Addendum to the Environmental Impact Report for the San José - Santa Clara Water Pollution Control Plant Master Plan (SCH# 2011052074)

HEADWORKS IMPROVEMENTS AND NEW HEADWORKS

File No. PP17-046

Prepared by

CITY OF SAN JOSE
CAPITAL OF SILICON VALLEY

March 2018

CITY OF SAN JOSE
CAPITAL OF SILICON VALLEY

Department of Planning, Building and Code Enforcement
ROSALYNN HUGHEY, ACTING DIRECTOR

ADDENDUM TO THE SAN JOSÉ/SANTA CLARA WATER POLLUTION CONTROL PLANT MASTER PLAN FINAL ENVIRONMENTAL IMPACT REPORT (SCH# 2011052074)

Pursuant to Section 15164 of the CEQA Guidelines, the City of San Jose has prepared an Addendum to the San José/Santa Clara Water Pollution Control Plan Master Plan Final Environmental Impact Report (PMP FEIR) because minor changes made to the project, as described below, do not raise important new issues about the significant impacts on the environment.

File Number and Project Name: PP17-046 San José - Santa Clara Regional Wastewater Facility Headworks Improvements and New Headworks

The Project involves the potential rehabilitation of Interceptor 1 and the design and construction of a new headworks (Headworks 3) to serve as the duty headworks for the San Jose'-Santa Clara Regional Wastewater Facility (RWF). Once online, the existing Headworks 1 would be taken out of service and the new Headworks 3 would be operated in conjunction with Headworks 2, which would continue to serve as the wet weather peak flow headworks. The project also includes re-routing and modifications to a number of influent pipelines, improvements to the Emergency Basin Overflow Structure (EBOS), and excavation and lining of the existing Emergency Storage Basin. The Project would not change the existing projected capacity of the headworks facilities, which is 400 million gallons per day (mgd) extreme peak hour wet weather flow. See Figure 2-1 for project location and Figure 2-4 for site layout in the attached Addendum.

Location: The Project is located at the San José - Santa Clara Regional Wastewater Facility at 700 Los Esteros Road. **Assessor's Parcel Number**: 015-31-024 **Council District:** 4

The environmental impacts of this project were addressed by a Final EIR entitled, "San José/Santa Clara Water Pollution Control Plan Master Plan Final Environmental Impact Report," and findings were adopted by City Council Resolution No. 76858 on November 19, 2013. Specifically, the following impacts were reviewed and found to be adequately considered by the EIR:

- ☒ Land Use
- ☒ Traffic and Circulation
- ☒ Noise and Vibration
- ☒ Air Quality
- ☒ Greenhouse Gas Emissions
- ☒ Biological Resources
- ☒ Geology and Soils
- ☒ Hydrology
- ☒ Water Quality
- ☒ Hazardous Materials
- ☒ Public Services and Facilities
- ☒ Utilities and Service Systems
- ☒ Cultural Resources
- ☒ Aesthetics
- ☒ Energy
- ☒ Construction Period Impacts

ANALYSIS:

The proposed project was analyzed for environmental impacts resulting from the potential rehabilitation of Interceptor 1 and construction and operation improvements to the existing Headworks 1 and 2 and new Headworks 3 was found to be adequately analyzed in all resource areas by the PMP FEIR. See attached Addendum and technical reports.

No new or more significant environmental impacts beyond those identified in the PMP FEIR have been identified, nor have any new mitigation measures or alternatives which are considerably different from those analyzed in the PMP FEIR been identified.

This Addendum will not be circulated for public review, but will be attached to PMP FEIR, pursuant to CEQA Guidelines §15164(c).

Rosalynn Hughey, Acting Director
Planning, Building and Code Enforcement

3/9/18
Date

Deputy

Project Manager: Kieulan Pham

Attachments:
Addendum and technical reports

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CHAPTER 1
Introduction

1.1 Background

The San José-Santa Clara Regional Wastewater Facility (Facility) treats domestic, industrial, and commercial wastewater from the cities of San José, Santa Clara, Campbell, Los Gatos, Monte Sereno, Cupertino, Milpitas, and Saratoga; and unincorporated Santa Clara County. In total, the existing service area covers roughly 300 square miles and contains a service population of approximately 2 million people (1.4 million residents and 600,000 workers). The City of San José (City) manages the Facility and the surrounding Facility lands, which together total approximately 2,680 acres.

The City was the lead agency for the San José-Santa Clara Water Pollution Control Plant Master Plan Environmental Impact Report (EIR) (Plant Master Plan EIR; State Clearinghouse No. 2011052074; City of San José File Number PP11-403).[1] The City adopted the EIR for the Plant Master Plan on November 19, 2013. The EIR evaluated potential environmental impacts that could occur as a result of implementing the Plant Master Plan, including Headworks odor control, influent piping, and demolition of Headworks 1, and provided applicable mitigation to reduce the intensity of potential environmental impacts.

Since completion of the Plant Master Plan EIR, the City has further refined the project components to include additional headworks facilities components and a new headworks facilities (Headworks 3). The City also has a more defined construction footprint that accounts for staging areas, pipeline corridors, and project component locations. Because the City has proposed these changes following EIR adoption, this addendum to the EIR is necessary to meet the requirements of the California Environmental Quality Act (CEQA).

1.2 Project Location

The Project would be located in the northern area of Santa Clara County, within the City. The Project area is composed of up to approximately 20 acres of land located within the existing Facility. The Project area would be located south of the existing Facility operational area. The Project area is surrounded by existing wastewater treatment facilities to the north and west, Zanker Road to the east, and open space to the south.

[1] The legal name of the facility remains "San José/Santa Clara Water Pollution Control Plant" but beginning in early 2013, the facility's common name was changed to San José-Santa Clara Regional Wastewater Facility.

1.3 Purpose of This Addendum

The CEQA Guidelines (Sections 15162 and 15164) allow that a lead agency may prepare an addendum to a previously adopted or certified EIR if minor technical changes or additions to the environmental evaluation are necessary, but none of the following occurs:

1. Substantial changes are proposed in the project which will require major revisions to the Environmental Impact Report due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;

2. Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous Environmental Impact Report due to involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or

3. New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous Environmental Impact Report was adopted, shows any of the following:

    a. The project will have one or more significant effects not discussed in the Environmental Impact Report;

    b. Significant effects previously examined will be substantially more severe than shown;

    c. Mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or

    d. Mitigation measures or alternatives which are considerably different from those analyzed in the previous Environmental Impact Report would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.

This Addendum documents that the modifications to the Project do not trigger any of the conditions described above. Specifically, given the Project description and knowledge of the Project site (based on the Project, site-specific environmental review, and environmental review prepared for the City's Plant Master Plan EIR), the City has concluded that the Project would not result in any new impacts not previously disclosed in the circulated EIR; nor would it result in a substantial increase in the magnitude of any significant environmental impact previously identified. For these reasons, an addendum to the approved EIR is sufficient to meet the requirements of CEQA. In accordance with CEQA Guidelines Section 15164, an addendum need not be circulated for public review but can be included in or attached to the final adopted EIR. The City must consider the addendum with the adopted EIR prior to making a decision on the Project.

CHAPTER 2
Project Description

2.1 Introduction and Background

2.1.1 Background and Location

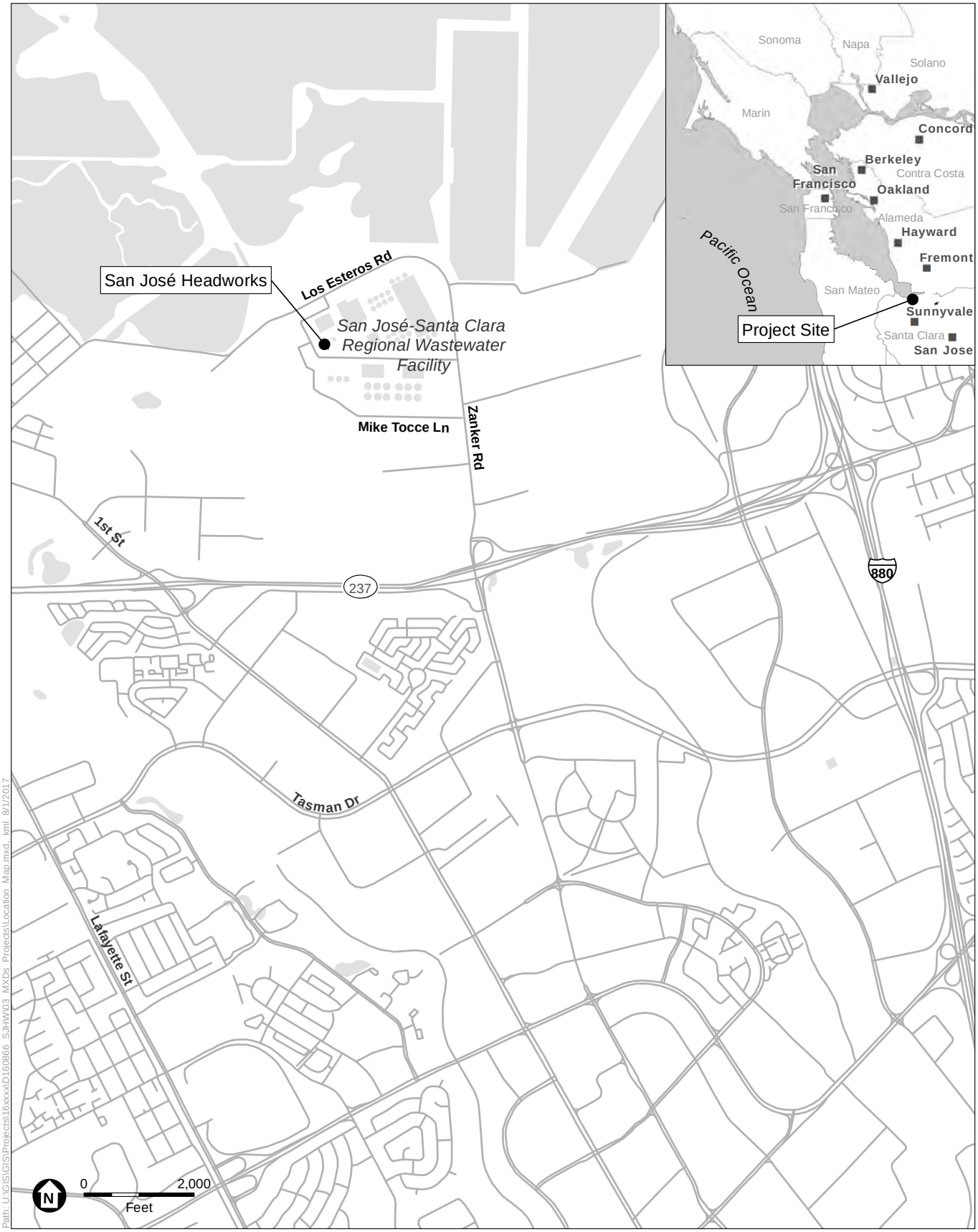
The San José-Santa Clara Regional Wastewater Facility (Facility) treats domestic, industrial, and commercial wastewater from the cities of San José, Santa Clara, Campbell, Los Gatos, Monte Sereno, Cupertino, Milpitas, and Saratoga, and parts of unincorporated Santa Clara County. The Facility is located at 700 Los Esteros Road in north San José, California, between State Route (SR) 237 and San Francisco Bay and flanked by the community of Alviso to the west and the City of Milpitas to the east, as shown in **Figure 2-1**.

Originally constructed in 1956, the Facility treats an average of 110 million gallons per day (mgd) of wastewater, with an existing capacity of 167 mgd of average dry weather influent flow. The Facility provides a tertiary level of treatment, in accordance with state and local regulations. It produces recycled water for irrigation, industrial use and toilet flushes, and also discharges treated wastewater to the South San Francisco Bay. The City of San José (City) manages the Facility and the surrounding Facility lands, which together total approximately 2,680 acres. About half of this area consists of current and former lagoons and drying beds used for biosolids management, and lands that have provided a buffer between Facility operations and neighboring land uses. The main operational area of the Facility occupies about 7 percent of Facility and surrounding lands (196 acres), and includes most of the facilities used in wastewater treatment operations, with the exception of the lagoons and beds used for solar drying of biosolids.

2.1.2 Relationship to the Plant Master Plan

The City has prepared the Plant Master Plan for the Facility that describes various improvement projects needed to address aging infrastructure, reduce odors, accommodate projected population growth in the Facility's service area, and comply with changing regulations that affect the Facility. The Plant Master Plan also includes a comprehensive land use plan for the Facility lands surrounding the Facility operational area. The master planning effort identified both near-term and long-term (to year 2040) Facility improvements and land uses.

The City, as the CEQA lead agency, evaluated environmental impacts of the Plant Master Plan in the San José-Santa Clara Water Pollution Control Plant Master Plan Environmental Impact Report (EIR) (Plant Master Plan EIR; State Clearinghouse No. 2011052074; City of San José



San José Headworks Improvements and New Headworks

Figure 2-1
Project Location Map

ESA

File Number PP11-043).[2] The City adopted the EIR for the Plant Master Plan on November 19, 2013. Potential environmental impacts of improvements to the headworks facilities, including odor control, construction of influent piping, and demolition of existing headworks facilities were evaluated in the Plant Master Plan EIR. Since completion of the Plant Master Plan EIR, the City has further refined the project components to include a new headworks facility (Headworks 3) and further improvements (i.e., new pump stations, additional pipelines, and lining of the Emergency Basin), which are described in this chapter. The approved mitigation measures provided in the adopted Plant Master Plan EIR Mitigation Monitoring and Reporting Program (MMRP) have been incorporated by reference, with modifications (additions, deletions, renumbering/renaming, or other minor revisions) made as necessary to apply to the proposed Project. The adjusted mitigation measures do not change the original impact conclusions from the Plant Master Plan EIR, nor are they considerably different from that analyzed in the Plant Master Plan EIR.

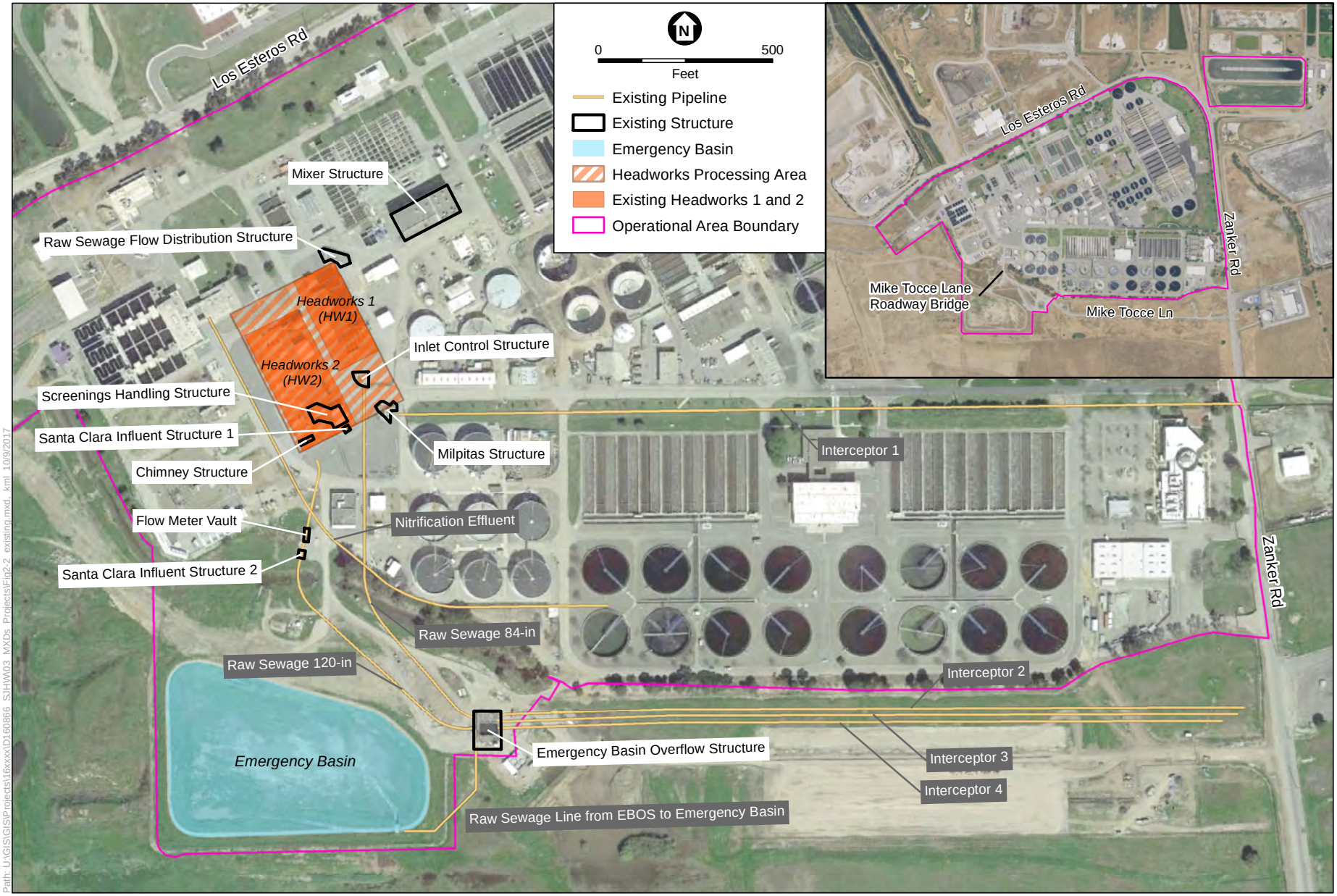
2.1.3 Existing Headworks Facilities

The Facility currently has two headworks facilities to process influent wastewater: Headworks 1 and Headworks 2, shown in **Figure 2-2**. Headworks 1 was built in the early 1960s and has the capacity to handle 240 mgd. Headworks 2, built in 2008, has a rated capacity of 160 mgd and was designed to operate in parallel with Headworks 1 to handle a combined peak hour wet weather flow of 400 mgd. The capacities of the headworks facilities are such that either facility can accommodate average dry weather flows, but both facilities need to be online (operating in parallel) to accommodate peak wet weather flows.

The existing Headworks 1 and Headworks 2 are designed to remove large material and grit from the wastewater as it enters the Facility, as is shown schematically in **Figure 2-3**. The inlet control structures route sewage to Headworks 1 and 2, which are equipped with large bar screens to remove debris (e.g., rags, sticks, and rocks) that could clog machinery. After passing through the bar screens, flow enters the grit removal systems, which mechanically separate grit from water and organic matter. Grit and debris are trucked to a landfill at a rate of six truck trips per week. After passing through the headworks facilities, wastewater flows to the Raw Sewage Flow Distribution Structure (also known as the California Structure due to its shape) from where it is routed to primary clarification, secondary treatment, filtration, and disinfection prior to discharge of treated effluent to the outfall channel. In the event of an emergency, excess wastewater can be allowed to overflow from the Emergency Basin Overflow Structure (EBOS), upstream of the existing headworks facilities, to the 6.4 acre, 8-million-gallon Emergency Basin, where it would be held temporarily until incoming wastewater flows are reduced. This basin is located south of the existing headworks facilities (refer to Figure 2-2).

The existing headworks facilities operate 24 hours per day, 7 days per week, and are maintained by approximately 10 people. Power for the existing headworks facilities is provided by PG&E. Storm water within the Facility operational area is collected and routed to the headworks facilities for treatment.

[2] The legal name of the facility remains "San José-Santa Clara Water Pollution Control Plant" but beginning in early 2013, the facility's common name was changed to San José-Santa Clara Regional Wastewater Facility.



SOURCE: ESA, 2017; Google Earth, 2017

San Jose Headworks Improvements and New Headworks

Figure 2-2
Existing Headworks Facilities

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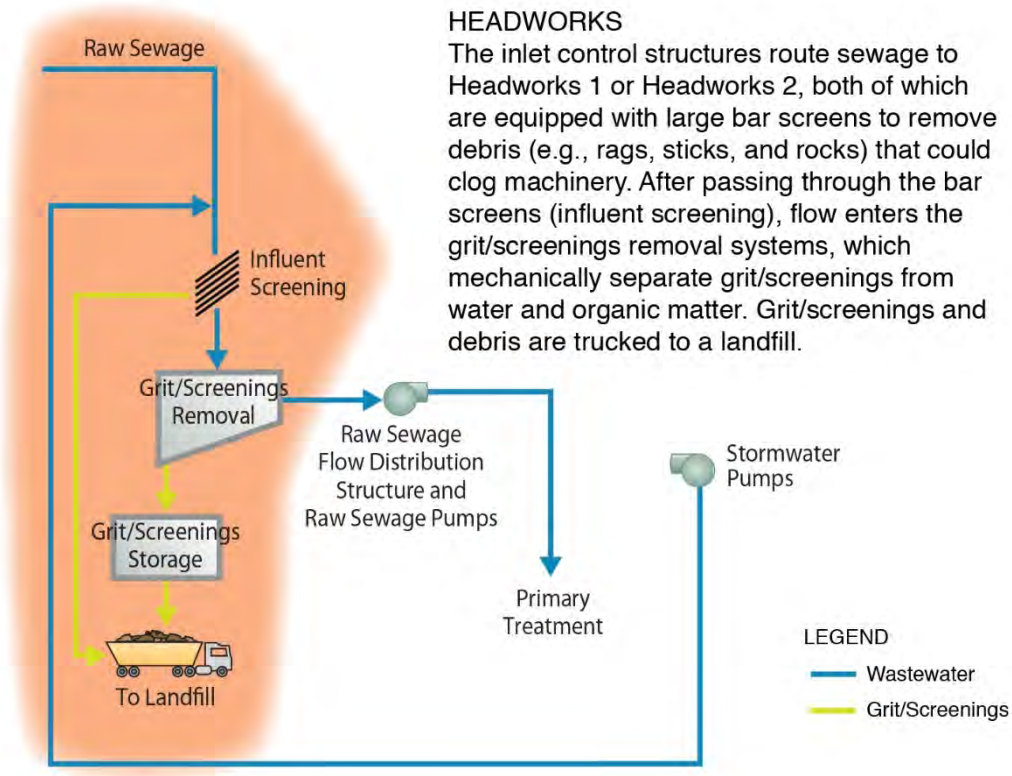


San José Headworks Improvements and New Headworks / 160866

SOURCE: City of San José, *San José-Santa Clara Water Pollution Control Plant Master Plan Environmental Impact Report*, November 2013.

Figure 2-3
Headworks Process Flow Schematic

2.2 Project Need and Objectives

The need for the Headworks Improvements and New Headworks Project (Project) is predicated on the essential service provided by the Facility: to protect public health and water quality through reliable, high quality, cost-effective wastewater treatment. Upgrades to the headworks facilities and Emergency Basin are needed to support this overall service due to the age and state of the infrastructure and changes in operational reliability and regulatory requirements. A condition assessment in 2009 identified Headworks 1 as having structures and equipment that are aging, deteriorating, and would be more expensive to repair than replace. Changes in operational reliability related to the headworks facilities are twofold: 1) the deposition of debris and grit in downstream processes reduces operational reliability; and 2) as additional pipelines had to be installed in the Project area, and with the construction of Headworks 2, wastewater routing has become increasingly complex, and in some cases resulted in excessive settling of raw sewage solids under certain operating conditions.

The City developed 15 objectives to advance the overall operational, economic, environmental, and social goals of the Plant Master Plan. The following four objectives are relevant to the Headworks Improvements and New Headworks Project:

- ***Wastewater Treatment***. Protect the environment, public health, and safety through reliable wastewater treatment that can accommodate population growth and meet foreseeable future regulations.
- ***Efficient Operations***. Maximize the long-range efficient use of the Facility's existing facilities and reduce the footprint of the existing biosolids treatment area.
- ***Cost Effectiveness***. Maintain cost-effective Facility operations and competitive sewer rates through enhanced operations, flexibility, and rigorous evaluation of new technologies.
- ***Good Neighbor***. Reduce visual, noise, and odor impacts from Facility operations to neighboring land uses to the extent practicable.

2.3 Summary of Previously Approved Project

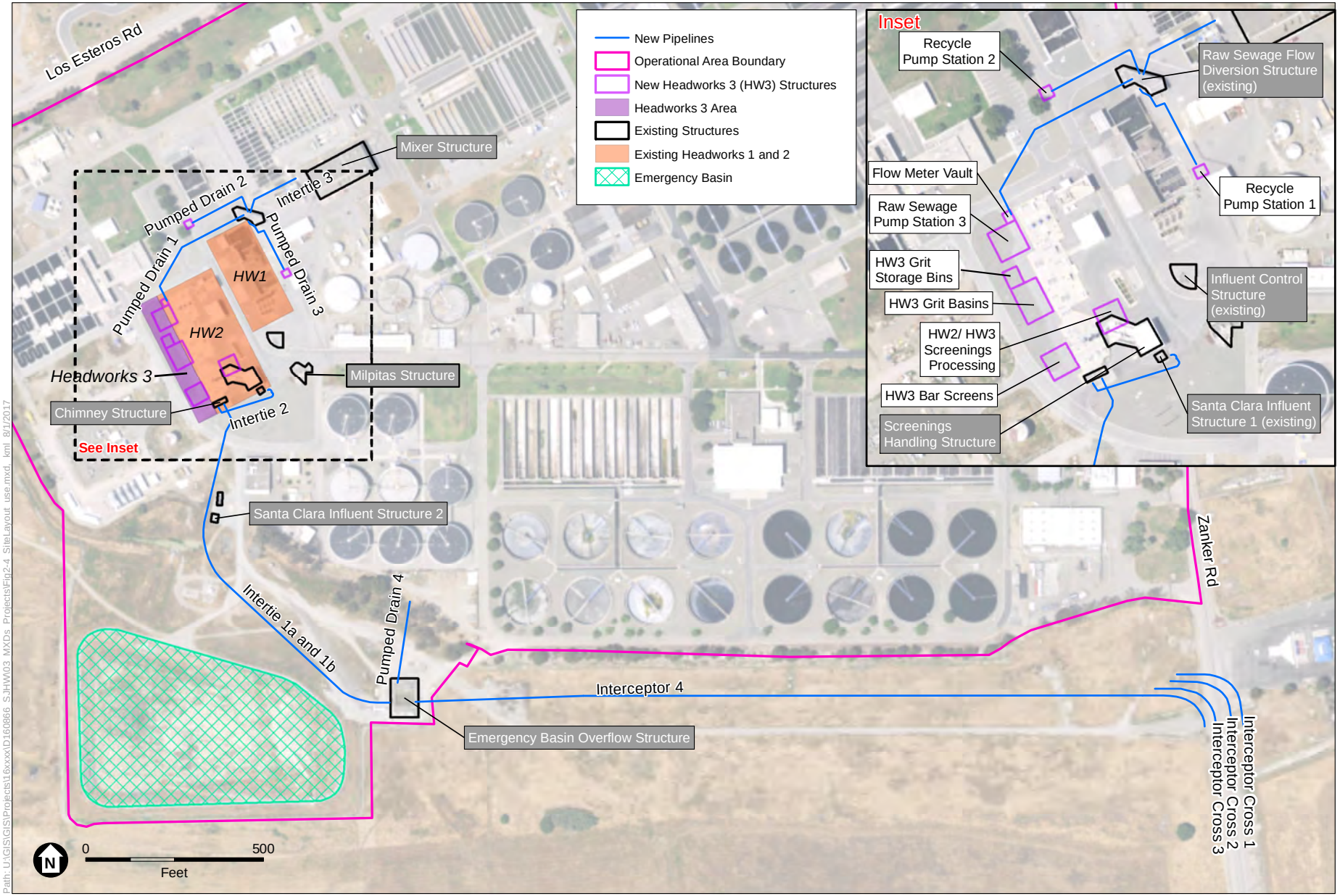
The City has prepared a Plant Master Plan for the Facility that addresses various CIPs needed to address aging infrastructure, reduce odors, accommodate projected population growth in the Facility's service area, and comply with changing regulations that affect the Facility. The Plant Master Plan also includes a comprehensive land use plan for the Facility lands surrounding the Facility operational area. The Plant Master Plan effort focuses on future planning efforts for the Facility and surrounding areas. The master planning effort identified both near-term and long-term (to year 2040) Facility improvements and land uses, which have been evaluated in the Plant Master Plan EIR. As part of the Plant Master Plant EIR, headworks odor control was evaluated at a project level of detail, and influent piping and demolition associated with the headworks was evaluated at a program level of detail. In particular, the following improvements were evaluated:

- Installation of conduits to collect foul air and a combination of biological-chemical treatment scrubbers at the Headworks 2 complex
- Re-routing and modifying pipelines along the southern boundary of the operational area to simplify the pipeline configuration
- Decommissioning and demolition of Headworks 1 facilities.

