2020	6-30-2020	1.5794	1.5794
7	7-1-2020	9-30-2020	1.0039	1.0039
8	10-1-2020	12-31-2020	1.0059	1.0059
9	1-1-2021	3-31-2021	0.8789	0.8789
10	4-1-2021	6-30-2021	0.8431	0.8431
11	7-1-2021	9-30-2021	0.9458	0.9458
		Highest	3.5038	3.5038

Patterson Pass WTP - Alameda County, Annual

**2.2 Overall Operational
Unmitigated Operational**

Category	tons/yr										MT/yr					
	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
Area	9.4200e-003	9.2000e-004	0.1012	1.0000e-005	3.6000e-004	3.6000e-004	3.6000e-004	3.6000e-004	3.6000e-004	3.6000e-004	0.0000	0.1966	0.1966	5.2000e-004	0.0000	0.2095
Energy	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Stationary	0.0539	0.2409	0.1374	2.6000e-004	7.9300e-003	7.9300e-003	7.9300e-003	7.9300e-003	7.9300e-003	7.9300e-003	0.0000	25.0027	25.0027	3.5100e-003	0.0000	25.0904
Waste	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0633	0.2419	0.2386	2.7000e-004	0.0000	8.2900e-003	8.2900e-003	0.0000	8.2900e-003	8.2900e-003	0.0000	25.1993	25.1993	4.0300e-003	0.0000	25.2999

Patterson Pass WTP - Alameda County, Annual

2.2 Overall Operational

Mitigated Operational

Category	tons/yr											MT/yr				
	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
Area	9.4200e-003	9.2000e-004	0.1012	1.0000e-005	3.6000e-004	3.6000e-004	3.6000e-004	3.6000e-004	3.6000e-004	3.6000e-004	0.0000	0.1966	0.1966	5.2000e-004	0.0000	0.2095
Energy	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Stationary	0.0539	0.2409	0.1374	2.6000e-004	7.9300e-003	7.9300e-003	7.9300e-003	7.9300e-003	7.9300e-003	7.9300e-003	0.0000	25.0027	25.0027	3.5100e-003	0.0000	25.0904
Waste					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0633	0.2419	0.2386	2.7000e-004	0.0000	8.2900e-003	8.2900e-003	0.0000	8.2900e-003	8.2900e-003	0.0000	25.1993	25.1993	4.0300e-003	0.0000	25.2999

Percent Reduction	tons/yr											MT/yr				
	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
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	0.00

3.0 Construction Detail

Construction Phase

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Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2019	9/30/2019	5	195	
2	Trenching	Trenching	3/1/2019	6/30/2020	5	348	
3	Building Construction	Building Construction	5/1/2019	9/30/2021	5	632	
4	System Testing	Site Preparation	11/1/2019	3/30/2021	5	368	
5	Site Clean Up	Site Preparation	6/1/2021	12/30/2021	5	153	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

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

OffRoad Equipment

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Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Excavators	1	6.00	158	0.38
Site Preparation	Off-Highway Trucks	1	2.00	402	0.38
Site Preparation	Rollers	1	4.00	80	0.38
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	6	6.00	97	0.37
Trenching	Bore/Drill Rigs	1	6.00	221	0.50
Trenching	Cranes	1	4.00	231	0.29
Trenching	Excavators	1	6.00	158	0.38
Trenching	Off-Highway Trucks	1	2.00	402	0.38
Trenching	Rollers	1	4.00	80	0.38
Trenching	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Trenching	Trenchers	1	6.00	78	0.50
Building Construction	Cranes	2	4.00	231	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Building Construction	Generator Sets	1	6.00	84	0.74
Building Construction	Other Construction Equipment	1	6.00	172	0.42
Building Construction	Tractors/Loaders/Backhoes	6	7.00	97	0.37
System Testing	Generator Sets	1	6.00	84	0.74
Site Clean Up	Forklifts	1	6.00	89	0.20
Site Clean Up	Tractors/Loaders/Backhoes	2	6.00	97	0.37

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
Site Preparation	12	25.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Trenching	8	25.00	0.00	714.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Trenching	8	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	11	25.00	0.00	2,286.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
System Testing	1	25.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
System Testing	1	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Clean Up	3	25.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Preparation - 2019

Unmitigated Construction On-Site

Category	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
Fugitive Dust					1.7615	0.0000	1.7615	0.9682	0.0000	0.9682	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.4814	5.0379	2.6924	4.6800e-003	0.2637	0.2637	0.2637	0.2426	0.2426	0.2426	0.0000	421.0548	421.0548	0.1332	0.0000	424.3852
Total	0.4814	5.0379	2.6924	4.6800e-003	1.7615	0.2637	2.0251	0.9682	0.2426	1.2108	0.0000	421.0548	421.0548	0.1332	0.0000	424.3852

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3.2 Site Preparation - 2019
Unmitigated Construction Off-Site

Category	tons/yr										MT/yr					
	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
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	9.2300e-003	7.0400e-003	0.0711	2.0000e-004	0.0193	1.4000e-004	0.0194	5.1300e-003	1.3000e-004	5.2500e-003	0.0000	17.6790	17.6790	5.0000e-004	0.0000	17.6916
Total	9.2300e-003	7.0400e-003	0.0711	2.0000e-004	0.0193	1.4000e-004	0.0194	5.1300e-003	1.3000e-004	5.2500e-003	0.0000	17.6790	17.6790	5.0000e-004	0.0000	17.6916

Mitigated Construction On-Site

Category	tons/yr										MT/yr					
	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
Fugitive Dust					1.7615	0.0000	1.7615	0.9682	0.0000	0.9682	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.4814	5.0379	2.6924	4.6800e-003		0.2637	0.2637	0.2426	0.2426	0.2426	0.0000	421.0543	421.0543	0.1332	0.0000	424.3847
Total	0.4814	5.0379	2.6924	4.6800e-003	1.7615	0.2637	2.0251	0.9682	0.2426	1.2108	0.0000	421.0543	421.0543	0.1332	0.0000	424.3847

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3.2 Site Preparation - 2019
Mitigated Construction Off-Site

Category	tons/yr										MT/yr					
	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
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	9.2300e-003	7.0400e-003	0.0711	2.0000e-004	0.0193	1.4000e-004	0.0194	5.1300e-003	1.3000e-004	5.2500e-003	0.0000	17.6790	17.6790	5.0000e-004	0.0000	17.6916
Total	9.2300e-003	7.0400e-003	0.0711	2.0000e-004	0.0193	1.4000e-004	0.0194	5.1300e-003	1.3000e-004	5.2500e-003	0.0000	17.6790	17.6790	5.0000e-004	0.0000	17.6916

3.3 Trenching - 2019
Unmitigated Construction On-Site

Category	tons/yr										MT/yr					
	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
Off-Road	0.1769	1.8689	1.3658	2.7900e-003		0.0979	0.0979		0.0901	0.0901	0.0000	250.4583	250.4583	0.0792	0.0000	252.4394
Total	0.1769	1.8689	1.3658	2.7900e-003		0.0979	0.0979		0.0901	0.0901	0.0000	250.4583	250.4583	0.0792	0.0000	252.4394

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3.3 Trenching - 2019
Unmitigated Construction Off-Site

Category	tons/yr										MT/yr					
	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
Hauling	2.0400e-003	0.0695	0.0119	1.8000e-004	9.9900e-003	2.5000e-004	0.0102	2.5600e-003	2.4000e-004	2.8100e-003	0.0000	17.3055	17.3055	9.0000e-004	0.0000	17.3280
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0103	7.8700e-003	0.0795	2.2000e-004	0.0402	1.5000e-004	0.0403	0.0103	1.4000e-004	0.0104	0.0000	19.7642	19.7642	5.6000e-004	0.0000	19.7783
Total	0.0124	0.0774	0.0913	4.0000e-004	0.0502	4.0000e-004	0.0506	0.0129	3.8000e-004	0.0133	0.0000	37.0697	37.0697	1.4600e-003	0.0000	37.1063

Mitigated Construction On-Site

Category	tons/yr										MT/yr					
	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
Off-Road	0.1769	1.8689	1.3658	2.7900e-003		0.0979	0.0979		0.0901	0.0901	0.0000	250.4580	250.4580	0.0792	0.0000	252.4391
Total	0.1769	1.8689	1.3658	2.7900e-003		0.0979	0.0979		0.0901	0.0901	0.0000	250.4580	250.4580	0.0792	0.0000	252.4391

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3.3 Trenching - 2019

Mitigated Construction Off-Site

Category	tons/yr										MT/yr					
	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
Hauling	2.0400e-003	0.0695	0.0119	1.8000e-004	9.9900e-003	2.5000e-004	0.0102	2.5600e-003	2.4000e-004	2.8100e-003	0.0000	17.3055	17.3055	9.0000e-004	0.0000	17.3280
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0103	7.8700e-003	0.0795	2.2000e-004	0.0402	1.5000e-004	0.0403	0.0103	1.4000e-004	0.0104	0.0000	19.7642	19.7642	5.6000e-004	0.0000	19.7783
Total	0.0124	0.0774	0.0913	4.0000e-004	0.0502	4.0000e-004	0.0506	0.0129	3.8000e-004	0.0133	0.0000	37.0697	37.0697	1.4600e-003	0.0000	37.1063

3.3 Trenching - 2020

Unmitigated Construction On-Site

Category	tons/yr										MT/yr					
	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
Off-Road	0.0986	1.0253	0.8037	1.6600e-003		0.0528	0.0528		0.0485	0.0485	0.0000	146.2258	146.2258	0.0473	0.0000	147.4081
Total	0.0986	1.0253	0.8037	1.6600e-003		0.0528	0.0528		0.0485	0.0485	0.0000	146.2258	146.2258	0.0473	0.0000	147.4081

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3.3 Trenching - 2020
Unmitigated Construction Off-Site

Category	tons/yr										MT/yr					
	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
Hauling	1.1300e-003	0.0389	6.8400e-003	1.1000e-004	9.6000e-003	1.2000e-004	9.7300e-003	2.4200e-003	1.2000e-004	2.5400e-003	0.0000	10.2106	10.2106	5.1000e-004	0.0000	10.2234
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	5.6200e-003	4.1500e-003	0.0425	1.3000e-004	0.0240	9.0000e-005	0.0240	6.1400e-003	8.0000e-005	6.2200e-003	0.0000	11.4214	11.4214	2.9000e-004	0.0000	11.4288
Total	6.7500e-003	0.0430	0.0494	2.4000e-004	0.0336	2.1000e-004	0.0338	8.5600e-003	2.0000e-004	8.7600e-003	0.0000	21.6320	21.6320	8.0000e-004	0.0000	21.6522