2.4 Project Components

This section describes the proposed facilities, processes, and other features associated with the Project. **Figure 2-4** illustrates the proposed components. The Project site boundary encompasses all of these proposed components. The majority of the Project components would be below ground.

The Project includes an option to rehabilitate existing Interceptor 1 (shown on Figure 2-2) for continued use instead of constructing a new interceptor segment that would replace the section of Interceptor 1 that is located within the Facility fenceline. A condition assessment of Interceptor 1 is in process; if Interceptor 1 is found to be in relatively good condition, it may be rehabilitated and as a result, fewer new pipelines would be needed, as described below. All other aspects of the Project would remain the same under the Interceptor 1 rehabilitation option. If Interceptor 1 is not found to be in good condition, then the Project would include all components listed below.



SOURCE: ESA, 2017

San Jose Headworks Improvements and New Headworks

Figure 2-4
Site Layout

ESA

2.4.1 Headworks 3

Headworks 3 would consist of chimney structure modifications, bar screens, grit separators, screenings and grit handling facilities, and odor control facilities. All Headworks 3 components would be located within the operational area of the Facility, as shown on Figure 2-4.

Chimney Structure Modifications. The existing chimney structure would be modified to collect flows from the existing 120-inch pipeline from EBOS and the new 96-inch pipeline from EBOS in a single compartment. Motorized gates will be provided downstream of the existing Chimney Structure to allow flow entering the Chimney Structure to be routed to Headworks 2 only, Headworks 3 only, or both headworks.

Bar Screens. The bar screens would remove debris (e.g., rags, sticks, and rocks) from the incoming sewage flow. The bar screens would extend approximately 17 feet below ground in a vault approximately 2,500 square feet in area.

Grit Basins. The grit basins would slow wastewater to allow grit to settle out of the water column, and would encompass an area approximately 2,600 square feet in size.

Screenings Processing Equipment and Storage. These facilities would process screenings and grit, and discharge to holding bins for offsite hauling. A new screenings facility would be installed to process screenings from Headworks 2 and 3. A new processing facility would be installed to process screenings from Headworks 3. The facilities would be approximately 3,000 square feet in area.

Grit Storage Bin. The grit storage bin would be used to hold collected grit prior to removal by truck. The grit bin would be approximately 900 square feet, and would be able to hold approximately 20 cubic yards of grit.

Flow Meter Vault. A flow meter vault would be installed near the proposed Raw Sewage Pump Station No. 3 (RSPS 3) to measure the amount of wastewater flowing through Headworks 3 to the California Structure. The flow meter vault would have an approximately 300 square foot area, would be 20 feet deep, and would be located along Pumped Drain 1 (described below) feeding the California Structure, likely at the outlet of the new RSPS 3.

Biotower. A biotower would be installed adjacent to the proposed RSPS 3 to provide odor control. The square footage of the biotower is included in the total for RSPS 3, below.

GAC Scrubber. A granular activated carbon (GAC) scrubber[3] would be installed as part of the Headworks 3 facilities. For purposes of analysis, the GAC scrubber is assumed to be included in the total square footage of RSPS 3, below. The GAC scrubber would be used for odor control at Headworks 2.

[3] Activated carbon is commonly used to adsorb natural organic compounds, taste and odor compounds, and synthetic organic chemicals in drinking water treatment. Adsorption is both the physical and chemical process of accumulating a substance at the interface between liquid and solids phases. Activated carbon is an effective adsorbent because it is a highly porous material and provides a large surface area to which contaminants may adsorb. Granular activated carbon is one of the two main types of activated carbon used in water treatment applications.

2.4.2 Pump Stations

The Project would construct three new pump stations, all within the operational area of the Facility. The new pumps would be enclosed below ground at the level of the wastewater. The pumps would be powered by a combination of above-ground electrical motors and submersible pumps (i.e., pumps with the motors contained within the pump units). A total of five pumps would be installed for RSPS 3 (4 duty plus one standby) as part of the Project. Recycle Pump Station No. 2 would have two pumps (one duty plus one standby). Recycle Pump Station No. 1 would have three pumps (2 duty plus one standby).

Recycle Pump Station No. 1. Recycle Pump Station No. 1 would pump a combination of intercepted storm water and other process return streams from an existing storm water collection pipeline to the California Structure via the new Pumped Drain 3 (described below). Recycle Pump Station No. 1 would be approximately 700 square feet and contain three pumps (2 duty, 1 standby).

Recycle Pump Station No. 2. Recycle Pump Station No. 2 would pump storm water from an existing storm water collection pipeline to the California Structure via the new Pumped Drain 2 (described below). Recycle Pump Station No. 2 would be approximately 300 square feet and contain two pumps (1 duty, 1 standby).

RSPS 3. RSPS 3 would pump effluent from Headworks 3 to the California Structure. RSPS 3 would be approximately 3,100 square feet.

2.4.3 Pipelines

The Project would construct new pipelines of various sizes and depths between Zanker Road and the headworks area of the Facility operational area. These pipelines are described below. Pipelines totaling approximately 4,250 linear feet would be installed outside of the Facility operational area; approximately 1,600 linear feet of pipelines would be installed within the Facility operational area.

2.4.3.1 Pipelines Outside the Facility Operational Area

The Project would install multiple large-diameter interceptor pipelines outside the Facility operational area, as shown in Figure 2-4. Under the Interceptor 1 rehabilitation option, Interceptor 4 and the Interceptor cross structures within Zanker Road would not be installed. These new pipelines would also include surface appurtenances along the pipeline corridor for maintenance and operations, such as access manholes. The access manholes would be flush with the ground and would be installed within pipeline disturbance areas.

Interceptor 4. The new 2,250-foot-long Interceptor 4 would connect an existing interceptor pipeline in Zanker Road and extend to the EBOS. This pipeline would be approximately seven feet in diameter.

Interceptor cross structures within Zanker Road. Three additional structures (i.e., Interceptor Cross 1, Interceptor Cross 2, and Interceptor Cross 3) would be installed within Zanker Road to connect the existing pipelines located in Zanker Road to the existing influent pipelines/interceptors

that extend from Zanker Road to the EBOS. These structures would each be approximately seven feet in diameter.

2.4.3.2 Pipelines Within the Facility Operational Area

Large- and small-diameter pipelines would also be installed within the Facility operational area; these would include interties and pumped drains (force mains).[4] The existing Interceptor 1 may also be rehabilitated within the Facility operational area. **Table 2-1** summarizes the characteristics of new pipelines included in the Project. Under the Interceptor 1 rehabilitation option, Intertie 2 would connect the Milpitas Structure to the Santa Clara Structure 1, instead of the connection described below, and existing Interceptor 1 would be rehabilitated within the Facility operational area.

TABLE 2-1
NEW PIPELINE INFORMATION

Pipeline	Diameter (feet)	Length (feet)	Description
Interceptor Cross 1	7	175	Interceptor Cross over from 1 to 2
Interceptor Cross 2	7	175	Interceptor Cross over from 2 to 3
Interceptor Cross 3	7	175	Interceptor Cross over from 3 to 4
Interceptor 4	7	2250	Zanker Road to EBOS
Intertie 1a	9	1200	EBOS to Nitrification Effluent line
Intertie 1b	9	225	Intertie 1a to Headworks 3
Intertie 2	8	105	Santa Clara Structure 1 to Headworks 3
Intertie 3	8	175	California Structure to Mixer Structure
Pumped Drain 1	8	375	RSPS 3 to California Structure
Pumped Drain 2	1	200	Recycle Pump Station No. 2 to California Structure
Pumped Drain 3	2	300	Recycle Pump Station No. 1 to California Structure
Pumped Drain 4	3	50	Existing Milpitas line to EBOS

SOURCE: CDM Smith, 2017. Responses to RFI request, May 16, 2017.

Pumped Drain 4. This 3-foot diameter force main would connect pumped flows from the existing Milpitas force main to EBOS. This pipeline would be approximately 50 feet long.

Interties 1a and 1b. These two interties would connect the EBOS to Headworks 3. Both pipelines would be approximately nine feet in diameter. Intertie 1a would be approximately 1,200 feet long, extending from the existing EBOS to the existing Nitrification Effluent line. Intertie 1b would extend the remaining 225 feet from Intertie 1a to Headworks 3. Due to the presence of other facilities, Intertie 1b would be installed at a greater depth than Intertie 1a, but would not extend beyond the maximum pipeline construction depth.

[4] Interceptors are the largest sewer pipelines, which receive wastewater from the main arterial (trunk) collecting sewers and convey the wastewater to a wastewater treatment plant. An intertie pipeline connects two non-pipeline structures. Force mains are pipelines that convey wastewater from a lower to higher elevation by pumping the wastewater under pressure. Pumps or compressors located in a lift station provide the energy for wastewater conveyance in force mains.

Intertie 2. The new 8-foot diameter Intertie 2 would connect the existing Santa Clara Structure 1 to Headworks 3.

Pumped Drain 1. This new 375-foot-long, 8-foot-diameter force main would convey wastewater from the new RSPS 3 to the existing California Structure.

Intertie 3. Intertie 3 would connect the California Structure with the existing Mixer Structure. This pipeline would be approximately eight feet in diameter and approximately 175 feet long.

Pumped Drains 2 and 3. Pumped Drains 2 and 3 would be approximately one and two feet in diameter, respectively, and would pump recycle flows and storm water from the new Recycle Pump Stations No. 2 and No. 1 to the existing California Structure.

2.4.4 Emergency Basin

The Emergency Basin would continue to operate as it is currently designed, to collect excess raw wastewater during emergency conditions to control the amount of wastewater flowing through the treatment facilities. The capacity of the Emergency Basin would be expanded from the existing 8 million gallons to 10 million gallons by increasing the water level depth. The upper 1.5 feet of the embankment soils would be replaced with non-expansive fill and a 12-inch thick concrete liner would be placed in the Emergency Basin that would extend to crest of basin. The Emergency Basin is currently unlined.

2.5 Operations

Headworks 3 is intended to replace Headworks 1 as the new duty headworks. Prior to full-time use of Headworks 3 and associated facilities, the headworks facilities would undergo testing to confirm all components are operating properly. Once testing is complete, Headworks 1 will be taken out of service. Headworks 2 will be retained in its current location. Details of Headworks 3 operations are described below.

2.5.1 Plant Capacity, Operating Hours, and Workforce

The City has projected wastewater flows and loads through 2040 as part of the master planning process for the Facility, and has since updated the Plant Master Plan's flow and load projections based on subsequent data. The Project would not change the existing projected capacity of the headworks facilities, which is 400 mgd extreme peak hour wet weather flow. The Project would operate 24 hours per day, 7 days per week. The operation and maintenance of the new Headworks 3 would fall within the current Facility procedures, and no additional staff would be required.

2.5.2 Truck Trips and Routes

Once design capacity is reached, it is anticipated that approximately 14 truck trips per week would be required for removal of material collected by the headworks facilities. Eleven trucks would haul screening material, and three trucks would haul collected grit. Grit removal trucks would access Headworks 3 via Zanker Road, the Construction Enabling area (see Figure 2-5), and

Mike Tocce Lane, turning around within the operational area. The same route would be used by these trucks when exiting the Facility.

2.5.3 Energy and Utilities

All pumps would be electrically driven, and backup power would come from the Facility's existing power sources. Energy would be provided by PG&E. All storm water runoff from site will flow into the Facility's existing storm water drains and be routed to the headworks facilities for treatment. No new storm water facilities are planned as part of the Project.

2.6 Construction Process and Schedule

2.6.1 Construction Schedule, Work Hours, Work Force, Coordination, and Best Management Practices

Table 2-2 shows the estimated construction schedule and duration by activity. Project construction would require about three and a half years, from approximately July 2019 through October 2022. Proposed typical construction hours for the Project would be Monday through Friday, 7:00 am to 5:00 pm. However, the selected contractor may be required to work on Saturday and Sunday, or during extended hours.

TABLE 2-2
APPROXIMATE CONSTRUCTION SCHEDULE AND WORKFORCE

Construction Activity	Expected Duration	Estimated Schedule	Approximate Average Daily Construction Work Force
Site Preparation	4 months	July 2019 – October 2019	Average: 35 Maximum: 60
Excavation/ Grading of Headworks 3 and associated pipelines	6 months	November 2019 – April 2020	
Demolition	3 months	May 2020 – July 2020	
Interceptor Construction	12 months	May 2020 – April 2021	
Building Construction of Headworks 3 and associated pipelines	23 months	May 2020 – March 2022	
Paving	3 months	April 2022 – June 2022	
Finish Work, Startup, Testing	4 months	July 2022 – October 2022	
TOTAL	40 months	July 2019 – October 2022	

SOURCE: CDM Smith

The size of the construction work force would vary over the construction period, averaging about 35 workers and ranging between 20 and 60 workers.

A maximum of 48 truck trips per day would occur during excavation and grading for the pipelines. During this same period, up to 120 vehicle trips per day associated with construction workers would occur.

During construction, the contractor would be required to comply with state and City of San José standard runoff, erosion, and dust control best management practices. Groundwater from excavations would be pumped to settling tanks to remove grit from the water, then would be discharged into the headworks facilities directly or into the Facility storm water collection system, which drains to the headworks facilities, for treatment.

2.6.2 Construction Staging and Truck and Delivery Access

The Project would use multiple staging areas for equipment storage, spoils storage, and worker parking. **Figure 2-5** shows these approximate staging areas. Two of the staging areas would be outside the Facility operational area and the other two would be within the Facility operational area. **Table 2-3** characterizes the construction staging areas.

TABLE 2-3
CONSTRUCTION STAGING AREAS

Staging Area	Size (square feet)	Location
North of Construction Enabling	119,620	Outside the operational area
Within Construction Enabling	78,600	Outside the operational area
Southeast of Existing Headworks	32,900	Within the operational area
West of Existing Headworks	60,000	Within the operational area

Construction vehicles would access the construction site and staging areas through the new entrance/gate off of Zanker Road. During construction, Zanker Road would be closed for approximately three months, if Interceptor 1 cannot be rehabilitated. During this time, a detour for non-Facility traffic would be provided as shown in **Figure 2-6**.

2.6.3 Construction Equipment

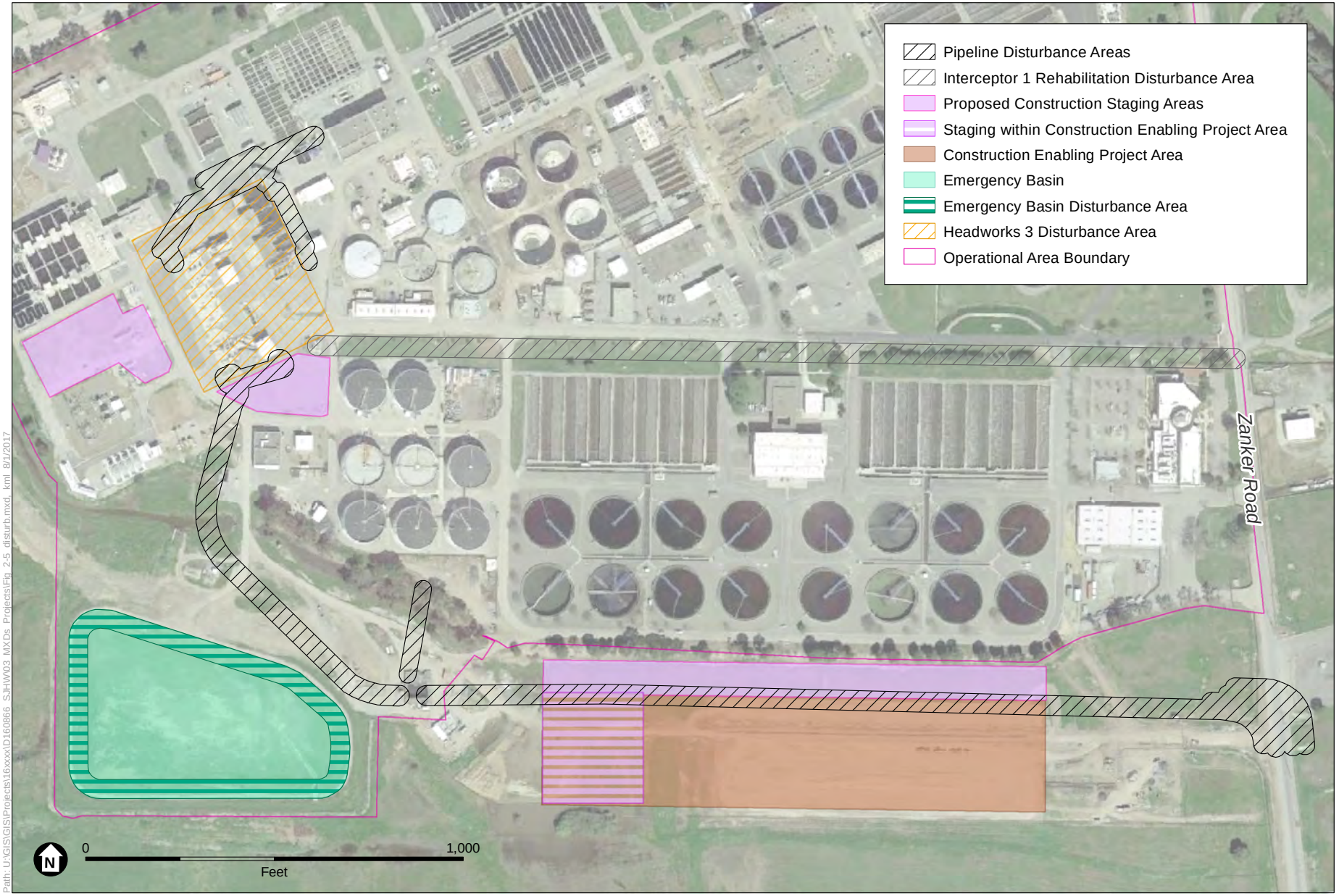
Table 2-4 identifies construction equipment to be used for the Project.

TABLE 2-4
CONSTRUCTION EQUIPMENT[a]

- Auger Drill Rig
- Backhoe
- Compressor
- Concrete Mixer Truck
- Concrete Paver
- Concrete Pump and Truck
- Concrete/Industrial Saw
- Crawler Crane
- Dozer
- Dump Truck
- 10-Wheel Dump Truck
- Electric Welder
- Front End Loader
- Generators[b]
- Grader
- Hydraulic Excavator
- Impact Hammer
- Jackhammer (pneumatic)
- Pickup Truck
- Pneumatic Tools
- Propane Forklift
- Roller
- Thumper Soil Compactor (gas)
- Water Pumps
- Water Truck

NOTES
[a] Pile driving would be accomplished using a crane and impact hammer.
b Four diesel generators would be used for the entire construction period.

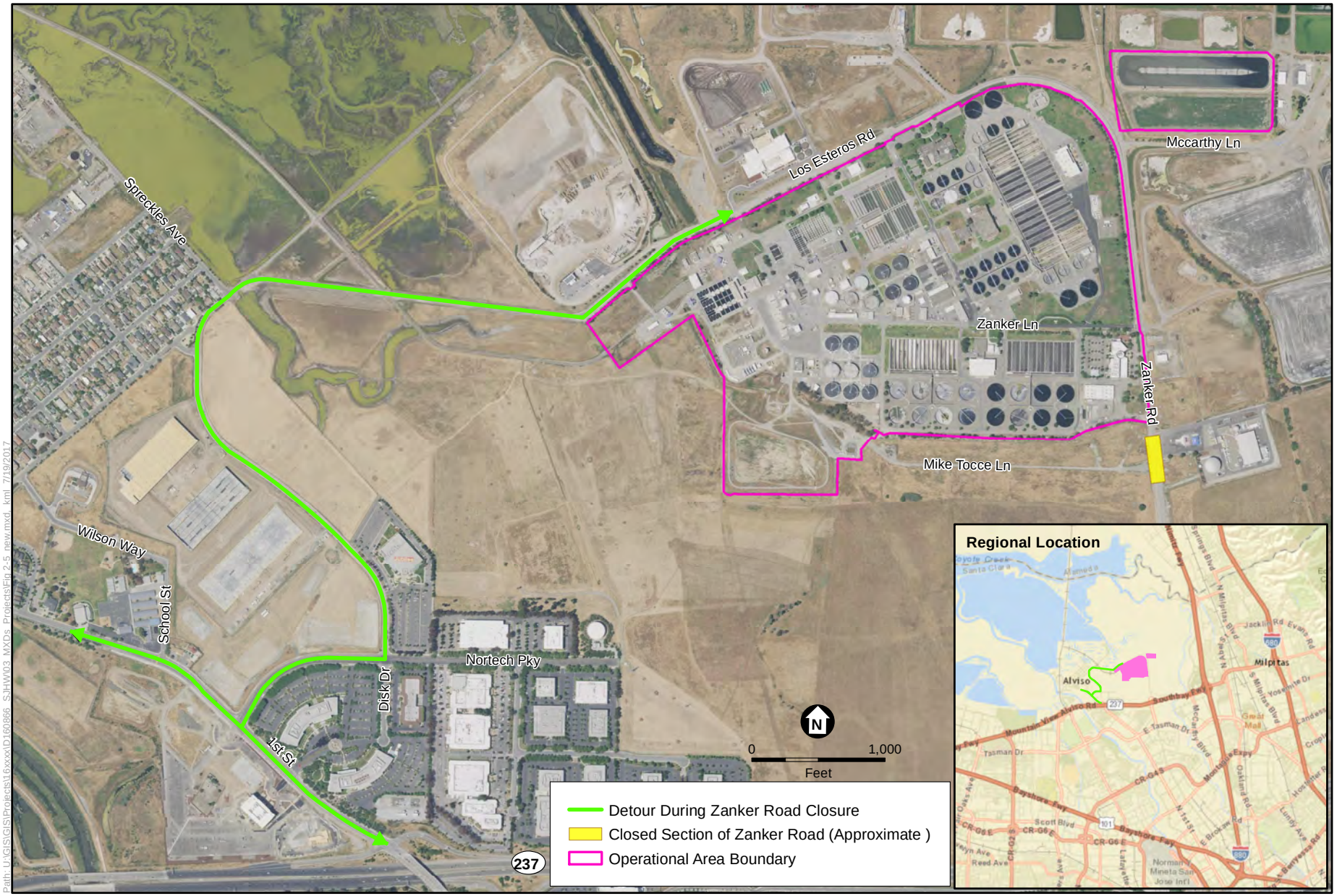
SOURCE: CDM Smith, RFI responses May 16, 2017.



San Jose Headworks Improvements and New Headworks

Figure 2-5
Estimated Ground Disturbance

ESA



SOURCE: ESA, 2017

San Jose Headworks Improvements and New Headworks

NOTE: Detour would not be required for Interceptor 1 Rehabilitation option.

Figure 2-6
Detour During Zanker Road Closure

ESA

2.6.4 Preliminary Site Characterization

Preceding construction at the site, work to provide a detailed characterization of site features and facility conditions would occur. Some preliminary site characterization activities would assess existing facilities and operations, while other activities would require minor ground disturbance (such as geotechnical investigations and soil testing). Ground-disturbing activities would occur within areas to be disturbed during construction. Preliminary site characterization activities would include:

- Condition assessments
- Surveying
- Geotechnical investigations
- Soil testing
- Utility location
- Grit sampling
- Final equipment selection
- Traffic planning
- Hydraulic evaluation

2.6.5 Site Preparation

During site preparation, trucks would deliver construction equipment and miscellaneous materials to the Project area and field offices would be set up. Up to ten trees would be removed along the drainage area adjacent to the south and southwest portion of the operational area.

2.6.6 Excavation and Grading for Headworks 3

Excavation and grading for Headworks 3 would include excavating areas for the Headworks 3 buildings within the Facility operational area. Excavation for pipelines associated with Headworks 3 (pipelines "downstream" of EBOS) is also assumed to occur during this phase. Some excavated soil would be stored onsite at one or more of the construction staging areas prior to disposal or reuse. **Table 2-5** summarizes the ground disturbance required during construction for individual Project components. Disturbance area would be larger than footprints of individual structures. Approximately 169,500 square feet within the Facility operational area would be disturbed in association with excavation, grading, and construction of the Headworks 3 structures. The maximum depth of excavation associated with Headworks 3 would be approximately 41 feet below ground surface.

Soil excavated would be temporarily stored onsite at one or more of the construction staging areas and subsequently hauled by truck to a Class II or Class III landfill, depending on the chemical composition of the soil. Class II (hazardous) soils would be hauled to either Altamont or Keller Canyon landfills. Class III (non-hazardous) soils would be hauled to Altamont Landfill. **Table 2-6** summarizes the soil volume and truck load estimates associated with Project excavation and demolition activities.

TABLE 2-5
DISTURBANCE AREA OF PROJECT COMPONENTS

Component	Approximate Disturbance Area Within Facility Operational Area (square feet)	Approximate Disturbance Area Outside Facility Operational Area (square feet)	Maximum Depth of Excavation (feet)
Headworks 3 Structures			
Screens, Grit Removal Basin, Grit Effluent Channel, Grit Bin Pad, GAC Scrubber, and Surrounding Work Areas	169,500	-	41
Pump Stations			
Recycle Pump Stations No. 1 and No. 2	Within the Pipeline Disturbance Area (2,100 combined)	-	20
RSPS 3 (includes biotower)	Within the Headworks 3 Structures Disturbance Area (8,100)	-	28
Pipelines [a]			
Interceptor Cross 1, Interceptor Cross 2, Interceptor Cross 3, and Interceptor 4	2,700	149,200	18
Intertie 1a, Intertie 1b, Intertie 2, Pumped Drain 4	85,100	-	44
Pumped Drain 1, Pumped Drain 2, Pumped Drain 3, Intertie 3 (California Structure to Mixer)	53,300	-	16
Intertie 2 (Inlet Control to Santa Clara Structure 1, if Interceptor 1 is rehabilitated)	*6,700*		*20*
Emergency Basin			
Emergency Basin[b]	98,700	-	
Construction Staging			
Construction Staging and Materials Storage	92,900	198,300	
TOTALS (With Interceptor 4)	***502,200 (11.5 acres)***	***347,500 (8.0 acres)***	***Max: 44***
TOTALS (With Interceptor 1 Rehabilitation)	***137,700 (3.2 acres)***	***None***	***Max: 44***

NOTES:
[a] For pipelines, this assumes 20 feet of disturbance would occur along either side of the pipeline trench.
[b] Approximately 30 percent of the Emergency Basin total area would be disturbed.

SOURCE: CDM Smith, RFI responses May 16, 2017.

TABLE 2-6
SOIL AND DEMOLITION DEBRIS VOLUMES AND TRUCK LOAD ESTIMATES

Material Type	Construction Activity	Volume (cubic yards)	Total Truck Loads[a]
AC Pavement	Site Preparation	500	50
Demolition Debris	Demolition of Existing Screenings Handling Structure	570 concrete	70 (60 concrete demolition; 10 equipment and material removal)
Excavated Soil	Pipeline Construction	21,600[b]	1600
Excavated Soil	Facilities Construction	24,300[b]	1800

NOTES:
[a] Assumes one truck can haul 40,000 pounds of material.
b Loose volume.

SOURCE: CDM Smith, RFI responses May 16, 2017.

2.6.7 Demolition of Existing Screenings Handling Structure

The existing Screenings and Handling Structure is located east of Headworks 2 (refer to Figure 2-2). A portion of the existing Screenings and Handling Structure would be demolished during construction of Headworks 3. As part of demolition, asphalt would be removed. Concrete and asphalt removed would be hauled offsite to the landfills identified above.

2.6.8 Pipeline Construction

As discussed in Section 2.3, Project pipelines would be installed between Zanker Road and the Headworks 3 facilities, as well as within the operational area to connect new headworks facilities to existing facilities. Table 2-5 identifies pipeline information and associated disturbance areas.

Construction of the pipelines would involve moving pipelines and equipment to the correct location along the pipeline routes, removing existing AC pavement, excavating trenches for the pipelines, welding and placing the pipelines ("stringing") and pouring concrete, and backfilling the trenches. Large diameter (greater than 4 feet in diameter) pipelines would be installed at a rate of approximately 20 feet per day; smaller diameter pipelines would be installed at approximately 100 feet per day. All pipelines would be constructed using open trench (i.e., cut and cover) techniques. The approximate maximum depth of excavation for pipelines would be 44 feet below ground surface (bgs) for installation of Intertie 1b. Driven or drilled sheet piles and walls would be installed to support these excavations, where required.

The width of pipeline trenches would vary based upon pipeline diameter, ranging from 3 feet wide for the smallest pipeline (Pumped Drain 2) to 15 feet for the largest pipeline (Intertie 1a and 1b). Approximately 20 feet on either side of the pipeline trenches would be required for equipment use and pipeline storage during stringing.

Similar to excavation of the Headworks 3 facilities, excavated material from pipeline installation would be temporarily stored onsite at one or more of the construction staging areas prior to

disposal or reuse. About 20,000 square feet within the three construction staging areas would be required to store the excavated material at any one time during pipeline excavation. Either excavated material (if suitable) or imported material would be used to backfill around the pipelines. Approximately 21,600 cubic yards of material requiring disposal would be produced during pipeline construction.

Once set in place, pipeline excavations would be backfilled. Large-diameter pipelines would be covered by a minimum of six feet of fill material. Small-diameter pipelines would be covered by a minimum of three feet of fill material.

2.6.8.1 Optional Rehabilitation of Interceptor 1

Based on the results of the condition assessment, if Interceptor 1 is in relatively good condition, rehabilitation of Interceptor 1 would be carried out in one or two operations, depending on the defects found. Construction would involve bypassing the flows using temporary piping, draining the interceptor, performing cleaning operations of the pipe, and rehabilitating the interceptor using a cured-in-place pipe. If major defects are encountered, such as holes in the pipe with voids, grouting or patching may also have to take place. Major defects, such as a large cracks or pipe near collapse, would require replacing a segment of the pipe using excavation methods. Construction activities associated with rehabilitation and to reconnect plant drains or other flows to Interceptor 1 would occur within the Facility operational area. If Interceptor 1 is rehabilitated, Interceptor 4 would not be constructed, the new Interceptor crossover structures would not be installed, and no staging would occur within or adjacent to the Construction Enabling staging area.

2.6.9 Other Facilities Construction

The Headworks 3 facilities, Pump Stations, and Emergency Basin would be constructed primarily of reinforced concrete. Construction activities for the Headworks 3 facilities and Pump Stations would include pouring concrete and backfilling around the concrete structures using imported fill material. Recycle Pump Station No. 2 would be a prefabricated structure. Rehabilitation of the Emergency Basin would include excavation and re-compaction of approximately 30 percent of the basin walls and floor, followed by installation of a 12-inch thick concrete liner on top of the entire existing basin up to the crest of the basin walls.

2.6.10 Paving, Finishing, and Testing and Start Up

After construction and backfilling is complete, paving would be replaced in areas where it had been removed for pipeline installations. The paving would require 70 trucks to import associated material. During finishing work, testing, and start up, workers would test and start facilities, but no large equipment or materials would be needed.

2.7 Required Actions and Approvals

2.7.1 Federal

If the Project is found to potentially disturb waters of the United States, the following federal permits or approvals would apply:

- U.S. Army Corps of Engineers. Section 404 Nationwide Permit

2.7.2 State

If the Project is required to obtain Section 404 Clean Water Act authorization from the U.S. Army Corps of Engineers, the following state permits and approvals would apply:

- Regional Water Quality Control Board. Section 401/Report of Waste Discharge Requirements Permit.
- State Historic Preservation Officer (SHPO). Consultation between the U.S. Army Corps of Engineers and the SHPO would be required as part of the Section 404 process.

If the Project is found to disturb waters of the State of California, the following state permits or approvals would apply:

- California Department of Fish and Wildlife (CDFW). Lake and Streambed Alteration Agreement.

The Project may also require the following state permits and approvals:

- CDFW consultation in the event that avoidance of a western burrowing owl during the breeding season is infeasible.

2.7.3 Regional and Local

The Project may also require the following regional and local permits and approvals:

- Santa Clara Valley Habitat Conservation Plan. Habitat Plan permit and implementation of mitigation measures for western burrowing owl as identified in the Habitat Plan.
- Bay Area Air Quality Management District. Authority to Construct and Permit to Operate for the Headworks 3 facilities.
- City of San José
  - Tree replacement

CHAPTER 3
Evaluation of Environmental Impacts

This chapter describes any changes that have occurred in the existing environmental conditions within and near the Project area as well as environmental impacts associated with the Project based on the modifications described in Chapter 2.

The existing analysis provided in the Plant Master Plan Environmental Impact Report (Plant Master Plan EIR) adequately addresses environmental conditions and potential impacts relevant to the following topics because either the nature, scale, and timing of the Project has not changed in ways relevant to the topic or there has not been a substantial change in the circumstances involving the topic on the Project site, nor in the local environment surrounding the site.

- **Aesthetics.** The designated scenic vistas and scenic resources in the vicinity of the Project have not substantially changed since preparation of the Plant Master Plan EIR. No designated scenic vistas occur in the Project vicinity. There are no scenic highways located in the vicinity of the Project. Additionally, no rock outcroppings or historic buildings are located onsite or in the immediate vicinity of the Project, such that views of such resources could be affected. Project construction activity and tree removal would occur in an area that is not highly visible from public viewpoints, and new facilities would be constructed within the existing operational area or underground, and thus would be consistent with the existing visual character of the site. The Project would not introduce new sources of light or glare beyond what was evaluated in the Plant Master Plan EIR.

- **Agriculture and Forestry Resources.** The state and local land use and zoning designations with respect to agricultural and forest resources have not changed for the Project site and surroundings, and agricultural or forest use of the Project site has not commenced since adoption of the Plant Master Plan EIR. There are no lands on or adjacent to the Project under a Williamson Act contract, or designated as farmland or forest land. Thus there has not been a substantial change in the circumstances of or impacts on involving agricultural and forest resources at the Project site or surrounding areas.

- **Geology and Mineral Resources.** The nature, scale, and timing of the Project have not changed in a manner that would further exacerbate existing geologic and seismic hazards at the Project site. The state and local land use and zoning designations with respect to mineral resources have not changed for the Project site or surrounding areas. No faults zoned under the Alquist Priolo Earthquake Fault Zoning Act, or any other Holocene-active faults pass through the Headworks site. Compared to the existing wastewater facilities, the Project would be constructed with newer construction materials and would have greater structural integrity to withstand ground shaking. Due to the topography of the Headworks site, large-scale landslides, mudslides, earth flows or other types of deep seated landslides are not considered geologic issues for the area. Soil erosion is discussed below in Section 3.7, Hydrology and Water Quality. Proposed structures would be designed to avoid, or reduce to acceptable levels, damage to structures from unstable soils. Required geotechnical investigations would

include recommendations regarding compaction of fill material would also reduce the potential damage resulting from expansive soils. No septic systems (which treat wastewater through ground percolation) are proposed as part of the Project. Mineral resources are not present at the Project site.

- **Land Use.** None of the proposed uses associated with the Project would physically intrude into or divide an existing established community. Existing land uses surrounding the Project area have not changed since adoption of the Plant Master Plan EIR and the Project would continue to support wastewater treatment activities. Therefore, implementation of the Project would be consistent with the *Public/Quasi-Public* use designation in the General Plan. Section 3.2, Biological Resources, discusses Project consistency with applicable habitat or natural community conservation plans.

- **Population and Housing.** The Project would not involve or result in major new housing, business, or industrial developments that could drive population growth. The Project would not directly induce growth because the facilities are limited to improvements of the Facility's wastewater treatment facilities and associated infrastructure improvements (as opposed to construction of housing or commercial development). The Project would involve construction and use of industrial facilities at an existing industrial site. It would not result in the demolition of existing housing, or otherwise cause a reduction in housing units on site or elsewhere. There is no existing housing located on site, and no persons would be displaced as a result of Project implementation.

- **Public Services.** The nature of the Project with respect to population growth and impairment of achieving service performance objectives has not changed. The new project structures would be staffed by existing Facility Operational & Maintenance staff and as a result no additional staff will be needed. All operational equipment would run on electricity. The proposed Headworks facilities would not require additional police protection or response, need for schools, demand for parks, or need for other public facilities, such that new or physically altered public facilities would be needed. Additionally, the Headworks facilities would not create demand for police services such that response times would be altered. Emergency access during construction, particularly during the Zanker Road closure, is discussed in Section 3.9, Transportation.

- **Recreation.** The nature of the Project with respect to use of existing recreational facilities or parks, or need for additional recreational facilities has not changed since adoption of the Plant Master Plan EIR. The Project would not result in new housing development or other activities that would increase use of, alter usage patterns of, or increase demand for existing recreational facilities, thereby causing increased physical deterioration of recreation related facilities or demand for new facilities.

No additional analysis of these topics is required. Other topics are considered in detail below. The discussion below describes the environmental impacts of the modified Project as compared with the impacts of the approved project as addressed in the San José-Santa Clara Regional Wastewater Facility EIR (certified November 19, 2013). This Addendum only addresses those resource areas that would be potentially affected by the proposed changes to the approved project. As discussed below, no new significant environmental impacts were identified.

3.1 Air Quality

3.1.1 Setting

The air quality setting relevant to the Project site, including applicable regulations and air quality conditions, has not appreciably changed since the certification of the Plant Master Plan EIR. The Bay Area Air Quality Management District (BAAQMD) maintains regional authority for air quality management in the Project area and vicinity. At the time of certification of the Plant Master Plan EIR, the BAAQMD's 2010 Clean Air Plan (CAP) was the applicable air quality plan in place to protect public health and climate in the Bay Area. In 2017, the *2017 Bay Area Clean Air Plan* (2017 CAP) was adopted to address nonattainment issues for the Bay Area. 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" that are potent climate pollutants in the near-term; and to decrease emissions of carbon dioxide by reducing fossil fuel combustion.[5]

Sensitive receptors, as identified and discussed in the adopted Plant Master Plan EIR, have not changed and remain applicable to the Project. There are no sensitive receptors (e.g., residences, schools) adjacent to or in the immediate vicinity of the Project area, and no hospitals, daycare centers, or long-term care facilities within one mile of the Project area. The closest sensitive uses are residences located approximately 4,100 feet (0.8 miles) west of the Project site and over 4,700 feet (0.9 miles) to the south. The closest school is the George Mayne Elementary School located approximately 5,000 feet to the west.

3.1.2 Findings of Previously Certified EIR

The certified Plant Master Plan EIR identified significant and unavoidable impacts related to implementation of the Master Plan for the potential to conflict with the applicable air quality plan and for the potential to violate air quality standards during construction as project-related construction emissions, even with mitigation measures incorporated, were found to exceed the identified significance thresholds. The Plant Master Plan EIR identified less-than-significant impacts related to implementation of the Master Plan for the potential to violate air quality standards during operation, exposure of sensitive receptors to substantial pollutant concentrations, and objectionable odors.

[5] BAAQMD, 2017. *Spare the Air: Cool the Climate – Final 2017 Clean Air Plan*, adopted April 19.

3.1.3 Impacts Discussion

Issues:	*New Potentially Significant Impact*	*New Less Than Significant with Mitigation Incorporation*	*New Less Than Significant Impact*	*Same Impact as Approved Project*	*Less Impact than Approved Project*	*Checklist Source(s)*
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?	☐	☐	☐	☒	☐	1, 2, 3, 4
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	☐	☒	☐	1, 2, 5
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)?	☐	☐	☐	☒	☐	1, 2, 4
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☐	☒	☐	1, 2, 4
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☐	☒	☐	1, 2, 4, 6

a) Same Impact as Approved Project. (Less than Significant)

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.[6]

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

6 BAAQMD, 2017, *BAAQMD CEQA Air Quality Guidelines*, updated May 2017.

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 item b), the Project would result in a less-than-significant impact related to construction emissions with the implementation of the BAAQMD's applicable recommended fugitive dust control measures, which are included in the City's project conditions of approval. Therefore, the Project would be considered to support the primary goals of the 2017 CAP.

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 CAP. Two of the stationary source control measures are applicable to operation of water pollution control plants: WR1 (Limit GHGs from POTWs [Publicly-Owned Treatment Works]) and WR2 (Support Water Conservation). While both of these measures do not contain specific emissions control strategies, the Project would not be inconsistent with these measures as the Project would not affect methane capture at the Facility, would not affect production of recycled water at the Facility, and not install combustion engines. For these reasons, the Project with modifications would not be inconsistent with nor hinder implementation of the 2017 Clean Air Plan 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 the same as identified in the Plant Master Plan EIR, and would not result in any new or more significant impacts beyond those identified in the Plant Master Plan EIR.

b) Same Impact as Approved Project. (Less than Significant)

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 Bay Area Air Basin experiences occasional violations of ozone and particulate matter (PM_{10} 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 respirable particulate matter (PM_{10}) 24-hour and annual average standards, the state fine particulate matter ($PM_{2.5}$) 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.[7]

Project Construction

Construction activities associated with the Project would involve use of equipment that would emit exhaust containing ozone precursors (reactive organic gases or ROG, and nitrogen oxides, or NO_x). On-site and off-site vehicle activity associated with material transport and construction worker commutes would also generate emissions. Emission

7 BAAQMD, 2017. *Air Quality Standards and Attainment Status*, available at http://www.baaqmd.gov/research-and-data/air-quality-standards-and-attainment-status, last updated January 5, 2017.

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, PM_{10}, and $PM_{2.5}$ that would be generated by off-road construction equipment (e.g., excavators, graders, loaders) were estimated using the OFFROAD2011 emission factors along with the Project-specific construction schedule and equipment requirements that would be used during the following construction phases of the Project:

- Site preparation – July to October, 2019;
- Excavation and grading – November, 2019 - April, 2020;
- Demolition – May to July, 2020;
- Building construction – May, 2020 - March, 2022;
- Interceptors and Pipeline Construction – May, 2020 to April, 2021;
- Paving – April to June, 2022; and
- Finish work, startup and testing – July to October, 2022.

Project construction emissions were estimated assuming that construction would begin in July 2019 and would take approximately 813 workdays to complete over a period of approximately 40 months, after taking into account overlapping phases of construction. 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 A**. Estimated average daily emissions are shown in **Table 3.1-1** (below) and are compared to the BAAQMD thresholds.

TABLE 3.1-1
AVERAGE DAILY CONSTRUCTION-RELATED POLLUTANT EMISSIONS (POUNDS/DAY)

Emissions	ROG	NOx	Exhaust PM10*	Exhaust PM2.5*
Total Project Emissions	2.6	25.2	1	1.1
BAAQMD Construction Threshold	54	54	82	54
Significant Impact?	No	No	No	No

NOTES:

[a] BAAQMD's construction-related significance thresholds for PM_{10} and $PM_{2.5}$ apply to exhaust emissions only and not to fugitive dust.

SOURCE: Appendix A

As indicated in Table 3.1-1, 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 potential significant impact (**Impact AIR-1**). 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*.[8] These measures would be implemented by the Project as part of the City's project conditions of approval, and are listed below.

BAAQMD Basic Control Mitigation Measures

- 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 offsite 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.
- 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 visible emissions evaluator.
- Post a publicly visible sign with the telephone number and person to contact at the City regarding dust complaints. This person shall respond and take corrective action within 48 hours.

These measures were also included in the Plant Master Plan EIR as Mitigation Measure AQ-1. Therefore, the Project would not lead to violations of the air quality standards due to construction fugitive dust. This impact would be less than significant, and would not result in any new or more significant impacts beyond those identified in the adopted Plant Master Plan EIR.

Project Operation

The Project would not need any additional staff at the Facility. The Project would not change the existing projected capacity of the Headworks Facilities, and thus would not alter the truck trips required for solids removal. For this reason, the project would not

8 BAAQMD, 2017, *BAAQMD CEQA Air Quality Guidelines*, updated May 2017.

result in additional new air pollutant emissions during operations. This would be a less-than-significant impact, similar to the operational impact identified in the adopted Plant Master Plan EIR.

c) Same Impact as Approved Project. (Less than Significant)

According to the BAAQMD, no single project will, by itself, result in nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. In addition, according to the BAAQMD *CEQA Air Quality Guidelines*, if a project exceeds the identified significance thresholds, its emissions would be cumulatively considerable, resulting in significant adverse air quality impacts to the region's existing air quality conditions.[9] Alternatively, if a project does not exceed the identified significance thresholds, then the project would not be considered cumulatively considerable and would result in less-than-significant air quality impacts. As discussed above, the Plant Master Plan EIR disclosed significant and unavoidable impacts related to the potential to conflict with an applicable air quality plan and potential to violate air quality standards during construction of projects in 2016. Therefore, the contribution of the approved Plant Master Plan to cumulative air quality was also described as being significant. However, given the low level of daily emissions that would be associated with the Project when averaged over the 40-month construction period (as shown in Table 3.1-1 above), its contribution to the cumulative air quality impact in the area would be less than the impact disclosed in the Plant Master Plan EIR, which identified a significant and unavoidable cumulative impact. The Project would not result in any new or more significant impacts beyond those identified in the adopted Plant Master Plan EIR.

d) Same Impact as Approved Project. (Less than Significant)

Construction activities associated with the Project would result in the generation of exhaust emissions that contain air pollutants, including particulate matter (PM_{10} and $PM_{2.5}$), the majority of which would be diesel particulate matter (DPM); a known toxic air contaminant (TAC). Exposure of sensitive receptors to TAC emissions could result in an elevated health risk. Under the California Environmental Protection Agency guidelines, DPM is used as a surrogate measure of carcinogen exposure for the mix of chemicals that make up diesel exhaust as a whole.

The nearest off-site sensitive receptors are located over 4,000 feet from the Project site. The BAAQMD has identified a distance of 1,000 feet from the source to the closest sensitive receptor locations within which community health risk impacts are likely.[10] Construction sources would be separated from the nearby receptors by a distance of at least 4,000 feet, which would help reduce exposure. Furthermore, as shown in Table 3.1-1, PM_{10} and $PM_{2.5}$ emissions associated with construction of the Project would be one pound and 1.1 pound per day, respectively. At these emission levels and with the large buffer distance separating the sources and receptors, construction activities extending

[9] Ibid.
[10] BAAQMD, 2017, *BAAQMD CEQA Air Quality Guidelines*, updated May 2017.

over a duration of 40 months would not lead to a new significant increase in health risk from exposure to TACs. Therefore, the impact of exposure of sensitive receptors to pollutants would be less than significant, same as identified in the adopted Plant Master Plan EIR, and no new or more significant impacts beyond those identified in the Plant Master Plan EIR would result.

e) Same Impact as Approved Project. (Less than Significant)

The BAAQMD recommends screening distances for various odor-generating facilities. If a project would include the operation of an odor source, the screening distances should be used to evaluate the potential impact to existing sensitive receptors. The BAAQMD recommends that the screening distances be used as indicators to how much additional analysis would be required rather than the sole indicator of impact significance. The BAAQMD recommended odor screening distance for wastewater treatment plants is two miles.[11] The closest residences to the Project site are located approximately 4,100 feet (0.8 miles) to the west. Residences to the south are farther away at over 4,700 feet (0.9 miles) from the southern boundary of the Project site. Winter winds in the Project area tend to be southwesterly and southeasterly and summer winds tend to be westerly. This suggests that there is a potential for odor impacts to occur as a result of the Project.

The Project would include installation of new odor control measures at the facility. One of the objectives of the Plant Master Plan is to reduce odor impacts from Facility operations. Consistent with this goal, the new Headworks facility would include a biotower installed adjacent to the proposed Raw Sewage Pump Station No. 3 to provide odor control (refer to Figure 2-4 in Chapter 2). A granular activated carbon scrubber would also be installed as part of the Headworks facilities. These odor control technologies were selected based on the results of an assessment of odor generation and treatment strategies conducted as part of the development of the Plant Master Plan.[12] In its guidance to Bay Area agencies regarding air quality improvement methods, the BAAQMD identifies carbon adsorption, biofiltration, and ammonia scrubbers as effective methods to reduce odor impacts from wastewater treatment plants.[13] Odors from the Headworks facilities both inside and outside the Facility boundaries are expected to improve compared to existing conditions. The Project would not result in any new or more significant odor impacts beyond those identified in the adopted Plant Master Plan EIR.

3.1.4 Conclusion

With the implementation of mitigation measures included in the adopted Plant Master Plan EIR, and as part of the City's project conditions of approval, to reduce possible impacts associated with conflicts with implementation of an applicable air quality plan, violation of any air quality standards, or resulting in a cumulatively considerable net increase in criteria pollutants, the Project would not result in any new or more severe impacts than those identified in the previously

11 BAAQMD, 2017, *BAAQMD CEQA Air Quality Guidelines*, updated May 2017.
12 Carollo Engineers, *Task No. 5, Project memorandum No. 5, Odor Treatment Alternatives, Final Draft.* September 2011.
13 BAAQMD, 2017, *BAAQMD CEQA Air Quality Guidelines*, updated May 2017.

approved Plant Master Plan EIR. (**Same Impact as Previously Approved Project [Less than Significant]**)

The Project would not result in additional exposure of sensitive receptors to substantial pollutant concentrations or create additional objectionable odors affecting a substantial number of people than those identified in the previously approved Plant Master Plan EIR. (**Same Impact as Previously Approved Project [Less than Significant Impact]**)

3.2 Biological Resources

3.2.1 Setting

Biological resources located within the Project site reflect a portion of the same resources described in the adopted the Plant Master Plan EIR. The biological resources setting relevant to the Project site, including applicable regulations and conditions of sensitive habitats and natural communities such as wetlands and riparian areas, and special status plant and wildlife species, has not appreciably changed since the adoption of the Plant Master Plan EIR. Biological communities present within the Project site include disturbed/ruderal grassland, developed/landscaped, including paved and unpaved roads, mown/maintained areas, and existing facilities, which support weedy forbs, grasses, and limited wildlife. In addition, wetlands and other waters, including seasonal wetlands and associated vegetation, are present in the Project site (**Figure 3.2-1**). Setting discussions from the adopted Plant Master Plan EIR for biological resources in the Project site are otherwise applicable to the Project.

Special-status species lists for this analysis were re-generated and derived from the California Department of Fish and Wildlife (CDFW) and California Native Plant Society (CNPS) for the Mountain View, Milpitas, Calaveras Reservoir, Niles, San José West, and Newark 7.5-minute U.S. Geological Survey quadrangles[14,15]; and United States Fish and Wildlife Service (USFWS) special-status species that could potentially be affected by the Project.[16] In addition, findings of the adopted Plant Master Plan EIR surveys and literature review were used to compile the list of special-status species that may occur in the Project site. The compiled list of special-status species with the potential to occur in the Project area is displayed in **Appendix B**.