Mitigated Construction On-Site

Category	tons/yr										MT/yr					
	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
Off-Road	0.0986	1.0253	0.8037	1.6600e-003		0.0528	0.0528		0.0485	0.0485	0.0000	146.2256	146.2256	0.0473	0.0000	147.4079
Total	0.0986	1.0253	0.8037	1.6600e-003		0.0528	0.0528		0.0485	0.0485	0.0000	146.2256	146.2256	0.0473	0.0000	147.4079

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3.3 Trenching - 2020
Mitigated Construction Off-Site

Category	tons/yr										MT/yr						
	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	
Hauling	1.1300e-003	0.0389	6.8400e-003	1.1000e-004	9.6000e-003	1.2000e-004	9.7300e-003	2.4200e-003	1.2000e-004	2.5400e-003	0.0000	10.2106	10.2106	5.1000e-004	0.0000	0.0000	10.2234
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	0.0000
Worker	5.6200e-003	4.1500e-003	0.0425	1.3000e-004	0.0240	9.0000e-005	0.0240	6.1400e-003	8.0000e-005	6.2200e-003	0.0000	11.4214	11.4214	2.9000e-004	0.0000	0.0000	11.4288
Total	6.7500e-003	0.0430	0.0494	2.4000e-004	0.0336	2.1000e-004	0.0338	8.5600e-003	2.0000e-004	8.7600e-003	0.0000	21.6320	21.6320	8.0000e-004	0.0000	0.0000	21.6522

3.4 Building Construction - 2019
Unmitigated Construction On-Site

Category	tons/yr										MT/yr						
	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	
Off-Road	0.2251	2.3117	1.8534	2.8700e-003		0.1356	0.1356		0.1259	0.1259	0.0000	256.0500	256.0500	0.0716	0.0000	0.0000	257.8406
Total	0.2251	2.3117	1.8534	2.8700e-003		0.1356	0.1356		0.1259	0.1259	0.0000	256.0500	256.0500	0.0716	0.0000	0.0000	257.8406

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3.4 Building Construction - 2019

Unmitigated Construction Off-Site

Category	tons/yr										MT/yr					
	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
Hauling	2.8800e-003	0.0984	0.0168	2.5000e-004	0.0158	3.6000e-004	0.0162	4.0400e-003	3.4000e-004	4.3800e-003	0.0000	24.4910	24.4910	1.2700e-003	0.0000	24.5228
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	8.2800e-003	6.3200e-003	0.0638	1.8000e-004	0.0173	1.2000e-004	0.0174	4.6000e-003	1.1000e-004	4.7100e-003	0.0000	15.8658	15.8658	4.5000e-004	0.0000	15.8771
Total	0.0112	0.1047	0.0806	4.3000e-004	0.0331	4.8000e-004	0.0336	8.6400e-003	4.5000e-004	9.0900e-003	0.0000	40.3567	40.3567	1.7200e-003	0.0000	40.3999

Mitigated Construction On-Site

Category	tons/yr										MT/yr					
	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
Off-Road	0.2251	2.3117	1.8534	2.8700e-003		0.1356	0.1356		0.1259	0.1259	0.0000	256.0497	256.0497	0.0716	0.0000	257.8403
Total	0.2251	2.3117	1.8534	2.8700e-003		0.1356	0.1356		0.1259	0.1259	0.0000	256.0497	256.0497	0.0716	0.0000	257.8403

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3.4 Building Construction - 2019

Mitigated Construction Off-Site

Category	tons/yr										MT/yr					
	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
Hauling	2.8800e-003	0.0984	0.0168	2.5000e-004	0.0158	3.6000e-004	0.0162	4.0400e-003	3.4000e-004	4.3800e-003	0.0000	24.4910	24.4910	1.2700e-003	0.0000	24.5228
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	8.2800e-003	6.3200e-003	0.0638	1.8000e-004	0.0173	1.2000e-004	0.0174	4.6000e-003	1.1000e-004	4.7100e-003	0.0000	15.8658	15.8658	4.5000e-004	0.0000	15.8771
Total	0.0112	0.1047	0.0806	4.3000e-004	0.0331	4.8000e-004	0.0336	8.6400e-003	4.5000e-004	9.0900e-003	0.0000	40.3567	40.3567	1.7200e-003	0.0000	40.3999

3.4 Building Construction - 2020

Unmitigated Construction On-Site

Category	tons/yr										MT/yr					
	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
Off-Road	0.3054	3.1381	2.7300	4.2900e-003		0.1766	0.1766		0.1640	0.1640	0.0000	376.1593	376.1593	0.1068	0.0000	378.8299
Total	0.3054	3.1381	2.7300	4.2900e-003		0.1766	0.1766		0.1640	0.1640	0.0000	376.1593	376.1593	0.1068	0.0000	378.8299

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3.4 Building Construction - 2020

Unmitigated Construction Off-Site

Category	tons/yr										MT/yr					
	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
Hauling	4.0200e-003	0.1382	0.0243	3.8000e-004	0.0165	4.4000e-004	0.0169	4.2900e-003	4.2000e-004	4.7100e-003	0.0000	36.2784	36.2784	1.8300e-003	0.0000	36.3241
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0113	8.3600e-003	0.0857	2.5000e-004	0.0259	1.8000e-004	0.0261	6.8900e-003	1.7000e-004	7.0500e-003	0.0000	23.0185	23.0185	5.9000e-004	0.0000	23.0334
Total	0.0154	0.1465	0.1100	6.3000e-004	0.0424	6.2000e-004	0.0430	0.0112	5.9000e-004	0.0118	0.0000	59.2969	59.2969	2.4200e-003	0.0000	59.3575

Mitigated Construction On-Site

Category	tons/yr										MT/yr					
	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
Off-Road	0.3054	3.1381	2.7300	4.2900e-003		0.1766	0.1766		0.1640	0.1640	0.0000	376.1589	376.1589	0.1068	0.0000	378.8295
Total	0.3054	3.1381	2.7300	4.2900e-003		0.1766	0.1766		0.1640	0.1640	0.0000	376.1589	376.1589	0.1068	0.0000	378.8295

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3.4 Building Construction - 2020

Mitigated Construction Off-Site

Category	tons/yr											MT/yr				
	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
Hauling	4.0200e-003	0.1382	0.0243	3.8000e-004	0.0165	4.4000e-004	0.0169	4.2900e-003	4.2000e-004	4.7100e-003	0.0000	36.2784	36.2784	1.8300e-003	0.0000	36.3241
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0113	8.3600e-003	0.0857	2.5000e-004	0.0259	1.8000e-004	0.0261	6.8900e-003	1.7000e-004	7.0500e-003	0.0000	23.0185	23.0185	5.9000e-004	0.0000	23.0334
Total	0.0154	0.1465	0.1100	6.3000e-004	0.0424	6.2000e-004	0.0430	0.0112	5.9000e-004	0.0118	0.0000	59.2969	59.2969	2.4200e-003	0.0000	59.3575

3.4 Building Construction - 2021

Unmitigated Construction On-Site

Category	tons/yr											MT/yr				
	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
Off-Road	0.2024	2.0813	2.0017	3.2000e-003		0.1116	0.1116		0.1036	0.1036	0.0000	280.0039	280.0039	0.0793	0.0000	281.9865
Total	0.2024	2.0813	2.0017	3.2000e-003		0.1116	0.1116		0.1036	0.1036	0.0000	280.0039	280.0039	0.0793	0.0000	281.9865

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3.4 Building Construction - 2021
Unmitigated Construction Off-Site

Category	tons/yr										MT/yr						
	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	
Hauling	2.8300e-003	0.0951	0.0177	2.8000e-004	0.0160	2.9000e-004	0.0163	4.1000e-003	2.8000e-004	4.3800e-003	0.0000	26.6630	26.6630	1.3200e-003	0.0000	0.0000	26.6961
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	0.0000
Worker	7.7800e-003	5.5500e-003	0.0581	1.8000e-004	0.0193	1.3000e-004	0.0194	5.1300e-003	1.2000e-004	5.2500e-003	0.0000	16.5378	16.5378	4.0000e-004	0.0000	0.0000	16.5477
Total	0.0106	0.1007	0.0758	4.6000e-004	0.0352	4.2000e-004	0.0357	9.2300e-003	4.0000e-004	9.6300e-003	0.0000	43.2008	43.2008	1.7200e-003	0.0000	0.0000	43.2437

Mitigated Construction On-Site

Category	tons/yr										MT/yr						
	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	
Off-Road	0.2024	2.0813	2.0017	3.2000e-003		0.1116	0.1116		0.1036	0.1036	0.0000	280.0036	280.0036	0.0793	0.0000	0.0000	281.9861
Total	0.2024	2.0813	2.0017	3.2000e-003		0.1116	0.1116		0.1036	0.1036	0.0000	280.0036	280.0036	0.0793	0.0000	0.0000	281.9861

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3.4 Building Construction - 2021
Mitigated Construction Off-Site

Category	tons/yr										MT/yr					
	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
Hauling	2.8300e-003	0.0951	0.0177	2.8000e-004	0.0160	2.9000e-004	0.0163	4.1000e-003	2.8000e-004	4.3800e-003	0.0000	26.6630	26.6630	1.3200e-003	0.0000	26.6961
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	7.7800e-003	5.5500e-003	0.0581	1.8000e-004	0.0193	1.3000e-004	0.0194	5.1300e-003	1.2000e-004	5.2500e-003	0.0000	16.5378	16.5378	4.0000e-004	0.0000	16.5477
Total	0.0106	0.1007	0.0758	4.6000e-004	0.0352	4.2000e-004	0.0357	9.2300e-003	4.0000e-004	9.6300e-003	0.0000	43.2008	43.2008	1.7200e-003	0.0000	43.2437

3.5 System Testing - 2019
Unmitigated Construction On-Site

Category	tons/yr										MT/yr					
	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
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	7.1600e-003	0.0609	0.0600	1.1000e-004		3.6400e-003	3.6400e-003	3.6400e-003	3.6400e-003	3.6400e-003	0.0000	9.1140	9.1140	5.8000e-004	0.0000	9.1284
Total	7.1600e-003	0.0609	0.0600	1.1000e-004	0.0000	3.6400e-003	3.6400e-003	3.6400e-003	3.6400e-003	3.6400e-003	0.0000	9.1140	9.1140	5.8000e-004	0.0000	9.1284

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3.5 System Testing - 2019
Unmitigated Construction Off-Site

Category	tons/yr										MT/yr					
	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
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0300e-003	1.5500e-003	0.0157	4.0000e-005	7.9200e-003	3.0000e-005	7.9500e-003	2.0300e-003	3.0000e-005	2.0600e-003	0.0000	3.8984	3.8984	1.1000e-004	0.0000	3.9012
Total	2.0300e-003	1.5500e-003	0.0157	4.0000e-005	7.9200e-003	3.0000e-005	7.9500e-003	2.0300e-003	3.0000e-005	2.0600e-003	0.0000	3.8984	3.8984	1.1000e-004	0.0000	3.9012