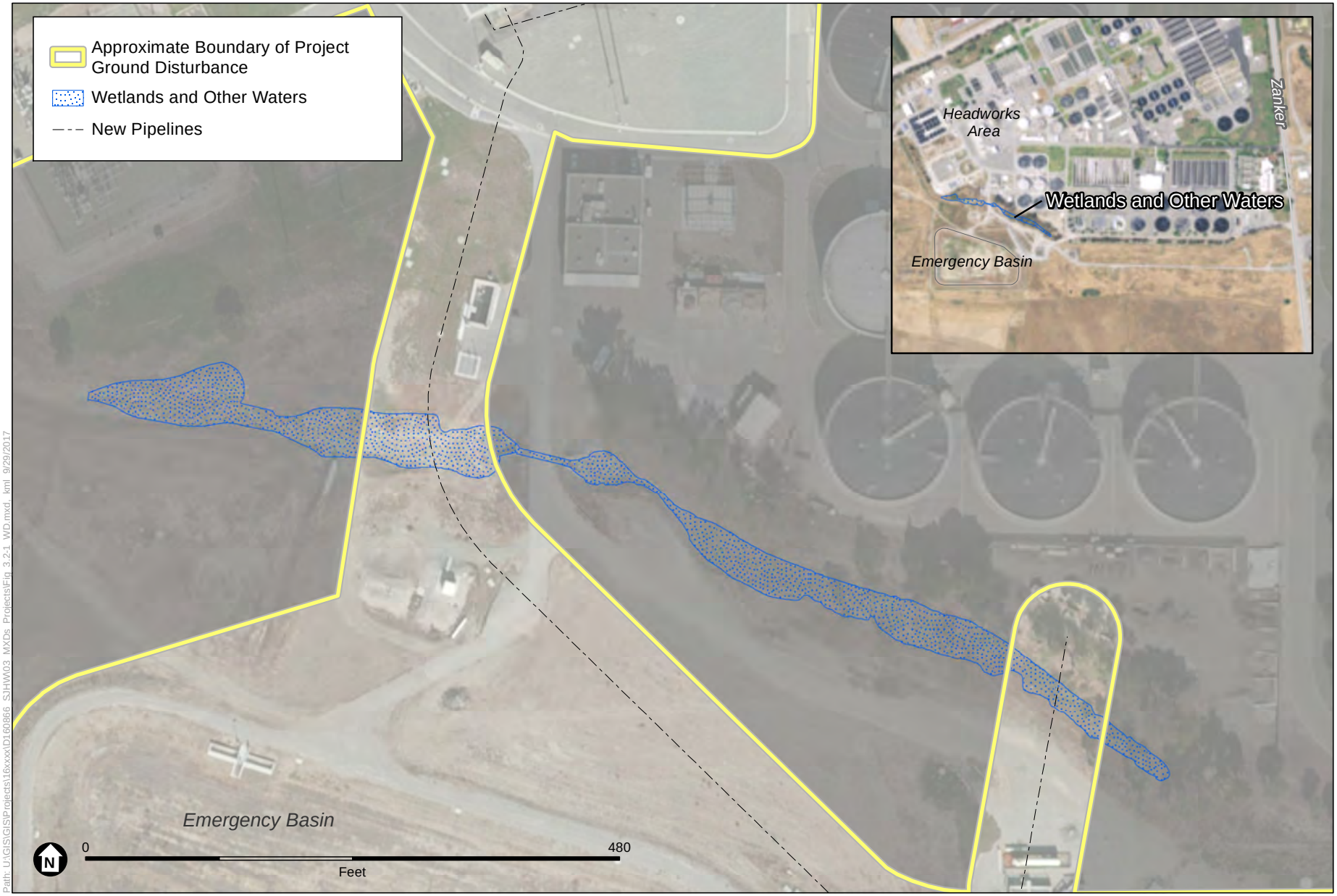
3.2.2 Findings of Previously Certified EIR

The adopted Plant Master Plan EIR identified no impact for interference with the movement of any applicable native or migratory fish or wildlife species, nor would it conflict with local policies or ordinances. The adopted Plant Master Plan EIR identified potential impacts to special-status plant and wildlife species, riparian communities, wetlands, and protected trees, which were reduced to less than significant levels through application of mitigation measures.

14 CDFW, 2017. California Natural Diversity Database 7.5-minute U.S. Geological Survey quadrangles for Mountain View, Milpitas, Calaveras Reservoir, Niles, San José West, and Newark. August 7, 2017.

15 California Native Plant Society, Rare Plant Program. 2017. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.45). Website http://www.rareplants.cnps.org [accessed 07 August 2017].

16 USFWS, 2017. List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by San José Headworks Improvements and New Headworks. Consultation Code: 08ESMF00-2017-SLI-2860. August 7, 2017.



Path: U:\GIS\GIS\Projects\16xxxx\D160866_SJHW03_MXDs_Projects\Fig_3.2-1_WD.mxd_ kml 9/29/2017

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community; ESA

San Jose Headworks Improvements and New Headworks

Figure 3.2-1

Wetlands and Other Waters in the Project Vicinity

ESA

3.2.3 Impacts Discussion

Issues:	*New Potentially Significant Impact*	*New Less Than Significant with Mitigation Incorporation*	*New Less Than Significant Impact*	*Same Impact as Approved Project*	*Less Impact than Approved Project*	*Checklist Source(s)*
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?	☐	☐	☐	☒	☐	1, 2, 7, 8, 9, 10
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☐	☐	☒	☐	1, 2
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?	☐	☐	☐	☒	☐	1, 2, 7, 8, 9
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?	☐	☐	☐	☒	☐	1, 2,
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒	☐	1, 2, 11, 12
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?	☐	☐	☐	☒	☐	1, 2, 10

a) Same Impact as Approved Project. (Less than Significant with Mitigation)

Special Status Plants

Individuals of Congdon's tarplant (*Centromadia parryi* ssp. *congdonii*), a California Rare Plant Rank (CRPR) 1B.2 plant, have been observed scattered throughout annual grassland in the vicinity of the Facility; however, this species was not observed during the Headworks Improvements and New Headworks Alternatives Constraints Analysis

reconnaissance survey and the Project's wetland delineation, and therefore is presumed to be absent from locations affected by the Project.[17,18]

Under the Project, temporary and permanent impacts to Congdon's tarplant are considered the same as those identified in the Plant Master Plan EIR and no additional mitigation is required.

Special Status Birds, Raptors, and Migratory Birds

The Plant Master Plan EIR identified impacts to nesting resident and migratory birds that could utilize vegetation in or near the Project site. Similar construction activities as those described in the Plant Master Plan EIR would occur under the Project, especially those that involve ground disturbance and the use of heavy machinery for pipeline installation, tree removal, building construction, excavation/grading and stockpiling activities, which may affect nesting birds in the vicinity of the Project site (**IMPACT BIO-1**). Raptors and common migratory birds have the potential to forage and nest in the non-native grasslands and trees within the Project site. Although no suitable habitat is provided for Ridgway's rail in the Project site, the nearest black rail occurrence was recorded approximately 1.5 miles west of the project in brackish marsh habitat of Alvisio Slough, in August 2015.[19] This species also inhabits freshwater marsh habitat, similar to that found in the project; however, there is a low potential for this species to occur due existing operation and maintenance activities within the current Facility. Similarly, operation-related impacts are not expected to adversely affect raptors or migratory birds, or special-status wildlife species, given the degree of noise and disturbance associated with the existing operation and maintenance activities within the current Facility, and design aspects of proposed facilities. The Plant Master Plan EIR identified pre-construction survey requirements and CDFW protocols to protect nesting activity, if any were to occur at the time Project construction begins. Implementation of Plant Master Plan EIR **Mitigation Measure BIO-1a**, listed below, would reduce potential impacts to nesting birds to a less than significant level and no additional mitigation would be necessary. This mitigation measure includes an update to Mitigation Measure BIO-1a from the Plant Master Plan EIR to reflect the most recent occurrence information for rails; the adjusted mitigation measure does not change the original impact conclusion, nor is it considerably different from that analyzed in the Plant Master Plan EIR. As a result, impacts to nesting resident, migratory, or special-status birds are considered the same as the those identified in the Plant Master Plan EIR and no additional mitigation is required.

Mitigation Measure BIO-1a: Raptor and Migratory Bird Nest Measures.

If possible, construction shall be scheduled between September 1st and January 31st (inclusive) to avoid the nesting season. If Project construction is scheduled

17 ESA 2016. Headworks Improvements and New Headworks Alternatives Constraints Analysis reconnaissance survey performed by Liz Hill, August 23, 2016.

18 Environmental Science Associates, 2017. Headworks Improvements and New Headworks Project Preliminary Wetland Delineation, August 10, 2017, performed by Chris Rogers (ESA).

19 CDFW, 2018. California Natural Diversity Database Occurrences for 7.5-minute USGS topographic quadrangles: Calaveras Reservoir, Milpitas, Mountain View, Newark, and San Jose West. Commercial Version, dated February 5, 2018.

during breeding bird season (February 1st–August 31st, inclusive), City's Environmental Services Department (ESD) or its contractor shall retain a qualified wildlife biologist to conduct a survey for nesting raptors and migratory bird nests within 7 days of the start of construction or after any construction breaks of 14 days or more, within 7 days prior to the resumption of construction. Surveys shall be performed for the Project area and for suitable habitat within 300 feet. If an active nest is discovered, a no-disturbance buffer zone around the nest tree (or, for ground-nesting species, or nests identified on Facility buildings, the nest itself) shall be established. The no-disturbance zone shall be marked with flagging or fencing that is easily identified and avoided by the construction crew, and shall not affect the nesting birds. In general, the minimum buffer zone widths shall be as follows: 100 feet (radius) for non-raptor species and 300 feet (radius) for raptor species; however, the buffer zone widths may be adjusted if an obstruction, such as a building, is within line-of-sight between the nest and construction. Buffer zone widths and other avoidance measures may be modified based on consultation with CDFW and the USFWS. Buffer zones shall remain in place as long as the nest is active or young remain in the area and are dependent on the nest.

If California black rails are detected during surveys, the City's ESD or Planning, Building and Code Enforcement (PBCE) Senior Environmental Planner shall consult USFWS staff to identify the appropriate avoidance measures prior to start of construction. The project proponent shall be responsible to ensure that USFWS and/or CDFW protocols and requirements are implemented prior to the start of construction.

Construction activities that are scheduled to begin outside the breeding season (September 1st through January 31st, inclusive) can proceed without surveys. If possible, all necessary tree and vegetation removal shall be conducted before the start of breeding bird season to minimize the opportunity for birds to nest at the Project site and conflict with Project construction activities.

ESD shall notify the PBCE Senior Environmental Planner when the mitigation actions will occur for approval prior to the start of construction.

The addition of lighting associated with the construction and operation of new facilities may also result in adverse effects on breeding birds. The loss of any active nest or disruption of nesting efforts would be considered a potentially significant impact. Implementation of **Mitigation Measure BIO-1b**, listed below, would ensure that potential impacts are mitigated to a less- than-significant level.

Mitigation Measure BIO-1b: Minimize Light Pollution.

Lights at the Project site (during construction and operation) shall be directed downward and shielded pursuant to Condition 7 of the Santa Clara Valley Habitat Conservation Plan (HCP)to ensure that no fugitive light spills out into natural lands and interferes with typical avian behavior. ESD and/or Public Works qualified personnel shall inspect lighting plans and/or specifications. ESD shall notify PBCE Senior Environmental Planner when the mitigation actions will occur for approval prior to the start of construction.

Western Burrowing Owl

Nesting western burrowing owls, a CDFW Species of Special Concern and USFWS Bird of Conservation Concern, are known to occur in and adjacent to the non-native grassland habitats of the Project site.[20]

Temporary noise, visual, and vibration impacts to potential nesting western burrowing owls between February 1 and August 31 (breeding season) within and adjacent to the Project site could occur as a result of Project-related construction activities. Temporary loss of western burrowing owl nesting habitat during construction could also occur under the Project. These impacts are expected to occur at the Emergency Basin, Emergency Basin Overflow Structure (EBOS), Interceptor 4, and Interceptor Cross 1, 2, and 3 proposed construction locations as a result of grading, excavation, and stockpiling of dirt (**Impact BIO-2**). These would be considered significant impacts. Under the Interceptor 1 rehabilitation option, Interceptor 4 and the Interceptor cross structures within Zanker Road would not be installed, however, a portion of the annual grasslands in this area would be used for construction staging.

Permanent impacts to western burrowing owl nesting habitat would occur through the loss of non-native grasslands associated with the rehabilitation of the Emergency Basin (approximately 98,700 square feet). Permanent loss of grassland habitat would result from a portion of the excavation and re-compaction of approximately 30 percent of the basin walls and floor, followed by installation of a 12-inch thick concrete liner on top of the entire existing basin up to the crest of the basin walls. This would also be considered a significant impact to western burrowing owl nesting habitat.

Temporary and permanent impacts to nesting western burrowing owls would be considered less of an impact than those identified in the Plant Master Plan EIR. The Project would be subject to protection measures under the Santa Clara Valley Habitat Conservation Plan (Habitat Plan or HCP), which was adopted in 2013.[21] The Habitat Plan's Burrowing Owl Fee Policy would be implemented as a result of construction activities associated with Emergency Basin, EBOS, and Interceptor Cross 2, 3, and 4. **Mitigation Measure BIO-2** (below) provided under the approved Plant Master Plan EIR for loss of nesting and foraging habitat would also be used under the Project. This mitigation measure includes an update to Mitigation Measure BIO-2e from the Plant Master Plan EIR to reflect the Project specific requirements; the adjusted mitigation measure does not change the original impact conclusion, nor is it considerably different from that analyzed in the Plant Master Plan EIR. As described in Section 2.5 of the Project Description, the operation and maintenance of the new Headworks would be the same as the current Headworks facilities operations and would fall within current Facility procedures. Therefore, operation-related impacts are not expected to significantly adversely affect western burrowing owls.

[20] Environmental Science Associates, 2015. *Technical Memorandum: Area G Wetlands and Burrowing Owl Survey Results* to Julie Benabente from Chris Rogers. March 12, 2015.

[21] The HCP Implementing Agreement was signed by parties in 2013.

Mitigation Measure BIO-2: Western Burrowing Owl Measures.

To avoid or minimize direct impacts of Project activities on western burrowing owls, the City shall ensure the following procedures are implemented consistent with the HCP. This survey methodology is consistent with accepted survey protocols for this species.

1. Habitat Survey

a) Western burrowing owl habitat surveys shall be required in the Project area in all HCP modeled occupied habitat. Surveys are not required in sites that are mapped as potential burrowing owl nesting or only overwintering habitat. Modeled habitat types may change throughout the permit term based on the best available scientific data. Habitat surveys are required in both breeding and non-breeding seasons.

b) Qualified biologist(s) shall conduct a pedestrian survey of the Project area and accessible areas within 250-feet of the Project area. Pedestrian survey transects shall be spaced to allow 100 percent visual coverage of the ground surface. The distance between transect center lines shall be no more than 50 feet and can be reduced to account for differences in terrain, vegetation density, and ground surface visibility. Poor weather may affect the biologist's ability to detect burrowing owls; therefore, the biologist shall avoid conducting surveys when wind speed is greater than 20 kilometers per hour and there is precipitation or dense fog. The biologist shall map areas with burrows or burrow complexes that could support burrowing owls and all burrows that may be occupied (as indicated by tracks, feathers, egg shell fragments, pellets, prey remains, or excrement).

c) To avoid impacts to owls from surveyors, owls and/or occupied burrows shall be avoided by a minimum of 150 feet wherever practical to avoid flushing occupied burrows. Disturbance to occupied burrows shall be avoided during all seasons.

d) If suitable habitat is identified during the habitat survey, and if the Project does not fully avoid impacts to the suitable habitat, preconstruction surveys shall be required. Suitable habitat is fully avoided if the project footprint does not impinge on a 250-foot buffer around the suitable burrow.

2. Preconstruction Surveys

a) A qualified biologist shall conduct preconstruction surveys in all suitable habitat identified in the habitat surveys within 250 feet of construction activity, between 14 and 4 days prior to initiating ground disturbance related to Project construction activities. The 250-foot buffer zone shall be surveyed to identify burrows and owls outside of the Project area which may be impacted by factors such as noise and vibration (heavy equipment) during project construction. As burrowing owls may recolonize a site after only a few days, time lapses between Project activities shall require subsequent take avoidance surveys including but not limited to a final survey conducted no more than 2 days prior to ground disturbance to ensure absence. A minimum of two surveys shall be conducted (if owls are detected on the first survey, a second survey is not needed).

b) The preconstruction survey shall be a minimum of 3 hours, beginning 1 hour before sunrise and continuing until 2 hours after sunrise (3 hours total) or beginning 2 hours before sunset and continuing until 1 hour after sunset. Additional time may be required for large project sites.

3. Avoidance Measures

The City shall employ avoidance measures described below to avoid direct take of individual burrowing owls during Project construction.

Breeding Season Avoidance Measures - February 1 to August 31

a) If preconstruction surveys identify evidence of Western burrowing owls within 250 feet of the Project area during the breeding season, the Project proponent shall avoid all nest sites that could be disturbed by Project construction activities during the remainder of the breeding season or while the nest is occupied by adults or young (occupation includes individuals or family groups foraging on or near the site following fledging). Avoidance shall include establishment of a 250-foot no-disturbance buffer zone around active nest sites by a qualified biologist.

b) If active nests cannot be avoided, construction may occur within 250 feet of active nest sites if 1) the nest is not disturbed, and 2) the Project proponent develops and implements an Avoidance, Minimization, and Monitoring Plan, subject to approval by CDFW the Habitat Agency overseeing the HCP. The plan shall incorporate the following criteria:

   i. A qualified biologist shall monitor the owls for at least 3 days prior to Project construction to determine baseline nesting and foraging behavior (i.e., behavior without construction). The same qualified biologist shall monitor the owls during construction and find no change in owl nesting and foraging behavior in response to construction activities.

   ii. If there is any change in owl nesting and foraging behavior as a result of Project construction activities, these activities shall cease within the 250-foot buffer. Construction shall not resume within the 250-foot buffer until the adult owls and juveniles from the occupied burrows have moved out of the project site.

   iii. If monitoring indicates that the nest is abandoned prior to the end of nesting season and the burrow is no longer in use by owls, the no-disturbance buffer zone may be removed. The biologist shall excavate the burrow to prevent reoccupation after receiving approval from CDFW.

Non-Breeding Season Avoidance Measures – September 1st to January 31st, (inclusive)

a) If preconstruction surveys identify evidence of Western burrowing owls within 250 feet of the Project area during the non-breeding season (September 1st to January 31st, inclusive), the Project proponent shall establish a 250-foot no-disturbance buffer around occupied overwintering burrows as determined by a qualified biologist.

b) If occupied burrows cannot be avoided, construction may occur within 250 feet of overwintering burrows sites if:

i. A qualified biologist monitors the owls for at least 3 days prior to construction to determine baseline foraging behavior (i.e., behavior without construction).

ii. The same qualified biologist monitors the owls during construction and finds no change in owl foraging behavior in response to construction activities.

iii. If there is any change in owl nesting and foraging behavior as a result of construction activities, these activities shall cease within the 250-foot buffer.

iv. If the owls are gone for at least one week, the Project proponent may request approval from the HCP Habitat Agency for qualified biologist to excavate usable burrows to prevent owls from re-occupying the site. After all usable burrows are excavated, the no-disturbance buffer zone shall be removed and construction may continue. Monitoring must continue as described above for the non-breeding season as long as the burrow remains active.

4. Construction Monitoring and Environmental Training

During construction, the no-disturbance buffer zones shall be established and maintained where applicable and based on the Project Avoidance, Minimization, and Monitoring Plan. A qualified biologist shall monitor the site consistent with the requirements described in the Avoidance Measures, described above, to ensure that buffers are enforced and owls are not disturbed. The qualified biological monitor shall prepare and perform an environmental training for all Project personnel on the avoidance procedures, buffer zones, and protocols in the event that a burrowing owl flies into an active construction zone.

5. Passive Relocation

If avoidance measures described cannot be implemented with the Project, Passive Relocation shall be implemented according to the protocol described in the HCP and in coordination with, and approval by CDFW.

Under the Project, temporary and permanent impacts to any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS are the same as those identified in the adopted Plant Master Plan EIR and no additional mitigation is required; therefore, there is no change in impact.

b) Same Impact as Approved Project. (Less than Significant Impact)

The Project would not substantially affect any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the CDFW or USFWS. This impact would be the same as identified in the Plant Master Plan EIR, and would not result in any new or more significant impacts beyond those identified in the Plant Master Plan EIR.

c) Same Impact as Approved Project. (Less than Significant with Mitigation)

Short-term impacts to wetlands and other waters, including seasonal wetlands, streams and associated vegetation, require the appropriate permits from regulatory agencies. The Army Corps of Engineers (USACE) regulates discharges of fill to jurisdictional wetlands and other waters under Section 404 of the Clean Water Act. Wetlands and other waters that fall under the jurisdiction of the Corps also are regulated by the Regional Water Quality Control Board (RWQCB) under Section 401 of the Clean Water Act (CWA). The RWQCB also regulates a broader array of jurisdictional waters of the state under the Porter-Cologne Water Pollution Quality Control Act (Porter-Cologne). The CDFW regulates alteration of the bed or bank of streams or associated wildlife habitat under Section 1600 of the California Fish and Game Code. Impacts to jurisdictional wetlands and other waters are considered potentially significant under CEQA, requiring mitigation, and any impacts to the waters or streambeds typically require permits from regulatory agencies.

A jurisdictional drainage feature in the Project site was identified by ESA biologists while conducting a wetland delineation and top of bank determination for the Iron Salt Feed Station Project on March 6, 2015.[22] A portion of this feature was surveyed from a point immediately east of Mike Tocce Lane Roadway Bridge to approximately 50 feet west of the Roadway Bridge. The site reconnaissance survey for the proposed Headworks Alternatives mapped the continuation of the drainage feature further west of the Roadway Bridge within the area under the Project.[23] In addition, a preliminary wetland delineation of the drainage, within the Project site, was completed on August 10, 2017 and is currently pending verification from the Corps.[24] The feature, which borders the western edge of the Facility operational area, is a formerly intact drainage channel that is divided into three functionally isolated segments. Although the feature no longer conveys flows downstream and is now maintained by the City by capturing Facility runoff, it provides a physical connection between two historic remnant channels that once drained to San Francisco Bay. Therefore, portions of the drainage feature within the Project site are considered waters of the USACE regulatory authority under Section 404 of the CWA, and the RWQCB under Section 401 of the CWA. In addition, all parts of this drainage channel between the top of bank are waters of the state, and also are subject to RWQCB regulation under Porter–Cologne and CDFW under Section 1600 et seq. of the California Fish and Game Code.

No permanent impacts to jurisdictional features are anticipated under the Project. If the Project were to proceed without the Interceptor 1 rehabilitation option, pipelines would be constructed through a portion of the drainage feature north of the EBOS facility and east and west of Mike Tocce Lane Roadway Bridge. These pipelines, Pumped Drain 4 (3-foot diameter force main) and Interties 1a and 1b (two pipes, 9-foot diameter each), would be constructed through an upper reach of the drainage area. Temporary direct impacts to

22 Environmental Science Associates, 2015. San José-Santa Clara Regional Wastewater Facility Area G Wetlands and Burrowing Owl Survey Results Technical Memorandum. March 12, 2015. From Chris Rogers, ESA, to Julie Benabente, Santa Clara Regional Wastewater Facility.

23 Environmental Science Associates, 2016. Headworks Improvements and New Headworks Alternatives Constraints Site Reconnaissance Survey, August 22, 2016, performed by Liz Hill.

24 Environmental Science Associates, 2017. Headworks Improvements and New Headworks Project Preliminary Wetland Delineation, August 10, 2017, performed by Chris Rogers (ESA).

wetlands as a result of removal or fill would occur due to excavation for the Pumped Drain 4 and Intertie 1a and 1b Project components. Indirect temporary impacts could occur through the introduction and spread of non-native species due to ground disturbance and transport from construction personnel and equipment, in addition to the degradation or modification of habitat through increased erosion and sedimentation, changes to hydrologic regimes, and the use of herbicides and pesticides. These short-term construction-related impacts as a result of the Project would be considered significant (**Impact BIO-3**). Typical CDFW jurisdiction under Section 1600 of the California Department of Fish and Game Code is within the "Top of Bank" boundaries of a stream channel; however, CDFW may assert regulatory authority over activities that affect fish and wildlife habitat associated with the stream which would increase their jurisdictional boundary.

However, with the implementation of Plant Master Plan EIR **Mitigation Measure BIO-3a** (Avoidance and Protection of Jurisdictional Waters) and **Mitigation Measure BIO-3b** (Regulatory Approval and Wetlands Restoration) during construction, impacts to potentially jurisdictional features would be considered less than significant.

Mitigation Measure BIO-3a: Avoidance and Protection of Jurisdictional Waters.

Access roads, work areas, and infrastructure shall be sited to avoid and minimize direct and indirect impacts to jurisdictional features. Prior to the beginning of any construction-related activities, the following measures shall be applied to protect potential jurisdictional features:

1. A protective barrier (such as silt fencing) shall be erected around water features adjacent to the Project at the "top of bank" or at the feature boundary to isolate them from Project activities and reduce the potential for incidental fill, erosion, or other disturbance;

2. Signage shall be installed on the fencing to identify sensitive habitat areas and restrict construction activities;

3. No equipment mobilization, grading, clearing, or storage of equipment or machinery, or similar activity shall occur at the Project site until a representative of the City has inspected and approved the protection fencing; and

4. The City shall ensure that the temporary fencing is continuously maintained until the Project is completed.

5. Drainage from all proposed facilities where chemical spills could occur during Project operation shall be directed away from sensitive resources and/or include other measures to minimize potential for release of potential pollutants to the environment.

Mitigation Measure BIO-3b: Regulatory Approval and Wetlands Restoration.

If it is determined during the design phase that impacts on wetland habitat cannot be avoided, the City's ET shall obtain permits and approvals from the Santa Clara Valley Habitat Agency (SCVHA), USACE, RWQCB, and/or CDFW, as applicable. In order to ensure that the Project results in no net loss of wetland

habitat functions and values, the City shall compensate for the loss of wetland resources through on-site restoration/creation, off-site protection and enhancement of riparian and wetland habitat, and/or purchase of mitigation credits consistent with the terms and conditions of USACE Regional General Permit 18 for implementation of covered activities in the HCP. On-site or-off-site habitat restoration/creation and/or purchase of mitigation credits consistent with the terms and conditions of USACE Regional General Permit 18 shall be determined in consultation with the resource agencies, as applicable. The City shall prepare a mitigation plan, which shall include monitoring applicable requirements and success criteria.

With implementation of these measures, impacts on protected jurisdictional features by the Project would not result in any new or more significant impacts than those identified in the adopted Plant Master Plan EIR.

d) Same Impact as Approved Project. (Less than Significant Impact)

The Project would not interfere substantially with the movement of any native resident or migratory fish or wildlife corridors, or impede the use of native wildlife nursery sites. This impact would be the same as identified in the Plant Master Plan EIR, and would not result in any new or more significant impacts beyond those identified in the Plant Master Plan EIR.

e) Same Impact as Approved Project. (Less than Significant Impact)

The City of San José Tree Ordinance requires a Tree Permit Adjustment for the removal of any tree on industrial properties, and offers additional protections to trees measuring 56 inches in circumference or greater when measured two feet above ground level (City of San José Municipal Code Section 13.32.020 I). Trees protected under the ordinance are referred to as "Ordinance Trees". Removal of trees located on City owned property requires the posting of a courtesy notice to the public and review by the City Arborist's Office.[25] The Project would result in the removal of up to 10 trees along the northern boundary of the drainage, where pipelines are proposed (**Impact BIO-4**). Under these conditions, the City's typical mitigation is to plant five 24-inch box trees for each tree removed; however, final mitigation required is subject to approval by the Director of Planning.[26] Replacement trees can be planted in a suitable location on Facility property or on other City property, to be identified by the City Arborist. Implementation of the following project condition of approval would reduce Project impacts as a result of tree removal to less than significant.