Mitigated Construction On-Site

Category	tons/yr										MT/yr					
	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
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	7.1600e-003	0.0609	0.0600	1.1000e-004	3.6400e-003	3.6400e-003	3.6400e-003	3.6400e-003	3.6400e-003	3.6400e-003	0.0000	9.1140	9.1140	5.8000e-004	0.0000	9.1284
Total	7.1600e-003	0.0609	0.0600	1.1000e-004	0.0000	3.6400e-003	3.6400e-003	0.0000	3.6400e-003	3.6400e-003	0.0000	9.1140	9.1140	5.8000e-004	0.0000	9.1284

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3.5 System Testing - 2019
Mitigated Construction Off-Site

Category	tons/yr										MT/yr					
	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
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0300e-003	1.5500e-003	0.0157	4.0000e-005	7.9200e-003	3.0000e-005	7.9500e-003	2.0300e-003	3.0000e-005	2.0600e-003	0.0000	3.8984	3.8984	1.1000e-004	0.0000	3.9012
Total	2.0300e-003	1.5500e-003	0.0157	4.0000e-005	7.9200e-003	3.0000e-005	7.9500e-003	2.0300e-003	3.0000e-005	2.0600e-003	0.0000	3.8984	3.8984	1.1000e-004	0.0000	3.9012

3.5 System Testing - 2020
Unmitigated Construction On-Site

Category	tons/yr										MT/yr					
	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
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	0.0392	0.3418	0.3641	6.5000e-004	0.0193	0.0193	0.0193	0.0193	0.0193	0.0193	0.0000	55.5316	55.5316	3.1300e-003	0.0000	55.6098
Total	0.0392	0.3418	0.3641	6.5000e-004	0.0000	0.0193	0.0193	0.0000	0.0193	0.0193	0.0000	55.5316	55.5316	3.1300e-003	0.0000	55.6098

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3.5 System Testing - 2020
Unmitigated Construction Off-Site

Category	tons/yr											MT/yr				
	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
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0113	8.3600e-003	0.0857	2.5000e-004	0.0483	1.8000e-004	0.0485	0.0124	1.7000e-004	0.0126	0.0000	23.0185	23.0185	5.9000e-004	0.0000	23.0334
Total	0.0113	8.3600e-003	0.0857	2.5000e-004	0.0483	1.8000e-004	0.0485	0.0124	1.7000e-004	0.0126	0.0000	23.0185	23.0185	5.9000e-004	0.0000	23.0334

Mitigated Construction On-Site

Category	tons/yr											MT/yr				
	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
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	0.0392	0.3418	0.3641	6.5000e-004		0.0193	0.0193	0.0193	0.0193	0.0193	0.0000	55.5316	55.5316	3.1300e-003	0.0000	55.6097
Total	0.0392	0.3418	0.3641	6.5000e-004	0.0000	0.0193	0.0193	0.0193	0.0193	0.0193	0.0000	55.5316	55.5316	3.1300e-003	0.0000	55.6097

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3.5 System Testing - 2020
Mitigated Construction Off-Site

Category	tons/yr										MT/yr					
	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
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0113	8.3600e-003	0.0857	2.5000e-004	0.0483	1.8000e-004	0.0485	0.0124	1.7000e-004	0.0126	0.0000	23.0185	23.0185	5.9000e-004	0.0000	23.0334
Total	0.0113	8.3600e-003	0.0857	2.5000e-004	0.0483	1.8000e-004	0.0485	0.0124	1.7000e-004	0.0126	0.0000	23.0185	23.0185	5.9000e-004	0.0000	23.0334

3.5 System Testing - 2021
Unmitigated Construction On-Site

Category	tons/yr										MT/yr					
	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
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	8.4400e-003	0.0748	0.0871	1.6000e-004	3.9600e-003	3.9600e-003	3.9600e-003	3.9600e-003	3.9600e-003	3.9600e-003	0.0000	13.3530	13.3530	6.8000e-004	0.0000	13.3701
Total	8.4400e-003	0.0748	0.0871	1.6000e-004	0.0000	3.9600e-003	3.9600e-003	0.0000	3.9600e-003	3.9600e-003	0.0000	13.3530	13.3530	6.8000e-004	0.0000	13.3701

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3.5 System Testing - 2021
Unmitigated Construction Off-Site

Category	tons/yr										MT/yr					
	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
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.5100e-003	1.7900e-003	0.0188	6.0000e-005	0.0116	4.0000e-005	0.0117	2.9800e-003	4.0000e-005	3.0200e-003	0.0000	5.3430	5.3430	1.3000e-004	0.0000	5.3462
Total	2.5100e-003	1.7900e-003	0.0188	6.0000e-005	0.0116	4.0000e-005	0.0117	2.9800e-003	4.0000e-005	3.0200e-003	0.0000	5.3430	5.3430	1.3000e-004	0.0000	5.3462

Mitigated Construction On-Site

Category	tons/yr										MT/yr					
	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
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	8.4400e-003	0.0748	0.0871	1.6000e-004		3.9600e-003	3.9600e-003	3.9600e-003	3.9600e-003	3.9600e-003	0.0000	13.3530	13.3530	6.8000e-004	0.0000	13.3701
Total	8.4400e-003	0.0748	0.0871	1.6000e-004	0.0000	3.9600e-003	3.9600e-003	3.9600e-003	3.9600e-003	3.9600e-003	0.0000	13.3530	13.3530	6.8000e-004	0.0000	13.3701

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3.5 System Testing - 2021
Mitigated Construction Off-Site

Category	tons/yr										MT/yr					
	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
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.5100e-003	1.7900e-003	0.0188	6.0000e-005	0.0116	4.0000e-005	0.0117	2.9800e-003	4.0000e-005	3.0200e-003	0.0000	5.3430	5.3430	1.3000e-004	0.0000	5.3462
Total	2.5100e-003	1.7900e-003	0.0188	6.0000e-005	0.0116	4.0000e-005	0.0117	2.9800e-003	4.0000e-005	3.0200e-003	0.0000	5.3430	5.3430	1.3000e-004	0.0000	5.3462

3.6 Site Clean Up - 2021
Unmitigated Construction On-Site

Category	tons/yr										MT/yr					
	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
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	0.0289	0.2852	0.3264	4.4000e-004		0.0176	0.0176	0.0162		0.0162	0.0000	39.0285	39.0285	0.0126	0.0000	39.3441
Total	0.0289	0.2852	0.3264	4.4000e-004	0.0000	0.0176	0.0176	0.0162	0.0162	0.0162	0.0000	39.0285	39.0285	0.0126	0.0000	39.3441

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3.6 Site Clean Up - 2021
Unmitigated Construction Off-Site

Category	tons/yr										MT/yr					
	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
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.1100e-003	4.3500e-003	0.0456	1.4000e-004	0.0151	1.0000e-004	0.0152	4.0200e-003	9.0000e-005	4.1200e-003	0.0000	12.9758	12.9758	3.1000e-004	0.0000	12.9835
Total	6.1100e-003	4.3500e-003	0.0456	1.4000e-004	0.0151	1.0000e-004	0.0152	4.0200e-003	9.0000e-005	4.1200e-003	0.0000	12.9758	12.9758	3.1000e-004	0.0000	12.9835

Mitigated Construction On-Site

Category	tons/yr										MT/yr					
	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
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	0.0289	0.2852	0.3264	4.4000e-004		0.0176	0.0176	0.0162	0.0162	0.0162	0.0000	39.0285	39.0285	0.0126	0.0000	39.3440
Total	0.0289	0.2852	0.3264	4.4000e-004	0.0000	0.0176	0.0176	0.0162	0.0162	0.0162	0.0000	39.0285	39.0285	0.0126	0.0000	39.3440

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3.6 Site Clean Up - 2021
Mitigated Construction Off-Site

Category	tons/yr										MT/yr					
	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
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.1100e-003	4.3500e-003	0.0456	1.4000e-004	0.0151	1.0000e-004	0.0152	4.0200e-003	9.0000e-005	4.1200e-003	0.0000	12.9758	12.9758	3.1000e-004	0.0000	12.9835
Total	6.1100e-003	4.3500e-003	0.0456	1.4000e-004	0.0151	1.0000e-004	0.0152	4.0200e-003	9.0000e-005	4.1200e-003	0.0000	12.9758	12.9758	3.1000e-004	0.0000	12.9835

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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Category	tons/yr													MT/yr				
	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		
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	Annual VMT	Annual VMT
User Defined Industrial	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-C	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	Primary	Diverted	Pass-by
User Defined Industrial	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
User Defined Industrial	0.560371	0.039285	0.190378	0.108244	0.016023	0.005202	0.023981	0.045200	0.002184	0.002561	0.005524	0.000326	0.000721

5.0 Energy Detail

Historical Energy Use: N

5.3 Energy by Land Use - Electricity

Mitigated

Land Use	Electricity Use kWh/yr	Total CO2	CH4	N2O	CO2e
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

6.0 Area Detail

6.1 Mitigation Measures Area

Category	tons/yr															
	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
Mitigated	9.4200e-003	9.2000e-004	0.1012	1.0000e-005	3.6000e-004	3.6000e-004	3.6000e-004	3.6000e-004	3.6000e-004	3.6000e-004	0.0000	0.1966	0.1966	5.2000e-004	0.0000	0.2095
Unmitigated	9.4200e-003	9.2000e-004	0.1012	1.0000e-005	3.6000e-004	3.6000e-004	3.6000e-004	3.6000e-004	3.6000e-004	3.6000e-004	0.0000	0.1966	0.1966	5.2000e-004	0.0000	0.2095

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6.2 Area by SubCategory

Unmitigated

SubCategory	tons/yr										MT/yr					
	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
Architectural Coating	0.0000					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	9.4200e-003	9.2000e-004	0.1012	1.0000e-005	3.6000e-004	3.6000e-004	3.6000e-004	3.6000e-004	3.6000e-004	3.6000e-004	0.0000	0.1966	0.1966	5.2000e-004	0.0000	0.2095
Total	9.4200e-003	9.2000e-004	0.1012	1.0000e-005	3.6000e-004	3.6000e-004	3.6000e-004	3.6000e-004	3.6000e-004	3.6000e-004	0.0000	0.1966	0.1966	5.2000e-004	0.0000	0.2095

Mitigated

SubCategory	tons/yr										MT/yr					
	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
Architectural Coating	0.0000					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	9.4200e-003	9.2000e-004	0.1012	1.0000e-005	3.6000e-004	3.6000e-004	3.6000e-004	3.6000e-004	3.6000e-004	3.6000e-004	0.0000	0.1966	0.1966	5.2000e-004	0.0000	0.2095
Total	9.4200e-003	9.2000e-004	0.1012	1.0000e-005	3.6000e-004	3.6000e-004	3.6000e-004	3.6000e-004	3.6000e-004	3.6000e-004	0.0000	0.1966	0.1966	5.2000e-004	0.0000	0.2095

7.0 Water Detail

7.1 Mitigation Measures Water

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

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

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7.2 Water by Land Use

Mitigated

Land Use	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

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

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8.2 Waste by Land Use

Unmitigated

Land Use	Waste Disposed tons	Total CO2				CO2e
		CH4	N2O	MT/yr		
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000	0.0000

Mitigated

Land Use	Waste Disposed tons	Total CO2				CO2e
		CH4	N2O	MT/yr		
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000	0.0000

9.0 Operational Offroad

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

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	1	0.3	26	3687	0.5	Diesel

Boilers

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

User Defined Equipment

Equipment Type	Number

10.1 Stationary Sources

Unmitigated/Mitigated

Equipment Type	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr															
	MT/yr															
Emergency Generator - Diesel (750 - 9999 HP)	0.0539	0.2409	0.1374	2.6000e-004	7.9300e-003	7.9300e-003	7.9300e-003	7.9300e-003	7.9300e-003	7.9300e-003	0.0000	25.0027	25.0027	3.5100e-003	0.0000	25.0904
Total	0.0539	0.2409	0.1374	2.6000e-004	7.9300e-003	7.9300e-003	7.9300e-003	7.9300e-003	7.9300e-003	7.9300e-003	0.0000	25.0027	25.0027	3.5100e-003	0.0000	25.0904

11.0 Vegetation

Appendix 2

Special Status Species Lists



United States Department of the Interior



FISH AND WILDLIFE SERVICE
Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
Phone: (916) 414-6600 Fax: (916) 414-6713

In Reply Refer To:

January 08, 2018

Consultation Code: 08ESMF00-2018-SLI-0823

Event Code: 08ESMF00-2018-E-02441

Project Name: Patterson Pass Water Treatment Plant Upgrades and Ozonation Project

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, under the jurisdiction of the U.S. Fish and Wildlife Service (Service) that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the Service under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.).

Please follow the link below to see if your proposed project has the potential to affect other species or their habitats under the jurisdiction of the National Marine Fisheries Service:

http://www.nwr.noaa.gov/protected_species/species_list/species_lists.html

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 et seq.), Federal agencies are required to

utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2) (c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 et seq.), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>; <http://www.towerkill.com>; and <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
-

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Sacramento Fish And Wildlife Office

Federal Building

2800 Cottage Way, Room W-2605

Sacramento, CA 95825-1846

(916) 414-6600

Project Summary

Consultation Code: 08ESMF00-2018-SLI-0823

Event Code: 08ESMF00-2018-E-02441

Project Name: Patterson Pass Water Treatment Plant Upgrades and Ozonation Project

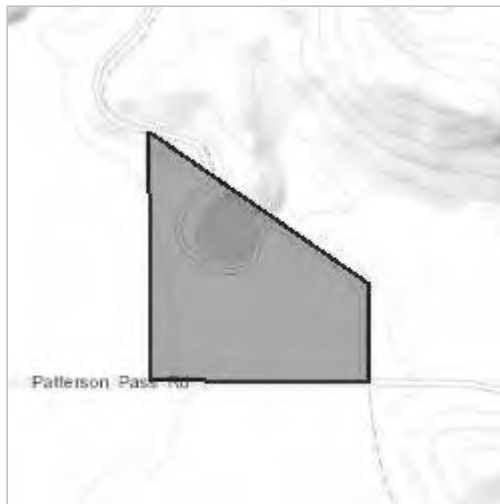
Project Type: WATER QUALITY MODIFICATION

Project Description: D160146.00

Project Location:

Approximate location of the project can be viewed in Google Maps:

<https://www.google.com/maps/place/37.697018668425926N121.68294641556633W>



Counties: Alameda, CA

Endangered Species Act Species

There is a total of 10 threatened, endangered, or candidate species on this species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

Mammals

NAME	STATUS
San Joaquin Kit Fox <i>Vulpes macrotis mutica</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2873	Endangered

Reptiles

NAME	STATUS
Alameda Whipsnake (=striped Racer) <i>Masticophis lateralis euryxanthus</i> There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5524	Threatened

Amphibians

NAME	STATUS
California Red-legged Frog <i>Rana draytonii</i> There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2891	Threatened
California Tiger Salamander <i>Ambystoma californiense</i> Population: U.S.A. (Central CA DPS) There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2076	Threatened

Fishes

NAME	STATUS
Delta Smelt <i>Hypomesus transpacificus</i> There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/321	Threatened

Insects

NAME	STATUS
<p>San Bruno Elfin Butterfly <i>Callophrys mossii bayensis</i></p> <p>There is proposed critical habitat for this species. The location of the critical habitat is not available.</p> <p>Species profile: https://ecos.fws.gov/ecp/species/3394</p>	Endangered
<p>Valley Elderberry Longhorn Beetle <i>Desmocerus californicus dimorphus</i></p> <p>There is final critical habitat for this species. Your location is outside the critical habitat.</p> <p>Species profile: https://ecos.fws.gov/ecp/species/7850</p> <p>Habitat assessment guidelines: https://ecos.fws.gov/ipac/guideline/assessment/population/436/office/11420.pdf</p>	Threatened

Crustaceans

NAME	STATUS
<p>Conservancy Fairy Shrimp <i>Branchinecta conservatio</i></p> <p>There is final critical habitat for this species. Your location is outside the critical habitat.</p> <p>Species profile: https://ecos.fws.gov/ecp/species/8246</p>	Endangered
<p>Vernal Pool Fairy Shrimp <i>Branchinecta lynchi</i></p> <p>There is final critical habitat for this species. Your location is outside the critical habitat.</p> <p>Species profile: https://ecos.fws.gov/ecp/species/498</p>	Threatened

Flowering Plants

NAME	STATUS
<p>Palmate-bracted Bird's Beak <i>Cordylanthus palmatus</i></p> <p>No critical habitat has been designated for this species.</p> <p>Species profile: https://ecos.fws.gov/ecp/species/1616</p>	Endangered

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.



Plant List

Inventory of Rare and Endangered Plants

63 matches found. [Click on scientific name for details](#)

Search Criteria

Found in Quads 3712177, 3712176, 3712175, 3712167, 3712166, 3712165, 3712157 3712156 and 3712155;

[Modify Search Criteria](#)
[Export to Excel](#)
[Modify Columns](#)
[Modify Sort](#)
[Display Photos](#)

Scientific Name	Common Name	Family	Lifeform	Blooming Period	CA Rare Plant Rank	State Rank	Global Rank
Acanthomintha lanceolata	Santa Clara thorn-mint	Lamiaceae	annual herb	Mar-Jun	4.2	S4	G4
Allium sharsmithiae	Sharsmith's onion	Alliaceae	perennial bulbiferous herb	Mar-May	1B.3	S2	G2
Amsinckia grandiflora	large-flowered fiddleneck	Boraginaceae	annual herb	(Mar)Apr-May	1B.1	S1	G1
Amsinckia lunaris	bent-flowered fiddleneck	Boraginaceae	annual herb	Mar-Jun	1B.2	S2S3	G2G3
Androsace elongata ssp. acuta	California androsace	Primulaceae	annual herb	Mar-Jun	4.2	S3S4	G5?T3T4
Arctostaphylos auriculata	Mt. Diablo manzanita	Ericaceae	perennial evergreen shrub	Jan-Mar	1B.3	S2	G2
Arctostaphylos manzanita ssp. laevigata	Contra Costa manzanita	Ericaceae	perennial evergreen shrub	Jan-Mar (Apr)	1B.2	S2	G5T2
Aspidotis carlotta-halliae	Carlotta Hall's lace fern	Pteridaceae	perennial rhizomatous herb	Jan-Dec	4.2	S3	G3
Astragalus tener var. tener	alkali milk-vetch	Fabaceae	annual herb	Mar-Jun	1B.2	S2	G2T2
Atriplex cordulata var. cordulata	heartscale	Chenopodiaceae	annual herb	Apr-Oct	1B.2	S2	G3T2
Atriplex coronata var. coronata	crownscale	Chenopodiaceae	annual herb	Mar-Oct	4.2	S3	G4T3
Atriplex coronata var. vallicola	Lost Hills crownscale	Chenopodiaceae	annual herb	Apr-Sep	1B.2	S2	G4T2
Atriplex depressa	brittlescale	Chenopodiaceae	annual herb	Apr-Oct	1B.2	S2	G2
Atriplex minuscula	lesser saltscale	Chenopodiaceae	annual herb	May-Oct	1B.1	S2	G2
Balsamorhiza macrolepis	big-scale balsamroot	Asteraceae	perennial herb	Mar-Jun	1B.2	S2	G2

<u>Blepharizonia plumosa</u>	big tarplant	Asteraceae	annual herb	Jul-Oct	1B.1	S2	G2
<u>Calochortus pulchellus</u>	Mt. Diablo fairy-lantern	Liliaceae	perennial bulbiferous herb	Apr-Jun	1B.2	S2	G2
<u>Campanula exigua</u>	chaparral harebell	Campanulaceae	annual herb	May-Jun	1B.2	S2	G2
<u>Caulanthus lemmonii</u>	Lemmon's jewelflower	Brassicaceae	annual herb	Feb-May	1B.2	S3	G3
<u>Centromadia parryi ssp. congdonii</u>	Congdon's tarplant	Asteraceae	annual herb	May-Oct (Nov)	1B.1	S2	G3T2
<u>Chlorogalum pomeridianum var. minus</u>	dwarf soaproot	Agavaceae	perennial bulbiferous herb	May-Aug	1B.2	S3	G5T3
<u>Chloropyron molle ssp. hispidum</u>	hispid bird's-beak	Orobanchaceae	annual herb (hemiparasitic)	Jun-Sep	1B.1	S1	G2T1
<u>Chloropyron palmatum</u>	palmate-bracted bird's-beak	Orobanchaceae	annual herb (hemiparasitic)	May-Oct	1B.1	S1	G1
<u>Cirsium fontinale var. campylon</u>	Mt. Hamilton fountain thistle	Asteraceae	perennial herb	(Feb)Apr-Oct	1B.2	S2	G2T2
<u>Clarkia breweri</u>	Brewer's clarkia	Onagraceae	annual herb	Apr-Jun	4.2	S4	G4
<u>Clarkia concinna ssp. automixa</u>	Santa Clara red ribbons	Onagraceae	annual herb	(Apr)May-Jun(Jul)	4.3	S3	G5?T3
<u>Convolvulus simulans</u>	small-flowered morning-glory	Convolvulaceae	annual herb	Mar-Jul	4.2	S4	G4
<u>Deinandra bacigalupii</u>	Livermore tarplant	Asteraceae	annual herb	Jun-Oct	1B.1	S1	G1
<u>Delphinium californicum ssp. interius</u>	Hospital Canyon larkspur	Ranunculaceae	perennial herb	Apr-Jun	1B.2	S3	G3T3
<u>Delphinium recurvatum</u>	recurved larkspur	Ranunculaceae	perennial herb	Mar-Jun	1B.2	S2?	G2?
<u>Eriophyllum jepsonii</u>	Jepson's woolly sunflower	Asteraceae	perennial herb	Apr-Jun	4.3	S3	G3
<u>Eryngium spinosepalum</u>	spiny-sepaled button-celery	Apiaceae	annual / perennial herb	Apr-Jun	1B.2	S2	G2
<u>Eschscholzia rhombipetala</u>	diamond-petaled California poppy	Papaveraceae	annual herb	Mar-Apr	1B.1	S1	G1
<u>Extriplex joaquinana</u>	San Joaquin spearscale	Chenopodiaceae	annual herb	Apr-Oct	1B.2	S2	G2
<u>Fritillaria agrestis</u>	stinkbells	Liliaceae	perennial bulbiferous herb	Mar-Jun	4.2	S3	G3
<u>Fritillaria falcata</u>	talus fritillary	Liliaceae	perennial bulbiferous herb	Mar-May	1B.2	S2	G2
<u>Helianthella castanea</u>	Diablo helianthella	Asteraceae	perennial herb	Mar-Jun	1B.2	S2	G2
<u>Hesperervax caulescens</u>	hogwallow starfish	Asteraceae	annual herb	Mar-Jun	4.2	S3	G3