Compensate for Removal of Protected Trees. As part of the project condition of approval, the trees to be removed shall be replaced on-site or off-site at the accepted ratios or through payment of an in-lieu fee to Our City Forest to compensate for the loss of the trees. Protected trees that are lost shall be replaced at a minimum of four 24-inch box trees per tree removed. Tree replacement amounts shall be subject to the City's Arborist and/or PBCE, who would determine the final mitigation for impacts

25 City of San José, 2013. Tree Policy Manual & Recommended Best Practices. September 26, 2013
26 City of San José, 2015. Email correspondence from Russell Hansen, City of San José Arborist, to Aziza Amiri, City of San José Public Works Engineer. Tree Removal on Zanker Road. November 25, 2015.

to protected trees. Replacement trees shall be planted in a suitable location on Facility property or on other City property, to be identified by the City Arborist and approved by the PBCE.

All other trees onsite or adjacent to the Project site shall be safeguarded from construction activities by conditions identified in the City of San José's Municipal Code 13.32.130 – Safeguarding Trees During Construction. Conditions include no construction equipment within the dripline of any trees and the use of barricades around tree trunks to prevent injury to trees. With implementation of this project condition of approval, the Project would not result in any new or more significant impacts than those identified in the adopted Plant Master Plan EIR.

f) Same Impact as Approved Project. (Less than Significant with Mitigation)

The Project is subject to the Habitat Plan (effective October 14, 2013). The only species covered by the Habitat Plan that has suitable nesting and foraging habitat or the potential to occur within the Project site is the western burrowing owl. Loss of burrowing owl habitat that would result from activities proposed under the Project could conflict with the burrowing owl conservation strategy described in the Habitat Plan (**Impact BIO-5**). One of the proposed 84-inch line pipelines would encroach into the Habitat Plan burrowing owl fee zone area west of the EBOS and north of the Emergency Basin. Additionally, the new 36-inch force main on the east side of Mike Tocce Lane Roadway Bridge would encroach into the Habitat Plan burrowing owl fee zone area north of the EBOS. Part of this alignment would traverse the construction footprint for the Iron Salt Feed Station project, which is covered under an existing land-in-lieu agreement with the Santa Clara Valley Habitat Agency. This Project does not qualify for the land-in-lieu agreement. The Plant Master Plan EIR **Mitigation Measure BIO-2: Western Burrowing Owl Measures**, as described above, would ensure burrowing owl habitat supports a stable or increasing burrowing owl population. Similar to the adopted Plant Master Plan EIR, these provisions are consistent with the management objectives and success thresholds defined in the Habitat Plan. The City will adhere to the Habitat Plan requirements through implementation of the mitigation measure. With implementation of the above measure, Project impacts on burrowing owls that conflict with the Habitat Plan would not result in any new or more significant impacts than those identified in the adopted Plant Master Plan EIR.

3.2.4 Conclusion

Under the Project, temporary and permanent impacts to Congdon's tarplant are considered the same as the approved project and no additional mitigation is required; therefore, there is no change in impact. (**Same Impact as Previously Approved Project [Less than Significant with Mitigation]**)

Impacts to nesting resident or migratory birds are considered the same as the approved project and no additional mitigation is required; therefore, there is no change in impact. (**Same Impact as Previously Approved Project [Less than Significant with Mitigation]**)

Under the Project, temporary and permanent impacts to nesting western burrowing owls are the same as the approved project and no additional mitigation is required; therefore, there is no change in impact. (**Same Impact as Previously Approved Project [Less than Significant with Mitigation]**)

The Project would not substantially affect any riparian habitat or other sensitive natural community identified with the movement of any native resident or migratory fish or wildlife corridors in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service, or impede the use of native wildlife nursery sites. (**Same Impact as Previously Approved Project [Less than Significant]**)

With implementation of the measures included in the Plant Master Plan EIR, impacts on protected jurisdictional features by the Project would not result in any new or more significant impacts than those identified in the previously approved Plant Master Plan EIR. (**Same Impact as Previously Approved Project [Less than Significant with Mitigation]**)

The Project would result in the removal of up to 10 trees along the northern boundary of the drainage, where pipelines are proposed. Implementation of the City's Municipal Code and the project condition of approval would reduce Project impacts as a result of tree removal to the same as the approved Project. (**Same Impact as Previously Approved Project [Less than Significant]**)

Similar to the adopted Plant Master Plan EIR, implementation of **Mitigation Measure BIO-2: Western Burrowing Owl Measures** is consistent with the management objectives and success thresholds defined in the Habitat Plan. As such, the Project will ensure burrowing owl habitat supports a stable or increasing burrowing owl population and would not result in any new or more significant impacts than those identified in the previously approved Plant Master Plan EIR. (**Same Impact as Previously Approved Project [Less than Significant with Mitigation]**)

3.3 Cultural Resources

3.3.1 Setting

The cultural resources conditions relevant to the Project site have changed since the adoption of the Plant Master Plan EIR. Since that time, the City has inventoried and evaluated the older, northern portion of the Regional Wastewater Facility (Facility). In addition, several archaeological studies, including two subsurface investigations, have been completed to further determine the archaeological sensitivity of the Facility. Regulations related to cultural resources have also changed. This includes the adoption of Assembly Bill 52 (AB 52), regarding tribal cultural resources (refer to Section 3.4 of this document for a discussion of tribal cultural resources).

The *San José-Santa Clara Regional Wastewater Facility Streamline Moderne Industrial Historic District* (District), as shown in **Figure 3.3-1**, has been recommended eligible for listing in the National Register of Historic Places (National Register) under Criteria A and C at the local level, and eligible for listing in the California Register of Historical Resources (California Register) under Criteria 1 and 3. The District encompasses approximately seven acres on the north-central portion of the Facility and includes 11 contributing buildings and structures that were built between 1956 and circa 1963, including the Pump and Engine Building described in the Plant Master Plan EIR. The District retains sufficient historic integrity to convey its significance. The District, including the Carpentry Shop and Digester Tank 3, is immediately adjacent to and east of the proposed Headworks 3 Project components.

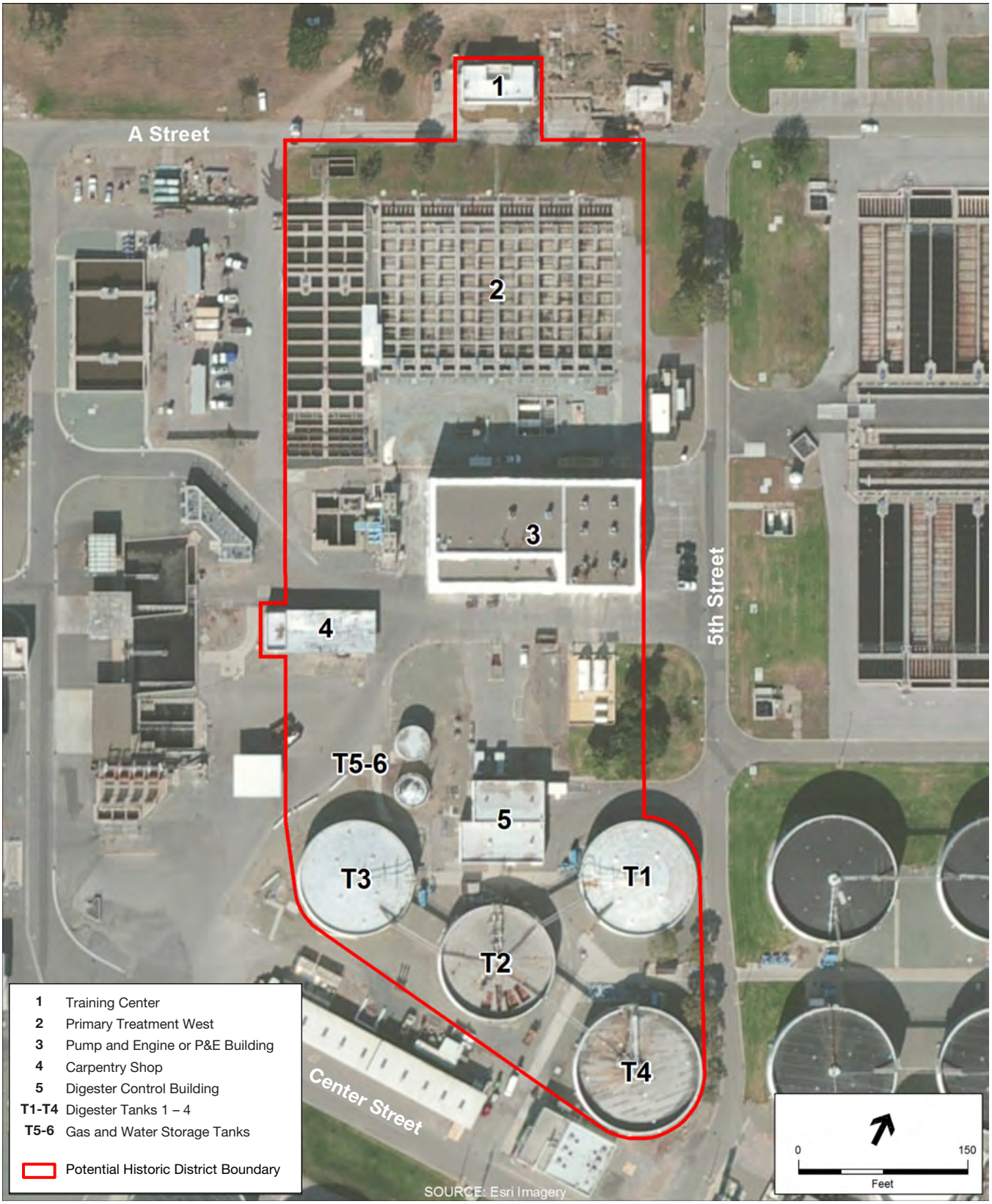
Since completion of the Plant Master Plan EIR two archaeological subsurface surveys have been completed in the Facility. The subsurface surveys consisted of excavating numerous shovel test pits (STPs) and auger samples, including twelve STPs within the Construction Enabling project area (shown on Figure 2-5 in Chapter 2). The purpose of the subsurface survey was to determine whether buried or otherwise obscured archaeological resources exist in the Facility. The subsurface survey did not identify any cultural materials in the vicinity of the Project.[27,28]

3.3.2 Findings of Previously Certified EIR

The Plant Master Plan EIR identified no impact for potential to adversely affect a historical resource or a paleontological resource; it identified potential impacts to unknown archaeological resources and disturbance to human remains. These impacts were reduced to less than significant with implementation of mitigation measures providing for the inadvertent discovery of archaeological resources and inadvertent discovery of human remains.

27 Koenig, Heidi, *San José-Santa Clara Regional Wastewater Facility Zanker Road Development Project Cultural Resources Survey Report.* Prepared for the City of San José, June 2015.

28 Koenig, Heidi, and Paul Zimmer, *San José-Santa Clara Regional Wastewater Facility Construction Enabling Project Cultural Resources Survey Report.* Prepared for the City of San José, August 2015.



SOURCE: ESA, 2016

San José Headworks Improvements and New Headworks

Figure 3.3-1
San José-Santa Clara Regional Wastewater Facility
Potential Streamline Moderne Industrial Historic District

ESA

3.3.3 Impacts Discussion

Issues:	*New Potentially Significant Impact*	*New Less Than Significant with Mitigation Incorporation*	*New Less Than Significant Impact*	*Same Impact as Approved Project*	*Less Impact than Approved Project*	*Checklist Source(s)*
CULTURAL RESOURCES — Would the project:						
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☐	☐	☒	☐	1, 2, 13, 14
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☐	☐	☒	☐	1, 2, 13, 14
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	☒	☐	1, 2, 13, 14, 15
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☐	☒	☐	1, 2, 13, 14

a) Same Impact as Approved Project. (Less than Significant)

CEQA Guidelines Section 15064.5 requires the lead agency to consider the effects of a project on historical resources. A 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 impact b, below.

The *San José-Santa Clara Regional Wastewater Facility Streamline Moderne Industrial Historic District* is immediately adjacent to the Project site. However, there would be no direct or indirect impacts to the 11 buildings and structures that contribute to the District, including to the Pump and Engine Building described in the Plant Master Plan EIR, because none of the buildings and structures would be demolished or otherwise altered by the Project. Improvements within the Facility are consistent with previous improvements. No impacts would occur to built-environment historical resources as a result of the Project and no mitigation is required.

b) Same Impact as Approved Project. (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 for the Project at the Northwest Information Center (NWIC) of the California Historical Resources Information System on August 1, 2011 (File No. 11-0118) and updated the search on May 11, 2016 (File No. 15-1655). There are no previously recorded prehistoric or historic-era archaeological resources in the Project area. Background research indicates that prehistoric archaeological resources have been recorded within a one-mile radius of the Project; including archaeological site CA-SCL-528. This site consists of midden soil with bay and marine shell, fire-cracked rock, carbon and baked clay, faunal fragments, lithic debitage, and groundstone fragments. Human remains have also been uncovered at this location. Subsurface excavations have been completed in 1983, 2008, 2010, and 2015 to define site boundaries.

ESA conducted a surface survey of the Project site on April 26, 2016. In addition, ESA conducted a subsurface survey in the Construction Enabling project area on July 21, 2015. The subsurface survey consisted of excavating 12 STPs (0.5 meters below ground surface) to determine whether there are subsurface or obscured archaeological resources.[29] No archaeological resources were identified in the Project site during the surface and subsurface surveys. Based on the results of the previous and current investigations, there is a low potential to impact archaeological resources during Project implementation.

While unlikely, the unanticipated discovery of archaeological materials cannot be entirely discounted and this would be a significant impact (**IMPACT CUL-1**). To facilitate compliance with CEQA, Project personnel shall be alerted to the possibility of encountering archaeological materials during construction, and informed of the proper procedures to follow in the event that such materials are found. In the event of an inadvertent discovery of subsurface archaeological materials during ground disturbing activities, implementation of the mitigation measure, as included below, would reduce this impact. This mitigation measure includes an update to Mitigation Measure CUL-3a from the Plant Master Plan EIR to include a "preservation in place" clause, per a court case ruling (Madera Oversight Coalition Inc., et al., vs. County of Madera, September 2011). The adjusted mitigation measure does not change the original impact conclusion, nor is it considerably different from that analyzed in the Plant Master Plan EIR.

Mitigation Measure CUL-1a: Inadvertent Discovery of Archaeological Resources.

If prehistoric or historic-era archaeological resources are encountered by construction personnel during Project implementation, all construction activities within 100 feet shall halt and the contractor shall notify ESD personnel and the PBCE Senior Environmental Planner. 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; stone milling equipment (e.g., mortars, pestles, hand stones, or milling slabs); and battered stone tools, such as hammer stones and pitted stones. Historic-era materials might include stone,

[29] Koenig and Zimmer, 2015.

concrete, or adobe footings and walls; filled wells or privies; and deposits of metal, glass, and/or ceramic refuse.

The City's ESD or its contractor shall retain a Secretary of the Interior-qualified archaeologist to inspect the findings within 24 hours of discovery. If it is determined that the Project could damage a historical resource as defined by CEQA (CEQA Guidelines §15064.5), construction shall cease in an area determined by the archaeologist until a mitigation plan has been prepared, approved by the PBCE Senior Environmental Planner, and implemented to the satisfaction of the archaeologist (and Native American representative if the resource is prehistoric, who would be identified by the Native American Heritage Commission [NAHC]). If the Native American representative identifies the find as a tribal resource, ESD or its contractor shall proceed to **Mitigation Measure CUL-1b**. For archaeological resources, the archaeologist, in consultation with the PBCE Senior Environmental Planner and the City's Historic Preservation Officer, shall determine when construction can resume.

The preferred mitigation shall be preservation in place, If preservation in place is not physically or financially feasible, mitigation shall be data recovery through excavation. If preservation in place is selected as mitigation, the mitigation shall be accomplished through one of the four following means: (1) modifying the construction plan to avoid the resource; (2) incorporating the resource within open space; (3) capping and covering the resource before building appropriate facilities on the resource site; or (4) deeding the resource site into a permanent conservation easement. If preservation in place is not feasible, a qualified archaeologist shall prepare and implement a detailed treatment plan to the satisfaction of the PBCE Senior Environmental Planner to recover the scientifically consequential information from the resource prior to any excavation at the resource site. Treatment for most of the resources that could be encountered shall consist of (but shall not necessarily 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.

Mitigation Measure CUL-1b: Inadvertent Discovery of Tribal Cultural Resources.

The Native American representative shall make recommendations to the City for the appropriate measures to treat the tribal cultural resource which will be implemented in accordance with Section 15064.5 of the CEQA Guidelines.

Section 3.4 has a detailed discussion of tribal cultural resources.

With implementation of these measures, impacts on archaeological resources by the Project would not result in any new or more significant impacts that those identified in the adopted Plant Master Plan EIR.

c) Same Impact as Approved Project. (Less than Significant with Mitigation)

The Project site overlies young Holocene-age geologic units. Beneath a cap of artificial fill lies deposits of mud and silt associated with the present-day bay estuary (bay mud) and the distal edges of alluvial fans. These types of geologic deposits are too young (i.e., less than 10,000 years old) to have fossilized the remains of organisms, or to have preserved vertebrate fossils. While the bay mud may contain a variety of marine invertebrate remains and organic matter (mollusks, clams, foraminifera, microorganisms, etc.), such remains are not fossilized, are likely to exist in other Bay Mud deposits all around the Bay Area, and would not be considered significant or unique. For these reasons, in accordance with Society of Vertebrate Paleontology[30] standards, the paleontological potential of the site is low.

While the paleontological sensitivity of the units underlying the Project site is low, there is a remote possibility that fossils may nevertheless be discovered during excavations associated with the Project. Because the significance of such fossils would be unknown until examined by a qualified paleontologist, such an event represents a potentially significant impact on paleontological resources (**IMPACT CUL-2**).

If any fossils are discovered during ground disturbing activities, implementation of the mitigation measure from the Plant Master Plan EIR, as included below, would reduce this impact.

> **Mitigation Measure CUL-2: Inadvertent Discovery of Paleontological Resources.**
>
> If paleontological resources, such as fossilized bone, teeth, shell, tracks, trails, casts, molds, or impressions are discovered during ground-disturbing activities, work shall stop in that area and within 100 feet of the find and the contractor shall notify ESD personnel and the PBCE Senior Environmental Planner. ESD or its contractor shall retain a qualified paleontologist to inspect the findings within 24 hours of discovery to assess the nature and importance of the find and, if necessary, develop appropriate treatment measures in conformance with Society of Vertebrate Paleontology standards, and in consultation with the PBCE Senior Environmental Planner.

With implementation of the above measure, impacts on paleontological resources by the Project would not result in any new or more significant impacts that those identified in the adopted Plant Master Plan EIR.

d) Same Impact as Approved Project. (Less than Significant with Mitigation)

Based on the background research as well as surface and subsurface surveys, the potential to discover human remains during ground disturbance is low in the Project site. However, the discovery of human remains cannot be entirely discounted and this would be a significant impact (**IMPACT CUL-3**). To facilitate legal compliance, Project personnel

[30] Society of Vertebrate Paleontology (SVP). *Assessment and Mitigation of Adverse Impacts to Nonrenewable Paleontologic Resources: Standard Guidelines*, Society of Vertebrate Paleontology News Bulletin, Vol. 163, p. 22-27. 1995.

shall be alerted to the possibility of encountering human remains during construction, and informed of the proper procedures to follow in the event they are found. Implementation of the mitigation measure from the Plant Master Plan EIR, as included below, would reduce this impact.

> **Mitigation Measure CUL-3: Inadvertent Discovery of Human Remains.**
>
> If human remains are encountered by construction personnel during project implementation, all construction activities within 100 feet shall halt and the contractor shall notify the PBCE Senior Environmental Planner. ESD shall contact the Santa Clara County Coroner to determine whether or not the remains are Native American origin or whether an investigation into the cause of death is required. If the remains are determined to be Native American, the Coroner shall contact the NAHC within 24 hours. The NAHC would 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 the City for the appropriate means of treating the human remains and any associated funerary objects which shall be implemented in accordance with Section 15064.5(e) of the CEQA Guidelines.

With implementation of the above measure, impacts on human remains by the Project would not result in any new or more significant impacts that those identified in the adopted Plant Master Plan EIR.

3.3.4 Conclusion

Implementation of Mitigation Measures CUL-1a, CUL-1b, CUL-2, and CUL-3 included in the adopted Plant Master Plan EIR would reduce potential impacts to cultural resources during construction to a less-than-significant level and the Project would not result in any new or more significant impacts than those identified in the previously approved Plant Master Plan EIR. (**Same Impact as Previously Approved Project [Less than Significant Impact with Mitigation]**)

Although the *San José-Santa Clara Regional Wastewater Facility Streamline Moderne Industrial Historic District* has been recorded and evaluated as eligible for listing in the California and National Register, implementation of the Project would not result in any significant impacts to the District because none of the buildings and structures would be demolished or otherwise altered by the Project. There would be no additional impacts to historical resources beyond those identified in the previously approved Plant Master Plan EIR. (**Same Impact as Previously Approved Project [Less than Significant Impact]**).

3.4 Tribal Cultural Resources

3.4.1 Setting

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 CEQA lead 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.

The City sent letters to the local tribes and individuals on July 26, 2017 regarding the Capital Improvement Program Operations and Maintenance Program Projects, which includes the Project. No responses have been received.

ESA completed a records search for the Project at the Northwest Information Center (NWIC) of the California Historical Resources Information System on August 1, 2011 (File No. 11-0118) and updated the search on May 11, 2016 (File No. 15-1655). There are no previously recorded prehistoric or historic-era archaeological resources in the Project area. In addition, no archaeological resources were identified in the Project site during the surface and subsurface surveys (see Section 3.3 Cultural Resources).

3.4.2 Findings of Previously Certified EIR

The adopted Plant Master Plan EIR evaluated impacts to cultural resources significant to Native American tribes, however did not specifically discuss impacts to Tribal Cultural Resources as defined in Public Resources Code Section 21074(a)(1), as Assembly Bill (AB) 52 had not yet been adopted. AB 52, codified in the Public Resources Code (Sections 21074, 21080.3, 21082.3, 21083 *et seq*), requires lead agencies to analyze the impacts of a project on "tribal cultural resources" separately from archaeological resources. AB 52 also requires lead agencies to engage in additional consultation with California Native American tribes, and requires the Office of Planning and Research to update Appendix G of the California Environmental Quality Act (CEQA) Guidelines to specifically address tribal cultural resources. AB 52's provisions only apply to projects that have a notice of preparation (NOP) filed on or after July 1, 2015.

3.4.3 Impacts Discussion

Issues:	*New Potentially Significant Impact*	*New Less Than Significant with Mitigation Incorporated*	*New Less Than Significant Impact*	*Same Impact as Approved Project*	*Less Impact than Approved Project*	*Checklist Source(s)*
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	☒	☐	☒	☐	☐	1, 2, 13, 14
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.	☐	☐	☒	☐	☐	1, 2, 13, 14

a) Less than Significant with Mitigation.

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 affected 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 (**IMPACT TCR-1**). Any such potential significant impacts would be reduced to a less than significant level by implementing **Mitigation Measures CUL-1a**. **Inadvertent Discovery of Archaeological Resources** and **CUL-1b. Inadvertent Discovery of Tribal Cultural Resources** (refer to Section 3.3 Cultural Resources).

b) Less than Significant with Mitigation.

The City did not determine any resource that could potentially be affected by the Project to be a significant tribal cultural resource 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 (**IMPACT TCR-2**). Any such potential significant impacts would be reduced to a less than significant level by implementing **Mitigation Measures CUL-1a**. **Inadvertent Discovery of Archaeological Resources** and **CUL-1b. Inadvertent Discovery of Tribal Cultural Resources** (refer to Section 3.3 Cultural Resources).

3.4.4 Conclusion

Implementation of Mitigation Measures CUL-1a and CUL-1b would reduce potential impacts to tribal cultural resources during construction to a less-than-significant level. (**Less than Significant Impact with Mitigation**)

3.5 Greenhouse Gas Emissions

3.5.1 Setting

The environmental and regulatory settings relevant to greenhouse gases (GHGs) have not appreciably changed since the certification of the Plant Master Plan EIR. With regard to impacts from GHGs, both the BAAQMD and California Air Pollution Control Officers Association (CAPCOA) consider GHG impacts to be exclusively cumulative impacts; therefore, assessment of significance relative to the approved Plant Master Plan EIR is based on a determination of whether the GHG emissions from a project represent a cumulatively considerable contribution to the global atmosphere.

In 2011, the City adopted the *Envision San José 2040 General Plan* (2040 General Plan). As part of the General Plan update, the City adopted a *Greenhouse Gas Reduction Strategy for the City of San José* (GHG Reduction Strategy)[31] in accordance with the BAAQMD CEQA Guidelines and CEQA Guidelines Section 15183.5. The GHG Reduction Strategy identifies policies and measures to reduce GHG generation within the City. Relevant policies include:

> *MS-5.6:* Enhance the construction and demolition debris recycling program to increase diversion from the building sector.
>
> *MS-6.3:* Encourage the use of locally extracted, manufactured or recycled and reused materials including construction materials and compost.
>
> *MS-6.12:* Promote use of recycled materials, including reuse of existing building shells/ elements, as part of new construction or renovations.

The City's GHG Reduction Strategy was approved as part of the City's 2040 General Plan and analyzed in the 2040 General Plan Integrated Final Program Environmental Impact Report (PEIR) (certified in November 2011) and updated in the Supplemental PEIR (certified in December 2015). The City of San José agreed to prepare a Supplemental PEIR to supplement the information included in the 2040 General Plan Final PEIR regarding GHG emissions and global climate change. The Supplemental PEIR reevaluated the significance of projected GHG emissions associated with existing and planned land uses in San José and the consistency of the General Plan and GHG Reduction Strategy with the California Climate Change Scoping Plan and other plans.[32] Compliance with the City's 2040 General Plan and GHG Reduction Strategy would ensure that the Plant Master Plan that was evaluated in the adopted EIR is consistent with the State's AB32 goals.

3.5.2 Findings of Previously Certified EIR

The Plant Master Plan EIR analysis determined both project- and program-level improvements to be consistent with the General Plan GHG Reduction Strategy up to the year 2020, and therefore impacts were determined to be less than significant. However, subsequent to year 2020, the

[31] City of San José, 2011. *Greenhouse Gas Reduction Strategy for the City of San José*, June 2011. Updated December 2015. Available at http://www.sanjoseca.gov/documentcenter/view/9388.