<u>Hesperolinon breweri</u>	Brewer's western flax	Linaceae	annual herb	May-Jul	1B.2	S2?	G2?
<u>Hibiscus lasiocarpus var. occidentalis</u>	woolly rose-mallow	Malvaceae	perennial rhizomatous herb (emergent)	Jun-Sep	1B.2	S3	G5T3
<u>Hoita strobilina</u>	Loma Prieta hoita	Fabaceae	perennial herb	May-Jul (Aug-Oct)	1B.1	S2	G2
<u>Lasthenia conjugens</u>	Contra Costa goldfields	Asteraceae	annual herb	Mar-Jun	1B.1	S1	G1
<u>Lasthenia ferrisiae</u>	Ferris' goldfields	Asteraceae	annual herb	Feb-May	4.2	S3	G3
<u>Legenere limosa</u>	legenere	Campanulaceae	annual herb	Apr-Jun	1B.1	S2	G2
<u>Leptosiphon ambiguus</u>	serpentine leptosiphon	Polemoniaceae	annual herb	Mar-Jun	4.2	S4	G4
<u>Leptosyne hamiltonii</u>	Mt. Hamilton coreopsis	Asteraceae	annual herb	Mar-May	1B.2	S2	G2
<u>Lilaeopsis masonii</u>	Mason's lilaeopsis	Apiaceae	perennial rhizomatous herb	Apr-Nov	1B.1	S2	G2
<u>Limosella australis</u>	Delta mudwort	Scrophulariaceae	perennial stoloniferous herb	May-Aug	2B.1	S2	G4G5
<u>Madia radiata</u>	showy golden madia	Asteraceae	annual herb	Mar-May	1B.1	S2	G2
<u>Micropus amphibolus</u>	Mt. Diablo cottonweed	Asteraceae	annual herb	Mar-May	3.2	S3S4	G3G4
<u>Monardella antonina ssp. antonina</u>	San Antonio Hills monardella	Lamiaceae	perennial rhizomatous herb	Jun-Aug	3	S1S3	G4T1T3Q
<u>Myosurus minimus ssp. apus</u>	little mousetail	Ranunculaceae	annual herb	Mar-Jun	3.1	S2	G5T2Q
<u>Navarretia nigelliformis ssp. nigelliformis</u>	adobe navarretia	Polemoniaceae	annual herb	Apr-Jun	4.2	S3	G4T3
<u>Navarretia nigelliformis ssp. radians</u>	shining navarretia	Polemoniaceae	annual herb	(Mar)Apr-Jul	1B.2	S2	G4T2
<u>Navarretia prostrata</u>	prostrate vernal pool navarretia	Polemoniaceae	annual herb	Apr-Jul	1B.1	S2	G2
<u>Plagiobothrys glaber</u>	hairless popcornflower	Boraginaceae	annual herb	Mar-May	1A	SH	GH
<u>Puccinellia simplex</u>	California alkali grass	Poaceae	annual herb	Mar-May	1B.2	S2	G3
<u>Senecio aphanactis</u>	chaparral ragwort	Asteraceae	annual herb	Jan-Apr (May)	2B.2	S2	G3
<u>Spergularia macrotheca var. longistyla</u>	long-styled sand-spurrey	Caryophyllaceae	perennial herb	Feb-May	1B.2	S2	G5T2
<u>Streptanthus albidus ssp. peramoenus</u>	most beautiful jewelflower	Brassicaceae	annual herb	(Mar)Apr-Sep(Oct)	1B.2	S2	G2T2

Trifolium hydrophilum	saline clover	Fabaceae	annual herb	Apr-Jun	1B.2	S2	G2
Tropidocarpum capparideum	caper-fruited tropidocarpum	Brassicaceae	annual herb	Mar-Apr	1B.1	S1	G1
Viburnum ellipticum	oval-leaved viburnum	Adoxaceae	perennial deciduous shrub	May-Jun	2B.3	S3?	G4G5

Suggested Citation

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Questions and Comments

rareplants@cnps.org

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Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database



Query Criteria: Quad (Altamont (3712166) OR Tassajara (3712177) OR Byron Hot Springs (3712176) OR Clifton Court Forebay (3712175) OR Livermore (3712167) OR Midway (3712165) OR La Costa Valley (3712157) OR Mendenhall Springs (3712156) OR Cedar Mtn. (3712155))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Accipiter cooperii</i> Cooper's hawk	ABNKC12040	None	None	G5	S4	WL
<i>Accipiter striatus</i> sharp-shinned hawk	ABNKC12020	None	None	G5	S4	WL
<i>Agelaius tricolor</i> tricolored blackbird	ABPBXB0020	None	Candidate Endangered	G2G3	S1S2	SSC
<i>Alkali Meadow</i> Alkali Meadow	CTT45310CA	None	None	G3	S2.1	
<i>Alkali Seep</i> Alkali Seep	CTT45320CA	None	None	G3	S2.1	
<i>Allium sharsmithiae</i> Sharsmith's onion	PMLIL02310	None	None	G2	S2	1B.3
<i>Ambystoma californiense</i> California tiger salamander	AAAAA01180	Threatened	Threatened	G2G3	S2S3	WL
<i>Ammodramus savannarum</i> grasshopper sparrow	ABPBXA0020	None	None	G5	S3	SSC
<i>Amsinckia grandiflora</i> large-flowered fiddleneck	PDBOR01050	Endangered	Endangered	G1	S1	1B.1
<i>Anniella pulchra</i> northern California legless lizard	ARACC01020	None	None	G3	S3	SSC
<i>Anomobryum julaceum</i> slender silver moss	NBMUS80010	None	None	G5?	S2	4.2
<i>Antrozous pallidus</i> pallid bat	AMACC10010	None	None	G5	S3	SSC
<i>Aquila chrysaetos</i> golden eagle	ABNKC22010	None	None	G5	S3	FP
<i>Arctostaphylos auriculata</i> Mt. Diablo manzanita	PDERI04040	None	None	G2	S2	1B.3
<i>Arctostaphylos manzanita ssp. laevigata</i> Contra Costa manzanita	PDERI04273	None	None	G5T2	S2	1B.2
<i>Arizona elegans occidentalis</i> California glossy snake	ARADB01017	None	None	G5T2	S2	SSC
<i>Asio flammeus</i> short-eared owl	ABNSB13040	None	None	G5	S3	SSC
<i>Astragalus tener var. tener</i> alkali milk-vetch	PDFAB0F8R1	None	None	G2T2	S2	1B.2



Selected Elements by Scientific Name
California Department of Fish and Wildlife
California Natural Diversity Database



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Athene cunicularia</i> burrowing owl	ABNSB10010	None	None	G4	S3	SSC
<i>Atriplex cordulata</i> var. <i>cordulata</i> heartscale	PDCHE040B0	None	None	G3T2	S2	1B.2
<i>Atriplex depressa</i> brittlescale	PDCHE042L0	None	None	G2	S2	1B.2
<i>Atriplex minuscula</i> lesser saltscale	PDCHE042M0	None	None	G2	S2	1B.1
<i>Balsamorhiza macrolepis</i> big-scale balsamroot	PDAST11061	None	None	G2	S2	1B.2
<i>Blepharizonia plumosa</i> big tarplant	PDAST1C011	None	None	G2	S2	1B.1
<i>Bombus crotchii</i> Crotch bumble bee	IIHYM24480	None	None	G3G4	S1S2	
<i>Bombus occidentalis</i> western bumble bee	IIHYM24250	None	None	G2G3	S1	
<i>Branchinecta longiantenna</i> longhorn fairy shrimp	ICBRA03020	Endangered	None	G1	S1S2	
<i>Branchinecta lynchi</i> vernal pool fairy shrimp	ICBRA03030	Threatened	None	G3	S3	
<i>Branchinecta mesoovallensis</i> midvalley fairy shrimp	ICBRA03150	None	None	G2	S2S3	
<i>Buteo regalis</i> ferruginous hawk	ABNKC19120	None	None	G4	S3S4	WL
<i>Buteo swainsoni</i> Swainson's hawk	ABNKC19070	None	Threatened	G5	S3	
<i>California macrophylla</i> round-leaved filaree	PDGER01070	None	None	G4	S4	1B.2
<i>Calochortus pulchellus</i> Mt. Diablo fairy-lantern	PMLIL0D160	None	None	G2	S2	1B.2
<i>Campanula exigua</i> chaparral harebell	PDCAM020A0	None	None	G2	S2	1B.2
<i>Caulanthus lemmonii</i> Lemmon's jewelflower	PDBRA0M0E0	None	None	G3	S3	1B.2
<i>Centromadia parryi</i> ssp. <i>congdonii</i> Congdon's tarplant	PDAST4R0P1	None	None	G3T2	S2	1B.1
<i>Chlorogalum pomeridianum</i> var. <i>minus</i> dwarf soaproot	PMLIL0G042	None	None	G5T3	S3	1B.2
<i>Chloropyron molle</i> ssp. <i>hispidum</i> hispid salty bird's-beak	PDSCR0J0D1	None	None	G2T1	S1	1B.1
<i>Chloropyron palmatum</i> palmate-bracted salty bird's-beak	PDSCR0J0J0	Endangered	Endangered	G1	S1	1B.1



Selected Elements by Scientific Name
California Department of Fish and Wildlife
California Natural Diversity Database



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Circus cyaneus</i> northern harrier	ABNKC11010	None	None	G5	S3	SSC
<i>Cirsium fontinale var. campylon</i> Mt. Hamilton fountain thistle	PDAST2E163	None	None	G2T2	S2	1B.2
<i>Cismontane Alkali Marsh</i> Cismontane Alkali Marsh	CTT52310CA	None	None	G1	S1.1	
<i>Clarkia concinna ssp. automixa</i> Santa Clara red ribbons	PDONA050A1	None	None	G5?T3	S3	4.3
<i>Corynorhinus townsendii</i> Townsend's big-eared bat	AMACC08010	None	None	G3G4	S2	SSC
<i>Deinandra bacigalupii</i> Livermore tarplant	PDAST4R0V0	None	Endangered	G1	S1	1B.1
<i>Delphinium californicum ssp. interius</i> Hospital Canyon larkspur	PDRAN0B0A2	None	None	G3T3	S3	1B.2
<i>Delphinium recurvatum</i> recurved larkspur	PDRAN0B1J0	None	None	G2?	S2?	1B.2
<i>Desmocerus californicus dimorphus</i> valley elderberry longhorn beetle	IICOL48011	Threatened	None	G3T2	S2	
<i>Dipodomys heermanni berkeleyensis</i> Berkeley kangaroo rat	AMAFD03061	None	None	G3G4T1	S1	
<i>Elanus leucurus</i> white-tailed kite	ABNKC06010	None	None	G5	S3S4	FP
<i>Emys marmorata</i> western pond turtle	ARAAD02030	None	None	G3G4	S3	SSC
<i>Eremophila alpestris actia</i> California horned lark	ABPAT02011	None	None	G5T4Q	S4	WL
<i>Eryngium spinosepalum</i> spiny-sepaled button-celery	PDAP10Z0Y0	None	None	G2	S2	1B.2
<i>Eschscholzia rhombipetala</i> diamond-petaled California poppy	PDPAP0A0D0	None	None	G1	S1	1B.1
<i>Extriplex joaquinana</i> San Joaquin spearscale	PDCHE041F3	None	None	G2	S2	1B.2
<i>Falco mexicanus</i> prairie falcon	ABNKD06090	None	None	G5	S4	WL
<i>Falco peregrinus anatum</i> American peregrine falcon	ABNKD06071	Delisted	Delisted	G4T4	S3S4	FP
<i>Fritillaria agrestis</i> stinkbells	PMLIL0V010	None	None	G3	S3	4.2
<i>Fritillaria falcata</i> talus fritillary	PMLIL0V070	None	None	G2	S2	1B.2
<i>Haliaeetus leucocephalus</i> bald eagle	ABNKC10010	Delisted	Endangered	G5	S3	FP



Selected Elements by Scientific Name
California Department of Fish and Wildlife
California Natural Diversity Database



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Helianthella castanea</i> Diablo helianthella	PDAST4M020	None	None	G2	S2	1B.2
<i>Hesperolinon breweri</i> Brewer's western flax	PDLIN01030	None	None	G2?	S2?	1B.2
<i>Hibiscus lasiocarpus var. occidentalis</i> woolly rose-mallow	PDMAL0H0R3	None	None	G5T3	S3	1B.2
<i>Hoita strobilina</i> Loma Prieta hoita	PDFAB5Z030	None	None	G2	S2	1B.1
<i>Hygrotus curvipes</i> curved-foot hygrotus diving beetle	IICOL38030	None	None	G1	S1	
<i>Hypomesus transpacificus</i> Delta smelt	AFCHB01040	Threatened	Endangered	G1	S1	
<i>Lanius ludovicianus</i> loggerhead shrike	ABPBR01030	None	None	G4	S4	SSC
<i>Lasiurus cinereus</i> hoary bat	AMACC05030	None	None	G5	S4	
<i>Legenere limosa</i> legenere	PDCAM0C010	None	None	G2	S2	1B.1
<i>Leptosyne hamiltonii</i> Mt. Hamilton coreopsis	PDAST2L0C0	None	None	G2	S2	1B.2
<i>Lilaeopsis masonii</i> Mason's lilaeopsis	PDAPI19030	None	Rare	G2	S2	1B.1
<i>Limosella australis</i> Delta mudwort	PDSCR10030	None	None	G4G5	S2	2B.1
<i>Linderiella occidentalis</i> California linderiella	ICBRA06010	None	None	G2G3	S2S3	
<i>Madia radiata</i> showy golden madia	PDAST650E0	None	None	G2	S2	1B.1
<i>Masticophis flagellum ruddocki</i> San Joaquin coachwhip	ARADB21021	None	None	G5T2T3	S2?	SSC
<i>Masticophis lateralis euryxanthus</i> Alameda whipsnake	ARADB21031	Threatened	Threatened	G4T2	S2	
<i>Melospiza melodia</i> song sparrow ("Modesto" population)	ABPBXA3010	None	None	G5	S3?	SSC
<i>Navarretia nigelliformis ssp. radians</i> shining navarretia	PDPLM0C0J2	None	None	G4T2	S2	1B.2
<i>Navarretia prostrata</i> prostrate vernal pool navarretia	PDPLM0C0Q0	None	None	G2	S2	1B.1
<i>Neotoma fuscipes annectens</i> San Francisco dusky-footed woodrat	AMAFF08082	None	None	G5T2T3	S2S3	SSC
<i>Northern Claypan Vernal Pool</i> Northern Claypan Vernal Pool	CTT44120CA	None	None	G1	S1.1	



Selected Elements by Scientific Name
California Department of Fish and Wildlife
California Natural Diversity Database



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Oncorhynchus mykiss irideus pop. 11</i> steelhead - Central Valley DPS	AFCHA0209K	Threatened	None	G5T2Q	S2	
<i>Oncorhynchus mykiss irideus pop. 8</i> steelhead - central California coast DPS	AFCHA0209G	Threatened	None	G5T2T3Q	S2S3	
<i>Perognathus inornatus</i> San Joaquin Pocket Mouse	AMAFD01060	None	None	G2G3	S2S3	
<i>Phrynosoma blainvillii</i> coast horned lizard	ARACF12100	None	None	G3G4	S3S4	SSC
<i>Plagiobothrys glaber</i> hairless popcornflower	PDBOR0V0B0	None	None	GH	SH	1A
<i>Puccinellia simplex</i> California alkali grass	PMPOA53110	None	None	G3	S2	1B.2
<i>Rana boylei</i> foothill yellow-legged frog	AAABH01050	None	Candidate Threatened	G3	S3	SSC
<i>Rana draytonii</i> California red-legged frog	AAABH01022	Threatened	None	G2G3	S2S3	SSC
<i>Senecio aphanactis</i> chaparral ragwort	PDAST8H060	None	None	G3	S2	2B.2
<i>Spea hammondi</i> western spadefoot	AAABF02020	None	None	G3	S3	SSC
<i>Spergularia macrotheca var. longistyla</i> long-styled sand-spurrey	PDCAR0W062	None	None	G5T2	S2	1B.2
<i>Spirinchus thaleichthys</i> longfin smelt	AFCHB03010	Candidate	Threatened	G5	S1	SSC
<i>Streptanthus albidus ssp. peramoenus</i> most beautiful jewelflower	PDBRA2G012	None	None	G2T2	S2	1B.2
<i>Sycamore Alluvial Woodland</i> Sycamore Alluvial Woodland	CTT62100CA	None	None	G1	S1.1	
<i>Taxidea taxus</i> American badger	AMAJF04010	None	None	G5	S3	SSC
<i>Thaleichthys pacificus</i> eulachon	AFCHB04010	Threatened	None	G5	S3	
<i>Trifolium hydrophilum</i> saline clover	PDFAB400R5	None	None	G2	S2	1B.2
<i>Tropidocarpum capparideum</i> caper-fruited tropidocarpum	PDBRA2R010	None	None	G1	S1	1B.1
<i>Valley Needlegrass Grassland</i> Valley Needlegrass Grassland	CTT42110CA	None	None	G3	S3.1	
<i>Valley Sink Scrub</i> Valley Sink Scrub	CTT36210CA	None	None	G1	S1.1	
<i>Viburnum ellipticum</i> oval-leaved viburnum	PDCPR07080	None	None	G4G5	S3?	2B.3



Selected Elements by Scientific Name
California Department of Fish and Wildlife
California Natural Diversity Database



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Vulpes macrotis mutica</i> San Joaquin kit fox	AMAJA03041	Endangered	Threatened	G4T2	S2	

Record Count: 103

Appendix 3

Mitigation Monitoring and Reporting Plan

Mitigation Monitoring and Reporting Program, PPWTP Upgrades and Ozonation Project

Mitigation Measure	Implementation Responsibility	Implementation Timing	Monitoring, Enforcement, and Reporting Responsibility
Air Quality			
<p>Mitigation Measure AQ-1: Implement BAAQMD Basic Construction Mitigation Measures.</p> <p>The following applicable Bay Area Air Quality Management District (BAAQMD) Basic Construction Mitigation Measures shall be implemented by Zone 7 or construction contractors to reduce emissions of fugitive dust and equipment exhaust:</p> <ul style="list-style-type: none"> • All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day. • All haul trucks transporting soil, sand, or other loose material off-site shall be covered. • All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited. • All vehicle speeds on unpaved roads shall be limited to 15 mph within the Project Area. • All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used. • Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points. • All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation. • Post a publicly visible sign with the telephone number and person to contact at Zone 7 (or its designee) regarding dust complaints. This person shall respond and take corrective action within 48 hours. The BAAQMD's phone number shall also be visible to ensure compliance with applicable regulations. 	<p>Contractor is responsible for implementation of all air quality control measures. Contractor to provide and post required signage pending Zone 7 review and approval.</p>	<p>Signage to be posted at the start of construction.</p> <p>All other mitigation measures to be implemented during construction.</p>	<p>Contractor shall perform daily inspections and confirm with Zone 7 that measures are being implemented.</p> <p>Contractor is responsible for identifying any lapses or issues, rectifying them, and notifying Zone 7.</p>

Mitigation Monitoring and Reporting Program, PPWTP Upgrades and Ozonation Project