[32] City of San José, 2015. *Envision San José 2040 General Plan Supplemental Program EIR - Greenhouse Gas Emission Analysis.* Available at: http://www.sanjoseca.gov/DocumentCenter/View/46542

project- and program-level improvements analyzed in the Plant Master Plan EIR were found to make a cumulatively considerable contribution to City-wide emissions, which were determined by the EIR for the 2040 General Plan to be significant and unavoidable by 2035, even with implementation of the measures contained in the GHG Reduction Strategy. The conclusions in the 2040 General Plan PEIR have not changed based upon the supplemental information on GHG emissions presented in this Supplemental PEIR (certified in December 2015).

3.5.3 Impacts Discussion

Issues:	*New Potentially Significant Impact*	*New Less Than Significant with Mitigation Incorporation*	*New Less Than Significant Impact*	*Same Impact as Approved Project*	*Less Impact than Approved Project*	*Checklist Source(s)*
GREENHOUSE GAS* EMISSIONS — Would the project:						
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☐	☒	☐	1, 2, 16
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☐	☒	☐	1, 2, 17
NOTE: GHGs include, but are not limited to, carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulphur hexafluoride						

a) Same Impact as Approved Project. (Less than Significant)

GHG emissions worldwide cumulatively contribute to the significant adverse environmental impacts of global climate change. No single project could generate sufficient GHG emissions on its own to noticeably change the global average temperature. The combination of GHG emissions from past, present, and future projects in San José, the entire state of California, across the nation, and around the world contribute cumulatively to the phenomenon of global climate change and its associated environmental impacts.

The combustion of diesel fuel to provide power for the operation of various construction equipment results in the generation of GHGs. Construction emissions that would be associated with the Project were estimated using Project-specific information such as the types and number of construction equipment used, daily usage in terms of hours per day, and total days for each piece of equipment and their horsepower rating. **Appendix A** contains the data and assumptions used to estimate the construction-phase GHG emissions that would be associated with the Project.

Carbon dioxide (CO_2) and methane (CH_4) emissions for offroad construction equipment were estimated using 2016 CalEEMod emission factors (which are based on CARB's OFFROAD emissions inventory database model). The emission factor for nitrous oxide

(N_2O) was obtained from The Climate Registry[33] (TCR) for diesel fuel combustion in construction equipment. N_2O and CH_4 emissions were multiplied by their respective global warming potentials (21 and 310) and added to the CO_2 emissions to obtain carbon dioxide equivalent (CO_2e) emissions.

GHG emissions from onroad motor vehicles used during construction were estimated using EMFAC2014 emissions factors. EMFAC provides GHG emission factors only for CO_2 emissions, N_2O and CH_4 emission factors for gasoline and diesel combustion were obtained from TCR.[34] GHG emissions in the form of CO_2e were calculated by multiplying the estimated total miles travelled by Project-related worker vehicles and trucks by the GHG emission factors, then multiplying the N_2O and CH_4 emissions by their respective global warming potential, and then adding the CO_2, N_2O, and CH_4 emissions. The Project is expected to generate an average of 35 worker commute trips per day along with five material truck deliveries per day. The exact end points for the daily trips are not known at this time, so the on-road emission estimates were developed under the assumption that each worker trip would be 25 miles round trip, and each haul truck trip would be 40 miles round trip. Daily emissions by vehicle class (i.e., light-duty gasoline-fueled trucks and heavy-duty trucks) were estimated using the EMFAC2014 emission factors multiplied by the estimated Project-related vehicle trips and the estimated daily mileage traveled by the vehicles.

Table 3.5-1 shows the GHG emissions estimated to be generated by construction activities that would be associated with the Project. As shown in the table, Project construction would generate a total of approximately 1,746 metric tons CO_2e over the 40-month construction period. Refer to Appendix A for details on the calculations and assumptions used to estimate construction GHG emissions.

TABLE 3.5-1
TOTAL ESTIMATED GHG EMISSIONS FROM CONSTRUCTION

Source	GHG Emissions (metric tons)			
	CO_2	CH_4	N_2O	CO_2e
Offroad Construction Equipment	1,089.5	0.3	0.0	1,105.2
Onroad Vehicle Trips	618.9	0.1	0.1	640.8
Total GHG Emissions				**1,746.0**

SOURCE: Appendix A.

Upon completion of construction, GHG emissions would be generated indirectly from the use of electricity at the Facility. However, the estimated energy use for the Project is less than existing use. The energy usage for the new Headworks Facility is estimated to be

33 The Climate Registry. Table 13.7 US Default CH4 and N2O Emission Factors for NonHighway Vehicles, 2017. Available: http://www.theclimateregistry.org/wp-content/uploads/2017/05/2017-Climate-Registry-Default-Emission-Factors.pdf

34 The Climate Registry. Table 13.4 Default CH_4 and N_2O Emission Factors for Highway Vehicles by Technology Type, 2017. Available: http://www.theclimateregistry.org/wp-content/uploads/2017/05/2017-Climate-Registry-Default-Emission-Factors.pdf

570 KW. This is slightly less than the baseline use of 582 KW. Therefore, there would be no increase in indirect GHG emissions generated from electricity use. The Project would not change the existing projected capacity of the Headworks Facilities, and thus would not alter the truck trips required for solids removal. For this reason, the Project would not result in additional GHG emissions during operations.

The BAAQMD does not have adopted significance thresholds for construction-related GHG emissions. However, it recommends that GHG emissions that would occur during construction be quantified and disclosed, and a determination made on the significance of the impacts in relation to meeting AB 32 GHG reduction goals. The City has established a GHG Reduction Strategy to meet the recommended considerations outlined in CEQA Guidelines Section 15064.4 and the recent standards for "qualified plans" as set forth by BAAQMD. The GHG impact analysis focuses on the Project's conformance with the City's GHG Reduction Strategy as discussed below.

b) Same Impact as Approved Project. (Less than Significant)

The City's GHG Reduction Strategy includes policies and measures to reduce GHG emissions. Adoption of a GHG Reduction Strategy provides environmental clearance for GHG impacts of proposed development as per the BAAQMD CEQA Guidelines and CEQA Guidelines Section 15183.5. Project evaluation in light of City requirements is conducted by evaluating Project conformance with the City's GHG Reduction Strategy.

In order to conform to the GHG Reduction Strategy, projects must be consistent with the Land Use/Transportation assumptions in the 2040 General Plan and incorporate applicable features into the project that meet the mandatory implementation policies. The Project would not involve changes in land uses as envisioned under the 2040 General Plan, and therefore, would be consistent with the Land Use/Transportation assumptions. Project structures would be subject to the City's Green Building Ordinance as applicable to achieve operational emissions reductions consistent with the GHG Reduction Strategy. Additionally, as described above, it is anticipated that the Project would generate very minimal operational GHG emissions. The 2040 General Plan includes a number of actions to increase the use of recycled materials used during construction, and reduce construction and demolition debris. To ensure that the Project would not conflict with the applicable GHG reduction policies of the 2040 General Plan, the Project would comply with applicable General Plan Policies for reduction of GHG emissions, including MS-5.6 and MS-6.3. Therefore, based on a review of anticipated Project emissions in comparison to the City's GHG Reduction Strategy and the BAAQMD CEQA Guidelines, the Project is expected to be consistent with the 2040 General Plan and GHG Reduction Strategy. Consequently, it would also not be considered to conflict with the State's AB 32 GHG emissions reduction goals. This impact would be the same as identified in the Plant Master Plan EIR, and would not result in any new or more significant impacts beyond those identified in the Plant Master Plan EIR.

3.5.4 Conclusion

The Project would not generate GHG emissions that would conflict with State AB 32 reduction goals. The impact would be same as that identified in the Plant Master Plan EIR. (**Same Impact as Previously Approved Project [Less than Significant Impact]**)

3.6 Hazards and Hazardous Materials

3.6.1 Setting

The environmental setting relevant to Hazards and Hazardous Materials for the Project site has not changed in comparison to that described in the adopted Plant Master Plan EIR. While the footprint of the Project site has changed as shown in Figure 2-2, the revised footprint would not intersect any additional known hazardous materials sites. Setting discussions from the adopted EIR for this resource area are therefore applicable to the entire Project area.

3.6.2 Findings of Previously Certified EIR

The adopted Plant Master Plan EIR identified no impact for potential public or private airport related safety hazards, for emission or handling of hazardous substances within a quarter mile of a school, or potential interference with emergency plans. The adopted Plant Master Plan EIR identified less than significant impacts for potential hazards associated with the accidental release of hazardous building and construction materials, transport or use of hazardous materials, and potential exposure to fires. The adopted Plant Master Plan EIR identified potentially significant but mitigable to less than significant impacts for accidental release of hazardous materials in the soil and groundwater into the environment, location on a hazardous materials site, and accident conditions related to rupture of subsurface utilities. Mitigation applied to these potential impacts included a pre-construction hazardous materials assessment, implementation of a health and safety plan, implementation of a soil and groundwater management plan, and coordination with regulatory agencies and utility providers.

3.6.3 Impacts Discussion

Issues:	*New Potentially Significant Impact*	*New Less Than Significant with Mitigation Incorporation*	*New Less Than Significant Impact*	*Same Impact as Approved Project*	*Less Impact than Approved Project*	*Checklist Source(s)*
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?	☐	☐	☐	☒	☐	1, 2, 18, 19
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?	☐	☐	☐	☒	☐	1, 2, 18, 19
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒	☐	1, 2
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	☐	☐	☐	☒	☐	1, 2, 18, 19

Issues:	*New Potentially Significant Impact*	*New Less Than Significant with Mitigation Incorporation*	*New Less Than Significant Impact*	*Same Impact as Approved Project*	*Less Impact than Approved Project*	*Checklist Source(s)*
HAZARDS AND HAZARDOUS MATERIALS — Would the project:						
create a significant hazard to the public or the environment?						
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒	☐	1, 2
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?	☐	☐	☐	☒	☐	1, 2
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☒	☐	☐	☐	1, 2, 20, 21
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?	☐	☐	☐	☒	☐	1, 2

a, b, d) Same Impact as Approved Project. (Less than Significant with Mitigation)

Project construction activities would involve the use of fuels, lubricants and solvents. Storage and use of these construction items at the Project site could result in the accidental release of small quantities of hazardous materials, which could result in exposures of construction workers to these materials and/or degrade soil, groundwater and surface water near the Project site. This impact would be potentially significant. All storm water runoff from site will flow into the Facility's existing storm water drains and be routed to the headworks facilities for treatment. Project construction would require implementation of best management practices, to minimize the risk of a hazardous materials release during construction activities, further discussed under Section 3.7, Hydrology and Water Quality. With routing of storm water runoff into the headworks facilities and implementation of best management practices, potential adverse effects related to reasonably foreseeable upset and accident conditions involving the release of hazardous construction chemicals into the environment would not be more significant than those identified in the previously approved Plant Master Plan EIR.

The potential exists during Project construction activities, including grading and excavation, that subsurface and overhead utilities (e.g., a high-pressure natural gas line or electrical line) might be inadvertently damaged. Such damage to utilities could fatally

injure construction workers, damage equipment, and initiate fire. Because of the greater risk involved in excavating around high-pressure gas lines and the potential for catastrophic results, this impact would be considered a significant hazard to the public. Utility clearance is part of the standard construction process for projects at the Facility by requiring advance coordination with utility providers for protection of subsurface utilities and protection for utilities during construction, further described in Section 3.10, Utilities and Service Systems. With implementation of this utility clearance process, the Project would not result in any new or more significant impacts to utilities during construction that those identified in the previously approved Plant Master Plan EIR.

Project construction would include demolition of the existing screenings handling structure during construction of Headworks 3. The existing screenings handling structure is part of Headworks 2, which was constructed in 2008 and due to the date of construction is not anticipated to include any lead-based paint or asbestos containing materials; for this reason, the likelihood of release of hazardous building materials is very low and would not result in any new or substantially greater significant impacts than those previously identified in the Plant Master Plan EIR.

The Facility is located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and documented releases of hazardous materials have been identified within and adjacent to the Facility. A database search of the California State Water Resources Control Board (SWRCB) GeoTracker database and the California Department of Toxic Substances Control (DTSC) EnviroStor database was performed to identify any new hazardous materials sites or uses at the Project site, in the Facility, and within a search radius of up to one mile from the Facility.[35,36] No additional hazardous materials sites or other known hazardous materials spills were identified. The potential exists for workers to encounter hazardous materials in the soil and groundwater during Project construction because the Facility is included on a list of hazardous material sites. Any hazardous materials encountered in excavated soil or groundwater during Project construction could result in a release to the environment, which could potentially expose construction workers, the public, and other Facility personnel to hazardous materials and chemical vapors. For these reasons, the impact related to exposure to hazardous materials in soil and groundwater during construction of the Project and a reasonably foreseeable release of hazardous materials would be potentially significant. (**IMPACT HAZ-1**) However, implementation of mitigation measures identified in the Plant Master Plan EIR, and listed below, for potential upset and release of hazardous materials and location on a hazardous materials site would minimize potential impacts.

35 State Water Resources Control Board (SWRCB), 2017. GeoTracker Database search, geotracker.waterboards.ca.gov, accessed October 5, 2017.

36 California Department of Toxic Substances Control (DTSC), 2017. EnviroStor Database search, www.envirostor.dtsc.ca.gov/public, accessed October 5, 2017.

Mitigation Measure HAZ-1a: Pre-Construction Hazardous Materials Assessment.

Prior to construction, ESD or its contractor shall ensure that a limited soil and/or groundwater investigation is performed at proposed construction work areas to characterize soil and groundwater quality. If the results reveal soil and/or groundwater contamination exist in excess of applicable regulatory screening levels (Environmental Screening Levels or California human health screening levels) for the proposed site use, the City shall contact the appropriate regulatory agency (the Santa Clara County Department of Environmental Health [SCCDEH], RWQCB, or DTSC) as appropriate. ESD or its contractor shall complete subsequent site investigations and/or remedial activities required by the regulatory agency to ensure that residual impact, if any, shall not pose a continuing significant threat to groundwater resources, human health, or the environment.

The results of the pre-construction hazardous materials assessment shall be incorporated into the Site Health and Safety Plan prepared in accordance with Mitigation Measure HAZ-1b, below, and the Soil and Groundwater Management Plan prepared in accordance with Mitigation Measure HAZ-1c, below, to determine whether: specific soil and groundwater management and disposal procedures for contaminated materials are required; excavated soils are suitable for reuse; and construction worker health and safety procedures for working with contaminated materials are required.

Mitigation Measure HAZ-1b: Health and Safety Plan.

ESD or its contractor shall retain a qualified environmental professional to prepare a site-specific Health and Safety Plan (HASP) in accordance with federal OSHA regulations (29 CFR 1910.120) and Cal/OSHA regulations (8 CCR Title 8, Section 5192). Because anticipated contaminants vary depending upon the location of proposed improvements in the Project area and may vary over time, the HASP shall address site-specific worker health and safety issues during construction. The HASP shall include the following information:

- Results of sampling conducted in accordance with Mitigation Measure HAZ-1a.

- All required measures to protect construction workers and the general public by including engineering controls, monitoring, and security measures to prevent unauthorized entry to the construction areas and to reduce hazards outside of the construction areas. If prescribed contaminant exposure levels are exceeded, personal protective equipment shall be required for workers in accordance with state and federal regulations.

- Required worker health and safety provisions for all workers potentially exposed to contaminated materials, in accordance with state and federal worker safety regulations, and designated qualified individual personnel responsible for implementation of the HASP.

- The contractor shall have a site health and safety supervisor fully trained pursuant to hazardous materials regulations be present during excavation, trenching, or cut and fill operations to monitor for evidence of potential soil contamination, including soil staining, noxious odors, debris or buried storage

containers. The site health and safety supervisor must be capable of evaluating whether hazardous materials encountered constitute an incidental release of a hazardous substance or an emergency spill. The site health and safety supervisor shall implement procedures to be followed in the event of an unanticipated hazardous materials release that may impact health and safety. These procedures shall be in accordance with hazardous waste operations and regulations and specifically include, but are not limited to: 1) immediately stopping work in the vicinity of the unknown hazardous materials release; 2) notifying SCCDEH, RWQCB, or DTSC; and 3) retaining a qualified environmental firm to perform sampling, remediation, and/or disposal.

- Documentation that HASP measures have been implemented during construction.

- Provision that submittal of the HASP to ESD, or any review of the contractor's HASP ESD, shall not be construed as approval of the adequacy of the contractor as a health and safety professional, the contractor's HASP, or any safety measure taken in or near the construction site. The contractor shall be solely and fully responsible for compliance with all laws, rules, and regulations applicable to health and safety during the performance of the construction work.

Mitigation Measure HAZ-1c: Soil and Groundwater Management Plan.

If hazardous materials or contaminated soil and groundwater above regulatory screening levels are identified under the pre-construction hazardous materials assessment, done in accordance with Mitigation Measure HAZ-1a, ESD shall require the construction contractor to prepare and implement a Soil and Groundwater Management Plan that specifies the method for handling and disposal of contaminated soil and groundwater prior to construction.

The Soil and Groundwater Management Plan, prepared in accordance with Mitigation Measure HAZ-1c, will establish the sampling and laboratory analysis program which may include the following: analysis of subsurface soil samples within the Project site for total petroleum hydrocarbons (as gasoline, diesel, and waste oil), Title 22 metals, and volatile organic compounds (VOCs) or any other chemicals of concern to evaluate the potential presence of contamination; groundwater samples if subsurface excavations are anticipated to require dewatering;. and additional analyses for VOCs and semi-volatile organic compounds (SVOCs) for groundwater samples collected at construction locations within 1,000 feet of adjacent landfills.

The Soil and Groundwater Management Plan shall include all necessary procedures to ensure that excavated materials and fluids generated during construction are stored, managed, and disposed of in a manner that is protective of human health and in accordance with applicable laws and regulations. The Plan shall include the following information.

- Step-by-step procedures for evaluation, handling, stockpiling, storage, testing, and disposal of excavated material, including criteria for reuse and offsite disposal. All excavated materials shall be inspected prior to initial stockpiling, and spoils that are visibly stained and/or have a noticeable odor shall be

stockpiled separately to minimize the amount of material that may require special handling. In addition, excavated materials shall be inspected for buried building materials, debris, and evidence of underground storage tanks; if identified, these materials shall be stockpiled separately and characterized in accordance with landfill disposal requirements. If some of the spoils do not meet the reuse criteria and/or debris is identified, these materials shall be disposed of at a permitted landfill facility.

- Procedures to be implemented if unknown subsurface conditions or contamination are encountered, such as previously unreported tanks, wells, or contaminated soils.

- Procedures for containment, handling and disposal of groundwater generated from construction dewatering, the method to be used to analyze groundwater for hazardous materials likely to be encountered and the appropriate treatment and/or disposal methods.

The Pre-Construction Hazardous Materials Assessment (HAZ-1a), Health and Safety Plan (HAZ-1b), and Soil Management Plan (HAZ-1c) shall be submitted to the PBCE Senior Environmental Planner for approval.

With implementation of these measures, impacts associated with hazards and hazardous materials from the Project implementation would not result in any new or more significant impacts than those identified in the adopted Plant Master Plan EIR.

c) Same Impact as Approved Project. (No Impact)

There are no schools within 0.25-mile of the Project site. The Project would not be closer to any school than were Plant Master Plan components evaluated in the Plant Master Plan EIR. This impact would be the same as identified in the Plant Master Plan EIR, and would not result in any new or more significant impacts beyond those identified in the Plant Master Plan EIR.

e, f) Same Impact as Approved Project. (No Impact)

The nearest airports to the project are the Norman Y. Mineta San José International Airport, located approximately four miles south of the Project site, and the Moffett Federal Airfield, located approximately five miles west of the Project site. There are no private airstrips within two miles of the Project site. The Project would not be closer to any airport or airstrip than were Plant Master Plan components evaluated in the Plant Master Plan EIR. This impact would be the same as identified in the Plant Master Plan EIR, and would not result in any new or more significant impacts beyond those identified in the Plant Master Plan EIR.

g) New Less than Significant Impact with Mitigation.

The Santa Clara County Operational Area Emergency Operations Plan[37] establishes emergency organization, assigns tasks, specifies policies and general procedures, and

[37] Santa Clara County, 2008, *Santa Clara County Operational Area Emergency Operations Plan*, March 18, 2008, available online at http://www.sccgov.org/sites/oes/Documents/EOP_Complete.pdf

provides for coordination of response in the event of an emergency. This plan does not designate specific emergency response or evacuation routes within or surrounding the Facility. The Facility has developed a Contingency Plan for Operation Under Emergency Conditions (Contingency Plan) as required by the Facility's NPDES permit.[38] This Contingency Plan outlines actions required at the Facility in response to extreme flooding, earthquakes, fire, and accidental release of hazardous materials. In the case of an ammonia, chlorine, or sodium bisulfate release, should nonessential Facility personnel need to be evacuated, the Contingency Plan indicates personnel should proceed south along Zanker Road and should not proceed on Los Esteros Road. Construction requiring closure of Zanker Road could interfere with the use of Zanker Road during evacuation of the Facility, a potentially significant impact (**IMPACT HAZ-2**). With implementation of **Mitigation Measure TR-1**, notifying Facility personnel of the temporary closure of Zanker Road and instructing personnel to evacuate using Mike Tocce Lane, construction of the Project would not affect evacuation routes such that more significant impacts would result compared to what was identified in the Plant Master Plan EIR. The Project site is located within the Facility, so operations of the Project would not include changes that would affect emergency response such that additional impacts could occur compared to what was identified in the Plant Master Plan EIR.

h) Same Impact as Approved Project. (Less than Significant)

The Project site is not located within identified high fire hazard areas. Through compliance with legal requirements related to hazardous materials storage and fire protection, potential risk of fire associated with construction and operation of the Project would be the same as those in the Plant Master Plan EIR.

3.6.4 Conclusion

The Project would not result in additional delivery, transport, or use of hazardous materials that could result in new or more significant impacts related to the accidental release of construction hazardous materials, or the transport or use of hazardous materials, than those identified in the previously approved Plant Master Plan EIR. (**Same Impact as Previously Approved Project [Less than Significant Impact]**)

Implementation of the measures included in the adopted EIR would reduce potential construction impacts associated with exposure to hazardous materials in soil and groundwater to a less than significant level and thus the Project would not result in any new or more significant impacts. (**Same Impact as Previously Approved Project [Less than Significant Impact with Mitigation]**)

The Project would not result in new or more significant impacts to airports, private airstrips, schools, or emergency response than those identified in the previously approved Plant Master Plan EIR. (**Same Impact as Previously Approved Project [No Impact]**)

[38] San José-Santa Clara Regional Wastewater Facility Environmental Services Division, *Contingency Plan for Operation Under Emergency Conditions*, December 2015.

Implementation of Mitigation Measure TR-1 would reduce potential new impacts on emergency evacuation to a less than significant level, thus the Project would not result in any more significant impacts than identified in the adopted EIR. (**New Less than Significant Impact with Mitigation**)

Implementation of the measures included in the adopted EIR would reduce potential impacts on subsurface and overhead utilities during construction to a less than significant level and thus the Project would not result in any new or more significant impacts. (**Same Impact as Previously Approved Project [Less than Significant Impact]**)

The Project would not result in an additional risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized area or where residences are intermixed with wildlands. (**Same Impact as Previously Approved Project [Less than Significant]**)

3.7 Hydrology and Water Quality

3.7.1 Setting

Setting information relevant to hydrology and water quality within the Project area remains the same as discussed in the adopted Plant Master Plan EIR. While the footprint of the Project site has changed as shown in Figure 2-2, the revised footprint would not intersect any additional known hydrologic features. The setting discussions from the adopted EIR for this resource area are therefore applicable to the entire Project area.

3.7.2 Findings of Previously Certified EIR

The adopted EIR identified no impact related to placing housing within a 100-year flood hazard area and exposure of people or structures to a significant risk of loss, injury, or death involving inundation by seiche, tsunami, or mudflow. The adopted EIR identified less than significant impacts for degradation of receiving waters due to generation and emission of construction-related water quality pollutants, reduced water quality downstream of the project site due to storm water discharges during project operations, alteration of downstream/ receiving water quality, and increased risks associated with coastal flooding. The adopted EIR identified potentially significant but mitigable to less than significant impacts for potential for increased scour and erosion from restoration of Pond A18, alteration of pond or downstream water quality due to proposed operations of Pond A18, increased risk of flooding due to runoff associated with increases in impervious area, potential to cause saltwater intrusion of regional groundwater sources, and depletion of groundwater supplies or interference with groundwater recharge.

3.7.3 Impacts Discussion

Issues:	*New Potentially Significant Impact*	*New Less Than Significant with Mitigation Incorporation*	*New Less Than Significant Impact*	*Same Impact as Approved Project*	*Less Impact than Approved Project*	*Checklist Source(s)*
HYDROLOGY AND WATER QUALITY — Would the project:						
a) Violate any water quality standards or waste discharge requirements?	☐	☐	☐	☒	☐	1, 2
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)?	☐	☐	☐	☒	☐	1, 2
c) Substantially alter the existing drainage pattern of a site or area through the alteration of the course of a stream or river, or by other means, in a manner that would result in substantial erosion or siltation on- or off-site?	☐	☐	☐	☒	☐	1, 2

Issues:	*New Potentially Significant Impact*	*New Less Than Significant with Mitigation Incorporation*	*New Less Than Significant Impact*	*Same Impact as Approved Project*	*Less Impact than Approved Project*	*Checklist Source(s)*
HYDROLOGY AND WATER QUALITY — Would the project:						
d) Substantially alter the existing drainage pattern of a site or area through the alteration of the course of a stream or river, or by other means, substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site?	☐	☐	☐	☒	☐	1, 2
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☐	☒	☐	1, 2
f) Otherwise substantially degrade water quality?	☐	☐	☐	☒	☐	1, 2
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?	☐	☐	☐	☒	☐	1, 2, 22
h) Place within a 100-year flood hazard area structures that would impede or redirect flood flows?	☐	☐	☐	☒	☐	1, 2, 22, 23
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?	☐	☐	☐	☒	☐	1, 2, 23
j) Inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒	☐	1, 2, 24

a, f) Same Impact as Approved Project. (Less than Significant)

Construction

Project construction activities would include the use of heavy equipment, such as an excavator/blade, compactor, and dump trucks. The use of these types of machinery within the Project site would disturb surface sediments and could result in the release of sediment and other water quality pollutants to natural waters. Potential pollutants associated with the use of construction equipment could include, but would not be limited to, spilled fuels, oil, lubricants, antifreeze, or hydraulic fluid. Also, the use of heavy machinery including grading and stockpiling of soils would disturb and loosen surface sediments. During storm events, these potential pollutants, including sediment, could become entrained in storm water runoff, and be transported into nearby drainage systems or in some cases, directly into natural waterways located on or adjacent to the Project site.

Drainage from the Project site eventually discharges into the San Francisco Bay. Therefore, discharges from construction activities could result in the degradation of water quality within the San Francisco Bay, as well as other tributaries that receive storm water from the Project site – namely, Coyote Creek and Artesian Slough. Degradation of water quality along these waterways could in turn affect beneficial use, and could result in exceedance of San Francisco Regional Water Quality Control Board (RWQCB) standards. The Project would result in the disturbance of at least one acre of surface area during construction. As such, construction would require the City and/or contractor to comply with the National Pollutant Discharge Elimination System (NPDES) General Construction Activity Permit for Discharges of Storm Water Runoff Associated with Construction Activity (General Construction Permit) through development and implementation of a Storm Water Pollution Prevention Plan (SWPPP). Adherence to the General Construction Permit would be required to implement construction related storm water control measures, including best management practices (BMPs) that would minimize the discharge of potential water quality pollutants associated with construction activities. Adherence to these conditions would ensure that emissions from the Project site during construction would be reduced. Therefore, impacts related to the degradation of receiving waters due to generation and emission of construction-related water quality pollutants would not be more significant than those identified in the previously approved Plant Master Plan EIR.

Operation

Project operation would improve existing wastewater treatment processes at the Facility in continued compliance with the existing the wastewater discharge NPDES permit for the Facility (Order No. R2-2014-0034 and NPDES Permit No. CA0037842). Therefore, the Project would not violate any water quality standards or waste discharge requirements.

Once construction is complete, areas above pipelines installed along the southern operational area would be restored to existing conditions, with paving replaced in areas where it had been removed. The Project also includes construction of new headworks facilities within the existing paved operational area of the Facility and the installation of a 12-inch thick concrete liner in the upper 1.5 feet of the Emergency Basin that would extend around the crest of the basin. The concrete liner would increase impervious surfaces within the area and could contribute to slight increases in storm water runoff. With respect to operations drainage design and treatment, under existing conditions, storm water runoff within and around the Facility is collected and routed into the Facility headworks for subsequent treatment. Water quality pollutants from paved areas would be minimized through the Facility's treatment process (as required by the Facility's NPDES permit). Therefore, impacts related to the degradation of receiving waters due to Project operations pollutants would not be more significant than those identified in the previously approved Plant Master Plan EIR.

b) Same Impact as Approved Project. (Less than Significant)

The Project does not include installation of any groundwater supply wells and thus would not lower the local groundwater table through operation of onsite groundwater wells. The following discussion of construction effects on groundwater is consistent with the analysis in the Plant Master Plan EIR.

The limited site-specific groundwater studies suggest that groundwater levels fluctuate seasonally, between approximately -2 to -6 feet NAVD88, corresponding to as little as 1.1 feet below ground in the lowest regions of the Facility and the surrounding area, including the Project site. Therefore, installation of facilities is likely to require dewatering operations because installation of the pipelines would require excavation deeper than the local groundwater table.

Groundwater dewatering involves the removal of water from the excavation at a rate equal to or greater than the rate of groundwater entering the excavation, which is typically accomplished by the use of surface pumps, submersible pumps, and in some cases, by the use of extraction wells placed at a given distance around the excavation location. Pumps extract the water from the excavation and pipes discharge the water to open ground, tanks or directly to receiving water sources. The purpose of dewatering is to lower the water table to below the depth of excavation to provide access to desired depth.

Construction activities would not result in an increase of impervious surfaces; thus, the impact to groundwater during construction of the Project facilities would be temporary and confined to the vicinity of the excavation. Pumping of groundwater causes groundwater levels to decline in the area around the excavation which could interfere with the operation of nearby wells if present. However, the affected groundwater would be from the shallow aquifer, which is not used as a source of municipal drinking water. Further, the influence of pumping (i.e., cone of depression) would not extend far from the excavation and would never be greater than the depth of the excavation. Because groundwater from the shallow aquifer is not used for any purposes in the vicinity of the Project site, and because the duration of groundwater dewatering would be limited to the construction period, groundwater dewatering would not result in groundwater depletion. For these reasons, the Project would not result in any new of more significant impacts of construction excavation with respect to depletion of groundwater supplies than those identified in the previously approved Plant Master Plan EIR.

c, d, e) Same Impact as Approved Project. (Less than Significant)

Construction and operation of the Project would require installation of impervious surfaces (i.e., a 12-inch thick concrete liner in the upper 1.5 feet of the Emergency Basin). These proposed changes could increase the volume of storm water runoff generated from the Project area; however, the new impervious surface would be installed within the existing Emergency Basin, which is used for wet weather storm water storage. The increased volume would be contained within an existing storage basin and would drain to the Facility for treatment, and thus would not affect drainage patterns, flooding, or storm water drainage facilities.

During the construction of the Project, grading and excavation activities could result in exposure of soil to runoff, potentially causing erosion and entrainment of sediment in the runoff. If graded areas and/or soil stockpiles are not managed properly and protected against storm water flows, high sediment loads in storm water runoff could clog drainage pipes, cause water pumps to malfunction, or otherwise decrease the carrying capacity of drainage channels, potentially resulting in increases in localized ponding or flooding. However, as discussed above in item a), the City or its contractor would be required to comply with the General Construction Permit. By implementing best management practices required as part of the SWPPP prepared in compliance with this permit, the effects of Project construction activity on drainage patterns, flooding, and storm water drainage facilities would not be more significant than those identified in the previously approved Plant Master Plan EIR.

The majority of the area where the Project improvements would take place is already paved or would occur underground (e.g., pipelines). The effects of improvements on the rate and volume of runoff is expected to be minimal with any runoff going into the existing storm water system or draining to the Facility for treatment. Therefore, impacts related to the capacity of existing or planned storm water drainage system would not be more significant than those identified in the previously approved Plant Master Plan EIR.

g) Same Impact as Approved Project. (No Impact)

The Project does not propose the construction of housing; therefore, the Project would not place housing within a 100-year flood hazard area and no direct impacts related to this topic would occur. The impact would be the same as identified in the Plant Master Plan EIR, and would not result in any new or more significant impacts beyond those identified in the Plant Master Plan EIR.

h, i) Same Impact as Approved Project. (Less than Significant)

FEMA has mapped the entire site within the 100-year coastal floodplain (FEMA Zone AE). The Project would include placing structures and development in the mapped FEMA 100-year floodplain. Increasing the development within the 100-year floodplain increases the risks associated with coastal flooding. However, the City has undertaken flood protection planning for the Facility, and in 2016 identified recommendations and guidelines for flood protection for future CIP Projects at the Facility.[39] The purpose of the Flood Protection Guidelines is to provide the Facility with a set of guidelines to follow in order to adequately protect existing and future planned facilities from potential flooding that could reach the Facility (including sea level rise). Guidelines for both existing and new structures were developed, addressing different categories and subcategories of facilities, such as below grade, at grade, and above grade structures. The recommendations in the Flood Protection Guidelines consider the City's 2040 General Plan language (specifying that the Facility be protected from the 500-year recurrence interval event) as the governing

[39] San José-Santa Clara Regional Wastewater Facility, *CIP Program RWF Flood Protection Study Final Flood Protection Guidelines for Future RWF Projects – Task 4.2,* April 5, 2016.

requirement and design basis, as it is the strictest and most closely reflects the national standard for critical facilities used by FEMA.

The increased risks associated with coastal flooding would be reduced through implementation of recommendations from the Flood Protection Guidelines. Recommended program- and project-level flood protection measures that would reduce future flood risk for new facilities, including the new Headworks facilities, include: completing the finished floors of new facilities above the design flood elevation; installing flood walls or barriers; surrounding the Facility or process areas within the Facility with engineered levees or berms built to the elevation required for protection; raising tunnel entrances above flood level; and designing new facilities to accommodate future levels of protection for the planned lifetime of the Facility.

The need for flood protection for the Facility is also heavily dependent on the implementation of the U.S. Army Corps of Engineers Shoreline Levee Project. The Flood Protection Guidelines identify two preferred options for overall Facility flood protection, one option to be implemented if the Shoreline Levee Project is not constructed, and one option if the Shoreline Levee Project is constructed. Without the Shoreline Levee Project, a system of interconnected engineered berms at elevation 14.6 feet NAVD88 (representing the 500-year flood elevation plus an upper range estimate of sea level rise, without freeboard) around the main Facility operation area is recommended. With the Shoreline Levee Project, a similar system of interconnected engineered berms around the Facility, to an elevation of 13.1 feet NAVD88 (representing the 500-year flood elevation without sea level rise or freeboard), is recommended. The final Project design would include specific flood protection measures in accordance with the status of the Shoreline Levee Project.

Design of the Project in accordance with the Flood Protection Guidelines would ensure impacts related to increases in coastal flood risk remain the same as those identified in the previously approved Plant Master Plan EIR.

The Project would temporarily require additional construction workers to be on site, in an area that is not protected from 100-year flooding. However, due to the nature of flooding in the area (associated with Bay run-up), sufficient notice prior to a potential flooding event would be available to permit evacuation, and minimize exposure of people to risk of flooding. The Project would not include any construction or other activities on, adjacent to, or within a levee, dam, or other flood control feature that could alter exposure of persons or structures to flooding, and therefore impacts would remain the same as those identified in the previously approved Plant Master Plan EIR.

j) Same Impact as Approved Project. (No Impact)

This Project would not cause substantial increases in exposure to risks involving seiche, tsunami, or mudflow. Potentially, a tsunami could enter San Francisco Bay through the Golden Gate; however, it would not be expected to reach the Project site.[40] Therefore,

[40] California Emergency Management Agency, *Tsunami Inundation Map for Emergency Planning, San Francisco Bay Area,* December 9, 2009.

impacts related to inundation by tsunami would be the same as those identified in the previously approved Plant Master Plan EIR. The Project site is not located adjacent to steep slopes that would result in mudflow hazards and no impacts would occur.

3.7.4 Conclusion

The Project would not result in new or more significant impacts related to the violation of water quality standards or waste discharge requirements, or substantial degradation of water quality, than those identified in the previously approved Plant Master Plan EIR. (**Same Impact as Previously Approved Project [Less than Significant Impact]**)

The Project would not result in new or more significant impacts related to groundwater supplies than those identified in the previously approved Plant Master Plan EIR. (**Same Impact as Previously Approved Project [Less than Significant Impact]**)

The Project would not result in new or more significant impacts related to drainage, surface runoff, or flooding than those identified in the previously approved Plant Master Plan EIR. (**Same Impact as Previously Approved Project [Less than Significant Impact]**)

The Project would not result in new or more significant impacts related to inundation than those identified in the previously approved Plant Master Plan EIR. (**Same Impact as Previously Approved Project [No Impact]**)

3.8 Noise and Vibration

3.8.1 Setting

The environmental and regulatory settings relevant to noise and vibration has not appreciably changed since the certification of the Plant Master Plan EIR. Sensitive receptors, as identified in the adopted Plant Master Plan EIR, have not changed and remain applicable to the Project. There are no sensitive receptors (e.g., residences, schools) adjacent to or in the immediate vicinity of the Project area, and no hospitals, daycare centers, or long-term care facilities within one mile of the Project area. The closest sensitive uses are residences located approximately 4,100 feet (0.8 miles) west of the Project site and over 4,700 feet (0.9 miles) to the south. The closest school is the George Mayne Elementary School located approximately 5,000 feet to the west.

3.8.2 Findings of Previously Certified EIR

The adopted Plant Master Plan EIR identified no impacts associated with being located within an airport land use plan area or an area within two miles of a public airport or public use airport or private airstrip, or exposure of people residing or working in the area to excessive noise levels. The adopted Plant Master Plan EIR identified less-than-significant impacts from implementation of the Facility improvements associated with: temporary increase in noise and vibration exposure in the project vicinity from project-related demolition and construction; long-term traffic noise exposure in the project vicinity from project-related traffic; and increases in noise exposure to the surrounding existing environment from operations associated with project improvements. The adopted Plant Master Plan EIR identified less-than-significant impacts associated with exposure of future proposed uses south and east of the Facility operational area to unacceptable traffic noise levels from existing traffic. The adopted Plant Master Plan EIR identified potential impacts to land uses south of the Facility operation area associated with temporary increase in noise exposure from project-related demolition and construction. These impacts were reduced to less than significant with implementation of mitigation measures associated with the development and implementation of a construction noise logistics plan. The adopted Plant Master Plan EIR identified potential impacts for land uses south and east of the Facility operation area associated with increases in noise exposure to the surrounding area from operations associated with project improvements. These impacts were reduced to less than significant with implementation of mitigation measures associated with shielding of the proposed light industrial noise sources from nearby noise-sensitive uses.

3.8.3 Impacts Discussion

Issues:	*New Potentially Significant Impact*	*New Less Than Significant with Mitigation Incorporation*	*New Less Than Significant Impact*	*Same Impact as Approved Project*	*Less Impact than Approved Project*	*Checklist Source(s)*
Noise and Vibration — Would the project:						
a) Result in 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?	☐	☐	☐	☒	☐	1, 2, 17, 26
b) Result in exposure of persons to, or generation of, excessive groundborne vibration or groundborne noise levels?	☐	☐	☐	☒	☐	1, 2, 25
c) Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☐	☒	☐	1, 2, 25
d) Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☐	☒	☐	1, 2
e) For a project located within an airport land use plan area, or, where such a plan has not been adopted, in an area within two miles of a public airport or public use airport, would the project expose people residing or working in the area to excessive noise levels?	☐	☐	☐	☒	☐	1, 2
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?	☐	☐	☐	☒	☐	1, 2

a) Same Impact as Approved Project. (Less than Significant)

Project construction activities would take place over a period of 40 months starting in July 2019. Construction activities would temporarily and intermittently increase noise levels in the vicinity of the Project site. The City considers Project construction requiring heavy machinery for more than 12 months (continuous) to be significant at residential uses within 500 feet and commercial uses within 200 feet of the construction. In this case, there are no existing or proposed residential uses within 500 feet or commercial uses within 200 feet of Project construction.[41]

Construction equipment noise production varies greatly depending on factors such as operation being performed and equipment type, model, age, and condition. Noise

[41] Refer to Policy EC-1.7 of Chapter 3, Environmental Leadership, in *Envision San José 2040 General Plan*, adopted November 1, 2011.

associated with heavy equipment diesel engine operations often dominates the noise environment in the vicinity of construction sites. Stationary sources such as generators, pumps, and compressors may also substantially contribute. Maximum noise exposure from typical construction equipment operations is approximately 75 to 90 decibels (dB)[42] (Lmax[43] at 50 feet) with noise from heavy demolition and earth moving operations having the highest noise production.[44] Maximum equipment noise level of 90 dBA would attenuate to 52 dBA at the closest existing residences to the west, based on a conservative assumption of a noise level reduction of 6 dB for every doubling of distance. This noise level would be less than the 55 dB limit at the closest existing residential uses, as specified by the City's municipal code.[45] Therefore, estimated construction noise exposure associated with Project construction activities would not be expected to exceed the established significance threshold or typical ambient noise exposure at neighboring uses. Existing noise-sensitive uses in the Project vicinity would not be significantly affected by Project construction-related noise. This would be a less-than-significant impact, same as that identified in the Plant Master Plan EIR, would not result in any new or more significant impacts beyond those identified in the Plant Master Plan EIR.

b) Same Impact as Approved Project. (Less than Significant)

In accordance with the City's General Plan Policy EC-2.3, vibration exposure from Project demolition/construction activities to neighboring acoustically sensitive uses would be considered significant if it would exceed 0.20 in/sec PPV.[46] This criterion is considered at locations where Project demolition/construction requires the operation of substantial impact equipment/operations (e.g., hoe ram, pile driving). Typical, non-impact construction equipment operations would not be expected to produce vibration levels in excess of 0.21 in/sec PPV at a distance of 25 feet and are therefore not expected to exceed the threshold.[47] Groundborne noise and vibration attenuate rapidly with distance. Given the large distance of 4,100 feet separating construction activities from the nearest sensitive receptors, vibration from the operation of any impact and earthmoving equipment (which generate highest vibration) would also attenuate to a less-than-significant level, and thus would not result in any new or more significant impacts beyond those identified in the Plant Master Plan EIR.

c) Same Impact as Approved Project. (Less than Significant)

Once operational, the Project would primarily generate noise from the operation of pumps at the three new pump stations located within the new Headworks Facility. The new pumps would be enclosed below ground at the level of the wastewater and would operate 24 hours per day, 7 days per week. As established by the City's General Plan,

42 Unit used to measure the sound pressure level (SPL).
43 L_{max} is the highest instantaneous sound level measured during a specified period.
44 Federal Transit Administration (FTA), 2006. *Transit Noise and Vibration Impact Assessment* (Guidance Manual) – Chapter 12, May 2006.
45 San José Municipal Code Section 20.50.300.
46 Ground vibration is measured in terms of Peak Particle Velocity (PPV) with units in inches/second.
47 Federal Transit Administration, *Transit Noise and Vibration Impact Assessment*, May 2006.

Project-related operational noise exposure exceeding 55 dB DNL[48] at residential uses in the Project vicinity would be considered significant. Pumps generate noise levels of 76 to 81 dB, Lmax at 50 feet.[49] The large distance of 4,100 feet to the nearest receptors would ensure that the residual operational noise from the pumps would attenuate to levels that would not affect the ambient noise environment at the receptors.

The Project would not require any additional staff for operation. The Project would not change the existing projected capacity of the Headworks Facilities, and thus would not alter the truck trips required for solids removal. Project operation thus would not result in new noise associated with vehicle traffic.

This would be a less-than-significant impact, and thus would not result in any new or more significant impacts beyond those identified in the Plant Master Plan EIR.

d) Same Impact as Approved Project. (Less than Significant)

The Project would lead to an increase in ambient noise levels over the 40 months of construction. However, as discussed under checklist item a), this increase would not impact any receptors as there are no sensitive receptors adjacent to or in the immediate vicinity of the Project. The nearest sensitive receptors are at least 4,100 feet away. At this distance, construction noise would attenuate to levels low enough that they would not contribute significantly to the existing ambient noise environment at these receptor locations. This would be a less-than-significant impact, and thus would not result in any new or more significant impacts beyond those identified in the Plant Master Plan EIR.

e) Same Impact as Approved Project. (Less than Significant)

Norman Y. Mineta San José International Airport and Moffett Field are located approximately four miles south and five miles west of the Project site, respectively. Since the Project site is more than two miles from a public use airport and because the Project does not include uses that would be affected by local aircraft operations, the Project would not be affected by aircraft noise. There would be no impact, and thus no new or more significant impacts beyond those identified in the Plant Master Plan EIR.

f) Same Impact as Approved Project. (Less than Significant)

There are no private airstrips within two miles of the Project site. Since the Project is not in the vicinity of a private airstrip and because it does not include uses that would be substantially affected by local aircraft operations, the Project would not be significantly affected by aircraft noise. There would be no impact, and thus no new or more significant impacts beyond those identified in the Plant Master Plan EIR.

48 DNL is the energy-average of A-weighted sound levels occurring over a 24-hour period, with a 10 dB penalty applied to A-weighted sound levels occurring during nighttime hours (10 p.m. to 7 a.m.).

49 Federal Transit Administration (FTA), 2006. *Transit Noise and Vibration Impact Assessment* (Guidance Manual) – Chapter 12, May 2006.

3.8.4 Conclusion

The Project would not result in exposure of sensitive receptors to noise levels above applicable standards or to excessive groundborne noise and vibration, would not result in substantial permanent increase in ambient noise levels, and would not result in a substantial temporary or periodic increase in ambient noise levels in the Project vicinity. Impacts associated with all these criteria would be less-than-significant, same as those identified in the previously approved Plant Master Plan EIR. (**Same Impact as Previously Approved Project [Less than Significant Impact]**)

The Project would result in no impacts with respect to exposure of persons working at the Project site to excessive noise levels from aircraft operations at public airports or private airstrips, same as that identified in the previously approved Plant Master Plan EIR. (**Same Impact as Previously Approved Project [No Impact]**)

3.9 Transportation and Circulation

3.9.1 Setting

Setting information relevant to transportation and traffic for the Project remains the same as discussed in the Plant Master Plan EIR. Construction access would be through the existing entrance/gate off Zanker Road, connecting to State Route (SR) 237. Trucks would then access the Facility operational area via the existing roadway adjacent to the Emergency Basin Overflow Structure (EBOS), or the gravel road adjacent to the northeast portion of the Project site. The setting discussions from the Plant Master Plan EIR for this resource area are therefore applicable to the entire Project area.

3.9.2 Findings of Previously Certified EIR

The Plant Master Plan EIR identified no impact related to air traffic patterns as the project would not introduce new air traffic or interfere with existing air traffic. The Plant Master Plan EIR identified less than significant impacts for conflicts with applicable transportation and traffic plans, effects to levels of service at the Congestion Management Program (CMP) study intersections and freeways, increases in traffic-related hazard, and conflicts with adopted policies, plans, and programs supporting alternative transportation. The Plant Master Plan EIR identified potentially significant, but mitigable to less than significant, impacts for effects to levels of service at the study intersections and freeways, reductions in roadway capacity, and emergency access. The Plant Master Plan EIR identified significant and unavoidable impacts to established measures of effectiveness for travel mode share and travel speeds in transit corridors specific to the economic development portion of the Plant Master Plan evaluated in the EIR.

3.9.3 Impacts Discussion

Issues:	*New Potentially Significant Impact*	*New Less Than Significant with Mitigation Incorporation*	*New Less Than Significant Impact*	*Same Impact as Approved Project*	*Less Impact than Approved Project*	*Checklist Source(s)*
TRANSPORTATION AND 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?	☐	☐	☐	☒	☐	1, 2, 27, 28
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	☐	☐	☐	☒	☐	1, 2, 27, 28

Issues:	*New Potentially Significant Impact*	*New Less Than Significant with Mitigation Incorporation*	*New Less Than Significant Impact*	*Same Impact as Approved Project*	*Less Impact than Approved Project*	*Checklist Source(s)*
TRANSPORTATION AND TRAFFIC — Would the project:						
agency for designated roads or highways?						
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?	☐	☐	☐	☒	☐	1, 2
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒	☐	1, 2
e) Result in inadequate emergency access?	☐	☐	☐	☒	☐	1, 2
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?	☐	☐	☐	☒	☐	1, 2

a, b) Same Impact as Approved Project. (Less than Significant with Mitigation)

Trip Generation

The operation and maintenance of the Project would fall within the current Facility procedures, and no additional staff would be required. Therefore, operation of the Project would not generate any new employee trips. Furthermore, the Project would not change the existing projected capacity of the headworks facilities, meaning that truck trips required for the removal of material collected by the headworks facilities would remain unchanged.

Excavation and grading would generate the largest number of truck and construction worker trips during construction, which would occur over a six-month period. During this phase, construction activities would generate a maximum of 48 truck trips per day (24 round trips) during excavation and grading for the pipelines. During this same period, a maximum of 120 vehicle trips per day (60 round trips) would be generated by construction workers traveling to and from the Project site; construction workers are assumed to commute to/from the Project site during the peak traffic hours, while truck trips would occur throughout the day. In general, the majority (95 percent) of Project trips are assumed to access the site via State Route (SR) 237 (at the Zanker Road interchange), with the remaining five percent of the trips accessing the site via Zanker Road south of SR 237.

Levels of Service

The operation of a local roadway network is commonly measured and described using a grading system called Level of Service (LOS). The LOS grading system qualitatively characterizes traffic conditions associated with varying levels of vehicle traffic, ranging from LOS A (indicating free-flow traffic conditions with little or no delay experienced by

motorists) to LOS F (indicating congested conditions where traffic flows exceed design capacity and result in long delays). This LOS grading system applies to both roadway segments and intersections.

Legislation that created the Santa Clara Valley Transportation Authority (VTA) Congestion Management Program (CMP) excludes certain types of traffic from a determination of conformance with CMP traffic LOS standards. Construction traffic is one of these exclusions; for this reason, traffic generated by construction from the Project would not conflict with the CMP and does not require LOS analysis.

Intersections

Access to the Project site from the regional roadway network is limited to Zanker Road. As reported in the Plant Master Plan EIR, Zanker Road serves an average daily traffic (ADT) volume of approximately 3,600 vehicles north of the SR 237 ramps. The most likely intersections that could be affected by an increase in traffic trips would be the Zanker Road/SR 237 Westbound Ramps and Zanker Road/SR 237 Eastbound Ramps intersections. Both of these intersections are part of the CMP, and operate at LOS B or B+ during the peak hours.[50] The AM and PM peak hours typically occur within the two-hour periods from 7:00 a.m. to 9:00 a.m. and 4:00 p.m. to 6:00 p.m., respectively.

As described above, the two closest intersections to the Project site currently operate at acceptable LOS conditions (LOS B), and the ADT on Zanker Road north of the SR 237 ramps is approximately 3,600 vehicles. The Project would add a maximum of 120 one-way worker vehicle trips per day (i.e., 60 commute trips during each of the AM and PM peak hours). The 48 one-way truck trips per day would be spread over the ten-hour (7:00 a.m. to 5:00 p.m.) work day. Under the Plant Master Plan EIR, it was determined that the near-term plant improvements are anticipated to add 17 new vehicle trips during the AM peak period and 21 new vehicle trips during the PM peak period to the nearby roadways. It was determined that the addition in those trips would not substantially increase the critical delay or volume-to-capacity ratio at the two study intersections, and the intersections would continue to operate at acceptable service levels (LOS B). Although construction of the Project would add more trips than those evaluated under the Plant Master Plan EIR, the intersections would continue to operate at acceptable service levels (LOS E or better). Furthermore, as stated previously, traffic generated by Project construction is excluded from CMP conformance requirements. Therefore, construction of the Project would not result in any new or more significant impacts as those identified in the previously approved Plant Master Plan EIR.

Freeways

Because the Project site is at the northern border of San José and is generally bounded by SR 237 and I-880, a majority of the Project traffic would access the site via these two freeways. The SR 237 and I-880 segments immediately adjacent to the Project site could

50 Santa Clara Valley Transportation Authority, 2014. *2014 Monitoring and Conformance Report*, available online at: http://vtaorgcontent.s3-us-west 1.amazonaws.com/Site_Content/2014%20VTA%20CMP%20MC%20Report_FINAL.pdf; accessed August 2017.

most likely be affected if there was an increase in traffic trips. In general, SR 237 is fairly congested during both peak traffic periods and has limited capacity to accommodate additional growth in traffic. Northbound I-880 is the peak commute direction during the morning, and southbound is the peak commute direction during the evening. I-880 has slightly more capacity to accommodate additional growth in traffic, though it does have constraints in the peak directions of travel. Data published by Caltrans indicate that the AADT on I-880 is about 173,000 vehicles south of SR 237 and 217,000 vehicles north of SR 237.[51]

According to VTA's 2014 Annual Monitoring and Conformance Report, the following freeway segments closest to the Project site currently exceed VTA's LOS E standard during the specified peak hour:

- SR 237, Eastbound, Great America Parkway to North 1st Street (PM peak hour)
- SR 237, Eastbound, North 1st Street to Zanker Road (PM peak hour)
- SR 237, Eastbound, McCarthy Boulevard to I-880 (PM peak hour)
- SR 237, Westbound, I-880 to McCarthy Boulevard (AM peak hour)
- SR 237, Westbound, McCarthy Boulevard to Zanker Road (AM peak hour)
- I-880, Northbound, SR 237 to Dixon Landing Road (PM peak hour)

All other freeway segments closest to the Project area operate at acceptable LOS conditions during the peak hours.