Mitigation Measure	Implementation Responsibility	Implementation Timing	Monitoring, Enforcement, and Reporting Responsibility
Biological Resources			
<p>Mitigation Measure BIO-1: Preconstruction Surveys, Worker Training, Exclusion Fencing and Monitoring.</p> <p>a. Prior to construction, Zone 7 shall engage a qualified biologist. During the preconstruction survey, the qualified biologist shall investigate all potential habitat, including examination of materials on the current PPWTP facility and inspection of any mammal burrows, such as California ground squirrels or gophers. Site review shall also be performed in the 2-acre staging area. If any California red-legged frogs or California tiger salamanders are found on the existing PPWTP or in the staging area, the qualified biologist will contact the USFWS and/or CDFW to determine if moving the individual is appropriate. Only a qualified biologist and USFWS-approved shall capture, and handle California red-legged frogs or California tiger salamanders.</p> <p>b. Prior to construction, a qualified biologist shall conduct a training session for construction personnel working on the Project. At a minimum, the training shall describe the listed species and their habitat, their importance, and the mitigation measures that are being implemented to conserve these species as they relate to the proposed action. All personnel will be required to attend and sign attendance sheet along with their printed name, company or agency, email address, and telephone number.</p> <p>c. A wildlife exclusion fence shall be installed at the perimeter of the work area and maintained for the duration of construction by the construction contractor.</p> <ol style="list-style-type: none"> i. The qualified biologist shall determine the placement of the fence. ii. The fence shall be installed at least 2 weeks prior to the start of the Project activities. iii. The fence shall contain exit funnels to allow any California tiger salamander or California red-legged frog within the construction area to leave without human intervention, while preventing entry into the construction zone. iv. Exit funnels shall be placed no more than 100 feet apart along the fence. v. The exit funnels shall be installed at ground level. vi. Fencing shall be 36 inches in height, or specified by manufacturer. The lower portion of the fence would be buried a depth of 6 inches and the top would extend at least 30 inches above ground level. vii. The fence shall be secured to metal posts and/or wooden stakes to ensure that it remains upright and doesn't fall over. Posts or stakes would be placed on the inner side of the fence to limit the possibility of animals using them to climb over. viii. Work shall be prohibited outside the exclusion fencing. ix. The contractor shall remove the fence upon completion of construction. 	<p>Zone 7 shall retain a qualified biologist to conduct preconstruction surveys.</p> <p>Zone 7 shall retain a qualified biologist to conduct a worker training session for environmental awareness. Contractor responsible for requiring all personnel to attend the training session.</p> <p>Contractor is responsible for proper installation of exclusion fencing as directed by the Zone 7 designated representative or qualified biologist.</p> <p>Contractor is responsible for maintaining exclusion fencing.</p> <p>Contractor is responsible for removal and disposal of exclusion fencing.</p>	<p>Prior to construction.</p> <p>Prior to construction.</p> <p>Two weeks prior to construction.</p> <p>During construction.</p> <p>After construction.</p>	<p>Zone 7 shall contact USFWS and/or CDFW if a California tiger salamander or California red-legged frogs are found during preconstruction surveys.</p> <p>Zone 7 and its contractor shall retain a record of employees that have attended the training.</p> <p>Zone 7 will have daily onsite project monitoring.</p>

Mitigation Monitoring and Reporting Program, PPWTP Upgrades and Ozonation Project

Mitigation Measure	Implementation Responsibility	Implementation Timing	Monitoring, Enforcement, and Reporting Responsibility
Biological Resources (cont.)			
<p>d. Immediately prior to removal of vegetation within the PPWTP facility and the 2-acre staging area (or the onset of any construction activities in the case where no vegetation is being removed), a qualified biologist shall conduct a walking survey to ascertain that California red-legged frog and California tiger salamander are not present where vegetation removal would occur.</p> <p>e. The qualified biologist shall be present for all vegetation removal.</p> <p>i. A "no take" approach shall be taken for work activities. The qualified biologist shall be contacted if any California red-legged frogs or California tiger salamanders are observed. If these species are encountered during construction activities, they shall be allowed to leave the Project site on their own initiative, or alternately may be relocated with USFWS and/or CDFW approval. Construction activities shall cease near the identified animal until the area is determined to be free of these species.</p> <p>f. A biologist shall conduct regular (e.g., weekly or bi-weekly) site checks throughout the duration of the Project. These surveys shall consist of walking the Project limits and within the Project site to ascertain the possible presence of the species, and check that the exclusion fence is installed and in proper working condition.</p>			
<p>Mitigation Measure BIO-2: Pre-Construction Bird Surveys.</p> <p>If construction or vegetation removal must be performed during the nesting period (February 1 through August 31), a qualified biologist shall survey the Project site to verify the presence or absence of nests no more than 7 days prior to the start of construction activities, including the clearance of vegetation. If no nests are found and the site is cleared of vegetation, no further survey will be required. If active nests are observed, the construction contractor, in consultation with a qualified biologist, shall establish buffer zones around nest areas. Typical starting nest buffers are 100 feet for passerine birds, depending upon the nature of proposed activities and the sensitivity of the identified bird to disturbance, and 150 to 250 feet for raptors. Construction activities shall be avoided or modified within the buffer area until young birds have fledged, which shall be confirmed by the qualified biologist. Buffer sizes may be reduced from the initially established distances following review by the qualified biologist and/or coordination with CDFW.</p>	<p>Zone 7 is responsible for implementing all biological surveys and monitoring.</p> <p>Contractor shall notify Zone 7 immediately should they encounter any bird nests, or behavior that suggests nesting in the Project area.</p> <p>Contractor shall establish protections (e.g., cones, flagging) around the buffer zones if needed as directed by Zone 7's qualified biologist.</p> <p>Contractor is responsible for proper installation, removal and disposal of protective measures as determined by Zone 7 in consultation with a qualified biologist</p>	<p>Prior to, and during construction.</p>	<p>Zone 7 will have daily onsite project monitoring.</p> <p>Zone 7, in consultation with a qualified wildlife biologist, will determine the buffer width and the types of construction activities allowed or prohibited within the buffer.</p> <p>Zone 7 is responsible for notifying CDFW or U.S. Fish and Wildlife Service, as needed.</p>

Mitigation Monitoring and Reporting Program, PPWTP Upgrades and Ozonation Project

Mitigation Measure	Implementation Responsibility	Implementation Timing	Monitoring, Enforcement, and Reporting Responsibility
Biological Resources (cont.)			
See Mitigation Measure WQ-1, Stormwater Pollution Prevention Plan , in Hydrology and Water Quality, below.			
Cultural Resources			
<p>Mitigation Measure CUL-1: Inadvertent Discovery of Cultural Resources.</p> <p>If prehistoric or historic-period archaeological resources are encountered, all construction activities within 100 feet shall halt and Zone 7 shall be notified. Prehistoric archaeological materials might include obsidian and chert flaked-stone tools (e.g., projectile points, knives, scrapers) or toolmaking debris; culturally darkened soil ("midden") containing heat-affected rocks, artifacts, or shellfish remains; and stone milling equipment (e.g., mortars, pestles, handstones, or milling slabs); and battered stone tools, such as hammerstones and pitted stones. Historic-era materials might include deposits of metal, glass, and/or ceramic refuse. A Secretary of the Interior-qualified archaeologist shall inspect the findings within 24 hours of discovery. If it is determined that the Project could damage a historical resource or a unique archaeological resource (as defined pursuant to the CEQA Guidelines), mitigation shall be implemented in accordance with PRC Section 21083.2 and Section 15126.4 of the CEQA Guidelines, with a preference for preservation in place. Consistent with Section 15126.4(b)(3), this may be accomplished through planning construction to avoid the resource; incorporating the resource within open space; capping and covering the resource; or deeding the site into a permanent conservation easement. If avoidance is not feasible, a qualified archaeologist shall prepare and implement a detailed treatment plan in consultation with Zone 7. Treatment of unique archaeological resources shall follow the applicable requirements of PRC Section 21083.2. Treatment for most resources would consist of (but would not be limited to) sample excavation, artifact collection, site documentation, and historical research, with the aim to target the recovery of important scientific data contained in the portion(s) of the significant resource to be impacted by the Project. The treatment plan shall include provisions for analysis of data in a regional context; reporting of results within a timely manner; curation of artifacts and data at an approved facility, and dissemination of reports to local and state repositories, libraries, and interested professionals.</p>	<p>Contractor is responsible for stopping work if any potential archaeological resource is discovered, and will notify the Zone 7 project manager.</p> <p>Zone 7 will contact and retain the qualified archaeologist.</p>	<p>During construction.</p>	<p>Zone 7 will be responsible for informing and complying with the requirements of the regulatory agencies overseeing archaeological resources.</p>

Mitigation Monitoring and Reporting Program, PPWTP Upgrades and Ozonation Project

Mitigation Measure	Implementation Responsibility	Implementation Timing	Monitoring, Enforcement, and Reporting Responsibility
Cultural Resources (cont.)			
<p>Mitigation Measure CUL-2: Inadvertent Discovery of Paleontological Resources.</p> <p>If potential fossils are discovered during Project implementation, all earthwork or other types of ground disturbance within 100 feet of the find shall stop immediately until a qualified professional paleontologist can assess the nature and importance of the find. Based on the scientific value or uniqueness of the find, the paleontologist may record the find and allow work to continue, or recommend salvage and recovery of the fossil. The paleontologist may also propose modifications to the stop-work radius based on the nature of the find, site geology, and the activities occurring on the site. If treatment and salvage is required, recommendations will be consistent with Society of Vertebrate Paleontology guidelines (2010) and currently accepted scientific practice. If required, treatment for fossil remains may include preparation and recovery of fossil materials so that they can be housed in an appropriate museum or university collection, and may also include preparation of a report for publication describing the finds.</p>	<p>Contractor is responsible for stopping work if any potential paleontological resource is discovered, and will notify the Zone 7 project manager.</p> <p>Zone 7 will contact and retain the qualified paleontologist.</p>	<p>During construction.</p>	<p>Zone 7, as needed.</p>
<p>Mitigation Measure CUL-3: Inadvertent Discovery of Human Remains.</p> <p>In the event of discovery or recognition of any human remains during construction activities, such activities within 100 feet of the find shall cease until the Alameda County Coroner has been contacted to determine that no investigation of the cause of death is required. The Native American Heritage Commission (NAHC) shall be contacted within 24 hours if it is determined that the remains are Native American. The NAHC will then identify the person or persons it believes to be the most likely descendant from the deceased Native American, who in turn would make recommendations to Zone 7 for the appropriate means of treating the human remains and any grave goods.</p>	<p>Contractor is responsible for stopping work if any potential human remains are discovered, and will notify the Zone 7 project manager.</p> <p>Zone 7 will contact the County coroner. Zone 7 will also contact the NAHC and Most Likely Descendant(s) if remains are thought to be Native American.</p>	<p>During construction.</p>	<p>Zone 7 will be responsible for seeing that the remains are handled in accordance with all applicable laws and regulations.</p>
Geology, Soils, and Seismicity			
<p>See Mitigation Measure WQ-1, Stormwater Pollution Prevention Plan, in Hydrology and Water Quality, below.</p>			

Mitigation Monitoring and Reporting Program, PPWTP Upgrades and Ozonation Project

Mitigation Measure	Implementation Responsibility	Implementation Timing	Monitoring, Enforcement, and Reporting Responsibility
Hazards and Hazardous Materials			
<p>Mitigation Measure HAZ-1: Unanticipated Soil or Groundwater Contamination.</p> <p>Zone 7 shall require the construction contractor to follow the procedures below, at the minimum, in the event contaminated soil or groundwater is encountered (either visually, through odor detection, or another method) during construction:</p> <ul style="list-style-type: none"> • Stop work in the vicinity of the suspected materials; • Secure the area of suspected contamination; • Notify Zone 7 or it's designee immediately, who shall then contact the appropriate regulatory agencies; • Identify the nature and extent of contamination; • Contain the areas of contamination; • Perform appropriate clean up procedures (such as segregate, profile, and dispose of all contaminated soil). Required disposal method will depend on the type and concentration of contamination identified; and • Any site investigation or remediation shall be performed in accordance with applicable regulations. Work shall not resume in the area(s) affected until the above measures have been implemented under the oversight of Zone 7 or regulatory agency, as appropriate. 	<p>Contractor is responsible for notifying Zone 7 immediately upon encountering contaminated soil or groundwater.</p> <p>Contractor is responsible for containing the area(s) of contamination, and to the extent possible, identifying the nature and extent of contamination.</p> <p>Contractor is responsible for applying the appropriate clean up procedures and preparing the manifest documentation for Zone 7 approval.</p>	<p>During construction.</p>	<p>Zone 7, as needed.</p>
<p>Mitigation Measure HAZ-2: Fire Safety Practices.</p> <p>Zone 7 shall require the construction contractor to ensure that, at a minimum, the following fire safety construction practices are implemented:</p> <ul style="list-style-type: none"> • Earthmoving and portable equipment with internal combustion engines shall be equipped with a sparks arrester to reduce the potential for igniting a wildland fire; • Appropriate fire suppression equipment shall be maintained at the construction site; • Flammable materials shall be removed to a distance of 10 feet from any equipment that could produce a spark, fire, or flame; and • Construction personnel shall be trained in fire safe work practices, use of fire suppression equipment, and procedures to follow in the event of a fire. 	<p>Contractor is responsible for implementation of all hazards and hazardous materials mitigation measures.</p>	<p>Prior to, and daily during construction.</p>	<p>Contractor shall confirm with Zone 7 that measures are being implemented.</p> <p>Contractor is responsible for identifying any lapses or issues, rectifying them, and notifying Zone 7.</p>

Mitigation Monitoring and Reporting Program, PWTP Upgrades and Ozonation Project

Mitigation Measure	Implementation Responsibility	Implementation Timing	Monitoring, Enforcement, and Reporting Responsibility
Hydrology and Water Quality			
<p>Mitigation Measure WQ-1: Stormwater Pollution Prevention Plan.</p> <p>Zone 7 or its construction contractor shall prepare a site-specific SWPPP in accordance with the terms of the NPDES General Construction Activities Stormwater Permit (Order No. 0014-DWQ, NPDES No. CAS000002, or current version). It shall require the construction contractor to incorporate the SWPPP's Best Management Practices (BMP) into all aspects of the Project. The BMPs shall include measures for management and operation of the construction site to control and minimize potential contribution of pollutants to stormwater runoff from these areas. These measures shall address site-specific methods for preventing and minimizing erosion and delivery of sedimentation through construction management practices to ensure control of potential water pollution sources.</p> <p>Construction phase BMPs shall be in accordance with the NPDES General Construction Activities Stormwater Permit and shall include, but are not limited to the following:</p> <ul style="list-style-type: none"> • Pre-construction inspection by a Qualified SWPPP Practitioner (QSP) or their designee to verify placement of storm water and erosion control devices sufficient to avoid off-site impacts. • Dust control measures, as outlined under Mitigation Measure AQ-1, and as stated in the NPDES General Construction Activities Stormwater Permit, shall be conducted while minimizing excessive use of water, such that water is not permitted to pool or generate conditions leading to excessive delivery of sediments through runoff. • Stabilize stockpiled soils by covering piles and using perimeter sediment barriers before/during rain events or if they are unused for an extended period of time. • Placement of (non-polymer) silt barriers, straw wattles, or other appropriate protective devices around inlets of all storm drains on site to minimize discharge of silty water or runoff, as determined by Qualified SWPPP Developer (QSD). • Inspect and clean, if necessary, storm drain inlets weekly and before/after rain events. • The site shall be swept or otherwise cleared of all debris, including garbage and plastics daily and at the conclusion of the construction period. • Measures shall be taken on site to ensure that oils (as may be used in routine maintenance of construction equipment) are prevented from spilling or otherwise reaching surfaces that could result in eventual delivery to storm drains. The construction site shall be checked daily at the conclusion of the workday to ensure that fuels, oils, and other potentially toxic substances are secured. 	<p>Contractor is responsible for preparing SWPPP, to be reviewed and approved by Zone 7.</p> <p>Construction contractor to implement all construction and post-construction BMPs.</p>	<p>Prior to, and during construction.</p>	<p>Contractor shall confirm with Zone 7 that measures are being implemented.</p> <p>Contractor is responsible for identifying any lapses or issues, rectifying them, and notifying Zone 7.</p> <p>Contractor is responsible for monitoring and reporting to Zone 7.</p> <p>Zone 7 to review contractor reports and take action as necessary.</p>

Mitigation Monitoring and Reporting Program, PWTP Upgrades and Ozonation Project

Mitigation Measure	Implementation Responsibility	Implementation Timing	Monitoring, Enforcement, and Reporting Responsibility
Hydrology and Water Quality (cont.)			
<ul style="list-style-type: none"> • The measures included in the SWPPP shall be monitored on a weekly basis, or greater as required by Permit, for effectiveness at limiting delivery of sediments or other toxic substances to the storm drains. If a measure is found to be ineffective, it shall be redesigned or replaced without delay. • Additional BMPs as determined by Zone 7 in order to maintain compliance with the terms of its NPDES (Municipal Regional Stormwater NPDES Permit, "MRP") permit, or other regulatory requirement deemed applicable shall be incorporated into the SWPPP, as appropriate. <p>Post-construction phase BMPs shall be in accordance with the NPDES General Construction Activities Stormwater Permit and shall include, but are not limited to the following:</p> <ul style="list-style-type: none"> • The site shall be inspected by Zone 7 personnel, or designated qualified monitor at the conclusion of the construction period to ensure correct placement of post-construction erosion control measures. • Any additional post-construction BMPs, as determined by Zone 7 in order to maintain compliance with the terms of its NPDES (MRP) permit including Provision C.3, or other regulatory requirement deemed applicable shall be incorporated into the SWPPP, as appropriate. 			
Tribal Cultural Resources			
See Mitigation Measure CUL-1. Inadvertent Discovery of Cultural Resources in Cultural Resources , above.			
Utilities and Service Systems			
See all mitigation measures, above.			

Appendix 4

Comment Letters



August 17, 2018

Elke Rank
Zone 7 Water Agency
100 North Canyons Parkway
Livermore CA 94551

RE: Patterson Pass Water Treatment Plant Upgrades and Ozonation Project IS/MND

Dear Elke:

Thank you for the opportunity to comment on the proposed Patterson Pass Water Treatment Plant Upgrades and Ozonation Project. We understand this project is intended to improve finished water quality, replace some aging and obsolete facilities and increase the plan capacity, as well as finished water storage capacity. We appreciate your coordination with us to support and implement water supply and water quality projects. The City has reviewed the draft IS/MND and found that is consistent with the 2015 Urban Water Management Plan, and accurately reflects future development projects and transportation-related capital improvement projects that will affect the proposed project's construction period.

Please continue to update the City regarding the status of this project. If you have any questions, please call me at (925) 960-4463.

Sincerely,

Ashley James, Contract Planner



EDMUND G. BROWN JR.
GOVERNOR

STATE OF CALIFORNIA
GOVERNOR'S OFFICE *of* PLANNING AND RESEARCH



KEN ALEX
DIRECTOR

August 23, 2018

Elke Rank
Alameda County Flood Control and Water Conservation District, Zo
100 North Canyons Parkway
Livermore, CA 94551

Subject: Patterson Pass Water Treatment Plant Upgrades and Ozonation Project
SCH#: 2018072042

Dear Elke Rank:

The State Clearinghouse submitted the above named Mitigated Negative Declaration to selected state agencies for review. The review period closed on August 22, 2018, and no state agencies submitted comments by that date. This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act.

Please call the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process. If you have a question about the above-named project, please refer to the ten-digit State Clearinghouse number when contacting this office.

Sincerely,

Scott Morgan
Director, State Clearinghouse

**Document Details Report
State Clearinghouse Data Base**

SCH# 2018072042
Project Title Patterson Pass Water Treatment Plant Upgrades and Ozonation Project
Lead Agency Alameda County Flood Control and Water Conservation District, Zone 7

Type MND Mitigated Negative Declaration
Description Note: Review Per Lead

Zone 7 is proposing to construct new facilities and modify and replace existing ones at the Patterson Pass Water Treatment Plant to incorporate ozonation disinfection technology in its potable water treatment processes and to increase production capacity and finished water storage capacity. Ozonation disinfection technology has been identified as one that would be most effective to improve taste, remove odor, and maintain or improve overall water quality for water consumers in the Zone 7 service area. In addition to improving taste and odor, ozone is more effective than other water treatment technologies (such as powered activated carbon, chlorine and chloramines) in addressing algal byproducts.

Lead Agency Contact

Name Elke Rank
Agency Alameda County Flood Control and Water Conservation District, Zo
Phone 925 454-5005 **Fax**
email
Address 100 North Canyons Parkway
City Livermore **State** CA **Zip** 94551

Project Location

County Alameda
City Livermore
Region
Lat / Long 37° 41' 39.4" N / 121° 40' 59.9" W
Cross Streets Patterson Pass Rd
Parcel No. 99B-5600-3-1
Township **Range** **Section** **Base**

Proximity to:

Highways 580
Airports
Railways
Waterways Patterson Reservoir and drainage ditches
Schools
Land Use water management lands, heavy industrial zone

Project Issues Aesthetic/Visual; Agricultural Land; Air Quality; Archaeologic-Historic; Biological Resources; Cumulative Effects; Drainage/Absorption; Flood Plain/Flooding; Forest Land/Fire Hazard; Geologic/Seismic; Growth Inducing; Landuse; Minerals; Noise; Population/Housing Balance; Public Services; Recreation/Parks; Soil Erosion/Compaction/Grading; Solid Waste; Toxic/Hazardous; Traffic/Circulation; Tribal Cultural Resources; Vegetation; Water Quality; Wetland/Riparian

Reviewing Agencies Resources Agency; Department of Fish and Wildlife, Region 3; Cal Fire; Department of Parks and Recreation; Department of Water Resources; Caltrans, District 4; Office of Emergency Services, California; Native American Heritage Commission; Public Utilities Commission; Resources, Recycling and Recovery; State Water Resources Control Board, Division of Drinking Water; State Water Resources Control Board, Division of Drinking Water, District 4; State Water Resources Control Board, Division of Financial Assistance; California Department of Justice, Attorney General's Office

**Document Details Report
State Clearinghouse Data Base**

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