CMP guidelines require that freeway segments to which a proposed development is projected to add trips equal to or greater than one percent of the freeway segment's capacity must be evaluated. Under the Plant Master Plan EIR, it was determined that the near-term plant improvements are anticipated to add approximately one to 12 vehicles per hour per lane to the freeway segments, which results in adding less than one percent of capacity to any study freeway segments. As described above, the Project would add approximately 60 commute trips during each of the AM and PM peak hours, and no more than five truck deliveries per hour over the ten-hour work day. Although the Project would add more trips than those evaluated under the Plant Master Plan EIR, these trips would still add less than one percent of capacity to any study freeway segments. Furthermore, as stated previously, traffic generated by Project construction is excluded from CMP conformance requirements. Therefore, the Project would not result in any new or more significant impacts on study freeway segments as those identified in the previously approved Plant Master Plan EIR.

Construction

As discussed in Chapter 2, Project Description, the Project would install multiple large-diameter interceptor pipelines outside the Facility operational area (see Figure 2-4). The installation of these facilities, specifically Interceptor 4, Interceptor Cross 1, Interceptor

[51] California Department of Transportation (Caltrans), 2016. *2015 Traffic Volumes on California State Highways*, available online at http://traffic-counts.dot.ca.gov/index.htm; accessed August 2017.

Cross 2, and Interceptor Cross 3, would be installed within Zanker Road, which would necessitate the closure of the roadway in the vicinity of Mike Tocce Lane for approximately three months. However, under the Interceptor 1 rehabilitation option, Interceptor 4 and the Interceptor cross structures within Zanker Road would not be installed, meaning that no roadway closure would be required.

If Interceptor 1 cannot be rehabilitated, the approximately three-month closure of Zanker Road would require non-Facility traffic to use a detour; construction access to and from the Project site would continue to be provided despite the closure. As depicted in Figure 2-6, the detour for non-Facility traffic with destinations to the north and west of the Project site (i.e., Zero Waste Energy Development Company and Zanker Recycling) would be re-routed from Zanker Road to North 1st Street, Nortech Parkway, and Disk Drive/Grand Boulevard/Los Esteros Road. According to the VTA CMP, the North 1st Street/SR 237 Westbound Ramps and North 1st Street /SR 237 Eastbound Ramps intersections operated at LOS B- and C+, respectively, in 2014, which is the latest available monitoring period. Traffic conditions on the other roadways and intersections affected by the detour are not known, but are expected to be relatively light based on the presence of large vacant parcels and otherwise sparse development pattern.

The temporary closure along Zanker Road south of the Facility operational area would increase traffic volumes on the detour roadways. Such an increase in traffic volumes would be considered a significant impact. (**IMPACT TR-1**) In order to reduce any potential impacts, implementation of mitigation measures identified in the adopted Plant Master Plan EIR, and listed below, would reduce potential impacts.

Mitigation Measure TR-1: Implement Project Traffic Control Plan.

ESD or its contractor(s) shall prepare and implement a Traffic Control Plan to reduce traffic impacts on the roadways at and near the work site, as well as to reduce potential traffic safety hazards and ensure adequate access for emergency responders. ESD or its contractor(s) shall coordinate development and implementation of this plan with City departments (e.g., Emergency Services, Fire, Police, Transportation), as appropriate. To the extent applicable, the Traffic Control Plan shall conform to the Caltrans' *California Manual on Uniform Traffic Control Devices*, Part 6 (Temporary Traffic Control)[52] and San José Public Works Department's Temporary Traffic Control Manual.[53] The Traffic Control Plan shall include, but not be limited to, the following elements:

- Circulation and detour plans to minimize impacts on local road circulation during road and lane closures. Flaggers and/or signage shall be used to guide vehicles through and/or around the construction zone.

[52] California Department of Transportation (Caltrans), *California Manual on Uniform Traffic Control Devices for Streets and Highways – Part 6: Temporary Traffic Control*, amended November 7, 2014.

[53] City of San José, Public Works Department, *Temporary Traffic Control Manual*, September 27, 2005, available online at http://www.sanjoseca.gov/index.aspx?NID=3464, accessed October 2015.

- Identifying truck routes designated by City of San José and Santa Clara County. Haul routes that minimize truck traffic on local roadways shall be utilized to the extent possible.
- Controlling and monitoring construction vehicle movement through the enforcement of standard construction specifications by onsite inspectors.
- Scheduling truck trips outside the peak morning and evening commute hours to the extent possible.
- Limiting the duration of road and lane closures to the extent possible.
- Notifying Facility personnel of the temporary closure of Zanker Road and instructing personnel to evacuate using Mike Tocce Lane during Zanker Road closure.
- Maintaining pedestrian and bicycle access and circulation during project construction where safe to do so. If construction activities encroach on bicycle routes or multi-use paths, advance warning signs (e.g., "Bicyclists Allowed Use of Full Lane" and/or "Share the Road") shall be posted that indicate the presence of such users.
- Identifying detours for bicycles and pedestrians, where applicable, in all areas affected by project construction.
- Storing all equipment and materials in designated contractor staging areas on or adjacent to the worksite, such that traffic obstruction is minimized.
- Implementing roadside safety protocols. Advance "Road Work Ahead" warning and speed control signs (including those informing drivers of State legislated double fines for speed infractions in a construction zone) shall be posted to reduce speeds and provide safe traffic flow through the work zone.
- Coordinating construction administrators of police and fire stations (including all fire protection agencies). Operators shall be notified in advance of the timing, location, and duration of construction activities and the locations of detours and lane closures, where applicable.
- Repairing and restoring affected roadway rights-of way to their original condition after construction is completed.

With implementation of the above measure, the construction activities associated with the Project would not result in any new or more significant impacts to roadway capacities than those identified in the previously approved Plant Master Plan EIR.

c) Same Impact as Approved Project. (No Impact)

As was discussed in the Plant Master Plan EIR, the Project would not introduce new air traffic or interfere with existing air traffic, and therefore have no impact related to air traffic patterns. This impact would be the same as identified in the Plant Master Plan EIR, and would not result in any new or more significant impacts beyond those identified in the Plant Master Plan EIR.

d) Same Impact as Approved Project. (Less than Significant)

The Project is not anticipated to increase demand for transit, bicycle, and pedestrian facilities nor result in the need for additional infrastructure to support such transportation facilities. As discussed above, there is no existing transit service to the Project site, and there is limited bicycle and pedestrian activity in the vicinity of the Project site. Additionally, there are no sidewalks within the Project site vicinity, and there are no existing bicycle facilities that would be adversely affected by any Project-generated traffic. Overall, the Project would not alter roadway geometries or provide new roadway design features that would result in traffic safety hazards for vehicles, bicyclists, and pedestrians along nearby roadways. As discussed above, implementation of a Traffic Control Plan during the installation of Interceptor 4, Interceptor Cross 1, Interceptor Cross 2, and Interceptor Cross 3 within Zanker Road would reduce potential impacts to traffic safety. Based on these findings, the Project would not result in any new or more significant impacts to traffic safety hazards than those identified in the previously approved Plant Master Plan EIR.

e) Same Impact as Approved Project. (Less than Significant with Mitigation)

Existing access to the Project site is gained via Zanker Road, from North 1st Street, and along Los Esteros Road. The Project may include the temporary closure of Zanker Road south of the Operational Area Boundary in the event that Interceptor 1 cannot be rehabilitated; however, a detour would be provided and implementation of the Traffic Control Plan (described above under **Mitigation Measure TR-1**) would reduce potential impacts to emergency access during construction of the Project.

Because access would be maintained to the site for both emergency and general (public) vehicles and the Project would not create any obstructions that would impede access in the event of an emergency, the Project would not result in inadequate emergency access. Based on these findings, the Project would not result in any new or more significant impacts to emergency access than those identified in the previously approved Plant Master Plan EIR.

f) Same Impact as Approved Project. (Less than Significant)

The Project site and its immediate environs are not directly served by transit, although a limited number of VTA bus routes operate in the area. The Great America Amtrak and Altamont Commuter Express station is located approximately two miles from the Project site, but there is no transit connectivity between the Project site and the station. Existing transit service does not serve the Project area directly, and the Project would not conflict with any planned transit facilities nor would the Project prohibit access to such facilities.

The Project site currently has very limited pedestrian access, and no sidewalks are provided within the Project site. The Project would not affect any existing or planned pedestrian facilities nor would the Project conflict with any plans or policies associated with such facilities and users of such facilities.

The Project would not directly or indirectly eliminate alternative transportation corridors or facilities, nor would the Project include changes in adopted policies, plans, or programs that support alternative transportation. As a result, the Project would not conflict with adopted policies, plans, and programs that support alternative transportation.

There is a Class I trail that extends south of and parallel to SR 237 starting at the Zanker Road/SR 237 Westbound ramp intersection and heading west. There is also a Class I bicycle path north of and parallel to SR 237, starting at the Zanker Road/SR 237 Westbound ramp and continuing east toward the northern stretch of Coyote Creek Trail/Bay Trail. Additionally, there are Class II bicycle lanes provided on Zanker Road, south of the SR 237 Eastbound ramp intersection. Project construction activities on Zanker Road and construction traffic are not anticipated to change the general character of the roadway facilities for pedestrian and bicycle users. Therefore, the Project would not conflict with any existing bicycle facilities, nor would the Project restrict or prohibit access to bicycle facilities or result in a disturbance to users of such bicycle facilities. However, to provide an option for pedestrians and bicyclists who may prefer not to use Zanker Road during construction activities (or who would be restricted during the potential three-month closure of Zanker Road south of the Operational Area Boundary), signage would be placed as part of implementation of the Traffic Control Plan (described above under Mitigation Measure TR-1) directing bicyclists to alternate routes near the Facility. Bicyclists who currently connect to the San Francisco Bay Trail via Zanker Road and Los Esteros Road would be directed by signage to use the following optional alternate routes:

- Take the Class II bicycle lane on Zanker Road north of the SR 237 interchange and turn right into the Class II lane on Holger Way,
- Turn right to continue on Holger Way and travel in the Class II lane,
- Turn right onto North First Street and travel in the buffered Class II lane,
- Turn right onto the Nortech Parkway and travel in the Class II lane,
- Turn left onto Disk Drive and travel in the Class II lane,
- Continue onto Grand Boulevard. From Grand Boulevard, bicyclists can continue north and connect to the San Francisco Bay Trail.

Signs providing a notice of the increased construction activity and a map of the alternate route would also be placed at the San Francisco Bay Trail and Coyote Creek Trail access points. This impact would be the same as identified in the Plant Master Plan EIR, and would not result in any new or more significant impacts beyond those identified in the Plant Master Plan EIR.

3.9.4 Conclusion

The Project would not generate substantially more operational or construction vehicle trips than those identified in the previously approved Plant Master Plan EIR, and therefore would not conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for

the performance of the circulation system, or conflict with an applicable congestion management program. (**Same Impact as Previously Approved Project [Less than Significant Impact]**)

Implementation of the measures included in the adopted Plant Master Plan EIR would reduce possible impacts associated with a reduction in roadway capacity and potential impacts to emergency access during construction of the Project to a less than significant level, and the Project would not result in any new or more significant impacts. (**Same Impact as Previously Approved Project [Less than Significant Impact with Mitigation]**)

The Project would not result in new or more significant impacts to public transit, bicycle and pedestrian facilities, or traffic-related hazards than those identified in the previously approved Plant Master Plan EIR. (**Same Impact as Previously Approved Project [Less than Significant Impact]**)

3.10 Utilities and Service Systems

3.10.1 Setting

The environmental setting relevant to Utilities and Service Systems for the Project has not changed in comparison to that described in the adopted Plant Master Plan EIR. While the Project includes utility connections to existing facilities as described in Chapter 2, Project Description, there would be no expansion of utility service beyond the Facility. Setting discussions from the adopted EIR for this resource area are therefore applicable to the entire Project area.

3.10.2 Findings of Previously Certified EIR

The adopted Plant Master Plan EIR identified no impact related to: exceedance of wastewater treatment requirements of the applicable Regional Water Quality Control Board; the construction of new water or wastewater treatment facilities or new storm water drainage facilities, or expansion of existing facilities, which could cause significant environmental effects; and adequate capacity to serve the projected demand in addition to the wastewater treatment provider's existing commitments. The adopted Plant Master Plan EIR identified less than significant impacts for the construction of new or expansion of existing water treatment facilities, water supply availability to serve the project from existing entitlements and resources, sufficient permitted capacity to accommodate the solid waste disposal needs during construction and operation, and compliance with statutes and regulations related to solid waste. The adopted Plant Master Plan EIR identified potentially significant, but mitigable to less than significant, impacts for disruption of regional or local utilities. The adopted Plant Master Plan EIR identified significant and unavoidable impacts related to the construction of new or expansion of existing water treatment facilities and water supply availability to serve the project from existing entitlements and resources specific to the economic development portion of the Plant Master Plan evaluated in the EIR.

3.10.3 Impacts Discussion

Issues:	*New Potentially Significant Impact*	*New Less Than Significant with Mitigation Incorporation*	*New Less Than Significant Impact*	*Same Impact as Approved Project*	*Less Impact than Approved Project*	*Checklist Source(s)*
UTILITIES AND SERVICE SYSTEMS — Would the project:						
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☒	☐	1, 2
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?	☐	☐	☐	☒	☐	1, 2
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?	☐	☐	☐	☒	☐	1, 2

Issues:	*New Potentially Significant Impact*	*New Less Than Significant with Mitigation Incorporation*	*New Less Than Significant Impact*	*Same Impact as Approved Project*	*Less Impact than Approved Project*	*Checklist Source(s)*
UTILITIES AND SERVICE SYSTEMS — Would the project:						
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☐	☒	☐	1, 2
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?	☐	☐	☐	☒	☐	1, 2
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☐	☒	☐	1, 2, 29
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	☒	☐	1, 2, 30

a) Same Impact as Approved Project. (Less than Significant)

As described in Plant Master Plan EIR, the objectives of the Plant Master Plan include changing Facility treatment processes to accommodate population growth and meet future water quality regulations. The Plant Master Plan includes various capital improvement projects (CIPs) needed to address aging infrastructure, reduce odors, accommodate projected population growth in the Facility's service area, and comply with changing regulations that affect the Facility. The Project would upgrade the headworks facilities, build additional headworks facilities, and pave the existing Emergency Basin, which are needed to support the objectives of the Plant Master Plan. The Project would support the Facility's continued compliance with the waste discharge requirements set forth in the Regional Water Quality Control Board (RWQCB) Order No. R2-2014-0034, NPDES Permit No. CA0037842.

During Project construction, new sources of wastewater would include wastewater resulting from sanitary needs of construction workers and groundwater pumped from excavations during construction-related dewatering. As described in Chapter 2, Project Description, the maximum construction work force would be approximately 60 workers per day. Assuming that each worker would generate 2.81 gallons per day of wastewater,[54] the total increase in wastewater volumes would be about 0.0001 mgd. Groundwater from the excavations would be pumped to settling tanks to remove grit from the water, then

[54] This calculation is based on compliance with the 2013 California Green Building Code water use baseline values provided in Table 5.3003.2.2 of the code. Construction workers are assumed to flush twice per day and the water use includes 1.28 gallons per flush and use of 0.125 gallons per flush for handwashing. The total per construction worker water use for sanitary purposes is 2.81 gallons per day.

would be discharged into the headworks facilities directly or into the Facility storm water collection system, which drains to the headworks facilities, for treatment.

Because the Project would support the wastewater improvements and not require expansion of the treatment system, the Project would not exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board, and would not result in any new or more significant impacts beyond those identified in the Plant Master Plan EIR.

For further discussion of groundwater, storm water and storm water quality associated with Project construction and operation, please refer to Section 3.7, Hydrology and Water Quality.

b) Same Impact as Approved Project. (Less than Significant)

This criterion applies to projects that, due to their nature, increase the need for water or wastewater treatment or storm water management. The Project evaluated in this document is the replacement of existing and construction of new wastewater facilities. Refer to Sections 3.1 through 3.10 for a description of impacts and mitigation measures associated with construction of the Project.

Once operational, the Project would not require any additional workers; thus no new water treatment facilities would be needed to support the Project. The Project would not result in any new or more significant impacts beyond those identified in the Plant Master Plan EIR.

c) Same Impact as Approved Project. (Less than Significant)

Existing impervious areas, and the Emergency Basin, drain to the Facility via existing storm drainage lines. All storm drainage on Los Esteros Road and Zanker Road drains to either the Facility or to the pump stations that eventually return the water to the Facility. All storm water up to the 100-year recurrence interval on the existing Facility operational area is intercepted and routed either to the headworks or to the primary effluent equalization basin. Unpaved areas south of the operational area and west of Zanker Road generally drain to the west, toward the Emergency Basin.

The Project generally would replace existing impervious surfaces, with the exception of new impervious area installed at the Emergency Basin. Areas above pipelines installed along the southern operational area would be restored to existing conditions, with paving replaced in areas where it had been removed. The new headworks facilities would be within the existing paved operational area of the Facility. A 12-inch thick concrete liner would be installed in the upper 1.5 feet of the Emergency Basin that would extend around the crest of the basin. No new storm water facilities are proposed as part of the Project.

The Project does not include new storm water drainage facilities or the expansion of existing facilities. In addition, operation of the Project would also be required to comply with the requirements of Order R2-2014-0034 and the existing MRP. For additional discussion regarding the increased risk of flooding due to runoff, refer to the discussion in Section 3.7 Hydrology and Water Quality.

As discussed in Section 3.7, the Project would result in the disturbance of at least one acre of surface area during construction and therefore would be required to obtain coverage under the General Construction Permit, through development and implementation of a SWPPP. Since increases in runoff can have a negative impact on water quality, a SWPPP must include measures to control the overall runoff volume and rate from construction sites. These measures have the beneficial effect of controlling storm water runoff that might otherwise be caused by construction activities. Because the Project would include measures to control the amount of storm water runoff, the Project construction would not require or result in the construction of new storm water drainage facilities or expansion of existing facilities, and the Project would not result in any new or more significant impacts than those identified in the Plant Master Plan EIR.

d) Same Impact as Approved Project. (Less than Significant)

Water service for the Facility and surrounding lands in North San José and Alviso is provided by the San José Municipal Water System (SJMWS), which purchases water from the San Francisco Public Utilities Commission (SFPUC) and delivers it to the Alviso and North San José area.

During construction of the Project, the contractors would likely use publicly available recycled water (generated at the Facility and available through water retailers in the area) for most construction uses, such as dust suppression, and would use relatively small amounts of potable water for some site needs such as drinking water and on-site sanitary needs. The small increase in potable water use would be temporary, terminating with the completion of construction. Water supplies are planned such that short-term increases in potable use can be accommodated and there would be no need for new or expanded water supplies or water treatment facilities. During operations, no additional water would be required, as the equipment to be installed does not require additional water for operations and no new staff would be needed. For these reasons, construction and operation would not affect water supplies such that new or expanded entitlements would be required, and the Project would not result in any new or more significant impacts than those identified in the Plant Master Plan EIR.

e) Same Impact as Approved Project. (No Impact)

The Facility is the wastewater treatment provider and the Project would replace and install new wastewater infrastructure at the Facility. The Project would not result in additional residences or businesses or increase the amount of wastewater requiring treatment at the Facility. The Project would not increase the number of employees at the Facility and would not increase wastewater or storm water flows to the Facility. Impacts related to wastewater capacity during construction are addressed above in item a). For these reasons, the Project would have no impact on wastewater treatment capacity. This impact would be the same as identified in the Plant Master Plan EIR, and would not result in any new or more significant impacts beyond those identified in the Plant Master Plan EIR.

f) Same Impact as Approved Project. (Less than Significant)

As indicated in Chapter 2, Project Description, the existing operating staff levels for the Facility would not change once the Project is operational. Therefore, the amount of municipal solid waste generated by Facility staff would not be expected to increase.

Construction activities associated with the Project, such as roadway improvements and earthwork (i.e., grading, excavation), would produce multiple kinds of solid waste, including AC pavement, demolition debris, and excavated soil. As shown in Table 2-6, the Project would generate approximately 1,070 cubic yards of AC pavement and demolition debris, and approximately 45,900 cubic yards of soil.

A minority of materials generated would be non-soil construction and demolition debris. This material would be managed in compliance with City's mandatory Construction and Demolition Diversion Deposit Program and any applicable recommendations of the Zero Waste Strategic Plan's Construction and Demolition Program in effect at the time of construction, which would substantially reduce impacts to Santa Clara County landfills. The majority of construction waste is expected to be soil from grading and excavation. As long as soils slated for off-site disposal are not contaminated with hazardous materials or have otherwise been screened appropriately for the proposed use, soils could be used onsite for backfill or as landfill cover at the landfills listed in **Table 3.10-1** and are not considered waste. Soils not used onsite would be hauled by truck to a Class II or Class III landfill, depending on the chemical composition of the soil. Class II (hazardous) soils would be hauled to either Altamont or Keller Canyon landfills. Class III (non-hazardous) soils would be hauled to Altamont Landfill. The landfills designated by the City for this Project have sufficient capacity to accommodate the identified solids waste disposal needs during construction, as shown in Table 3.10-1. As a result, the Project's impact on landfill capacity would not result in any new or more significant impacts than those disclosed in the Plant Master Plan EIR.

TABLE 3.10-1
SUMMARY OF LANDFILLS

Landfill	Location	Estimated Closure Month/Year	Remaining Capacity (cubic yards)	Max Waste Accepted/Day [a]
Altamont Solid Waste Landfill (Class II, III)	10840 Altamont Pass Road, Livermore, CA	01/2025	65,400,000	11,150 cubic yards
Keller Canyon Landfill	901 Bailey Road, Pittsburg, CA	12/2030	52,930,000	3,270 tons

NOTE: NA = Not available

[a] Alternative daily cover does not count towards the maximum waste accepted per day.

SOURCE: CalRecycle, 2017. Solid Waste Information System (SWIS)–Facility/Site Listing for Altamont Solid Waste Landfill; SWT Engineering, 2016, *Joint Technical Document Keller Canyon Landfill (SWIS No. 07-AA-0032*), Volume 1. May.

g) Same Impact as Approved Project. (Less than Significant)

All disposal facilities identified by the City for disposal and recycling of construction and demolition debris are permitted for the types of waste generated by Project construction. The California Integrated Waste Management Act of 1989 (AB 939) requires municipalities to divert at least 50 percent of all solid waste generated by the year 2000 and establishes the goal of diverting at least 75 percent of generated waste (based on per capita disposal rates) by 2020. In addition, San José's Zero Waste Resolution established an objective of zero waste by 2022, which entails diverting all wastes from landfills. As of 2015, San José disposed of 643,775 tons of waste (or 3.5 pounds per person per day), well below the California Integrated Waste Management Act target rate for San José of 5.2 pounds per person per day.[55] The Project would comply with all applicable regulatory requirements related to solid waste, and thus would not result in any new or more significant impacts than those identified in the Plant Master Plan EIR. Specifications for construction of the Project would contain requirements for the handling, storage, cleanup, and disposal of hazardous materials; including petroleum-based products, cement, or other construction pollutants. Refer to Section 3.6, Hazards and Hazardous Materials, for additional information on hazardous materials associated with construction of the Project and how hazardous materials would be handled if encountered during construction.

Utility Service

Construction of the Project components, including structures in Zanker Road, could result in utility service disruption if construction activities in public rights-of-way require closure of utility lines during construction. Potentially affected utilities may include water, recycled water, sewer, gas, electricity, telecommunications, cable, and other infrastructure. Although there would be no interruption in Facility operations during construction of Project, other utilities could be affected during construction. Utility clearance is part of the standard construction process for projects at the Facility. During design, projects incorporate the Facility GIS utility maps into plan drawings and if there are close clearances that need to be confirmed, a third party utility company is employed during the design stage. Utility drawings are also provided to contractors and before breaking ground, contractors must conduct potholing to confirm utility clearance, in addition to calling USANorth prior to any digging. With implementation of this utility clearance process, the Project would not result in any new or more significant impacts to utilities during construction than those identified in the previously approved Plant Master Plan EIR.

55 CalRecycle, Jurisdiction Diversion/Disposal Rate Detail for San José, Reporting year 2015. Available online at http://www.calrecycle.ca.gov/LGCentral/Reports/DiversionProgram/JurisdictionDiversionDetail.aspx?JurisdictionID=444&Year=2015. Accessed August 30, 2017.

3.10.4 Conclusion

The Project would not result in new or more significant impacts to wastewater treatment requirements or wastewater treatment facilities than those identified in the previously approved Plant Master Plan EIR. (**Same Impact as Previously Approved Project [Less than Significant Impact]**)

The Project would not result in new or more significant impacts to water supplies than those identified in the previously approved Plant Master Plan EIR. (**Same Impact as Previously Approved Project [Less than Significant Impact]**)

The Project would not result in new or more significant impacts to storm water drainage facilities than those identified in the previously approved Plant Master Plan EIR. (**Same Impact as Previously Approved Project [Less than Significant Impact]**)

The Project would not result in new or more significant impacts to landfill capacity and solid waste regulations than those identified in the previously approved Plant Master Plan EIR. (**Same Impact as Previously Approved Project [Less than Significant Impact]**)

Implementation of the measures included in the adopted Plant Master Plan EIR would reduce possible impacts associated with interruption to existing utilities during construction of the Project to a less than significant level, and the Project would not result in any new or more significant impacts. (**Same Impact as Previously Approved Project [Less than Significant Impact]**)

3.11 Mandatory Findings of Significance

Issues (and Supporting Information Sources):	*New Potentially Significant Impact*	*New Less Than Significant with Mitigation Incorporation*	*New Less Than Significant Impact*	*Same Impact as Approved Project*	*Less Impact than Approved Project*	*Checklist Source(s)*
MANDATORY FINDINGS OF SIGNIFICANCE — Would the project:						
a) Have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?	☐	☐	☐	☒	☐	1-30
b) Have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☒	☐	☐	☐	1-30
c) Have environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☐	☒	☐	1-30

3.11.1 Discussion

3.11.1.1 Direct or Indirect Impacts to the Quality of the Environment; Fish, Wildlife, or Plant Species, Habitat, or Community; California Prehistory or History; Human Beings

As discussed in the sections above, the Project would have the same impacts to air quality, biological resources, cultural resources, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, noise and vibration, transportation and traffic, and utilities and service systems as the Project analyzed in the approved Plant Master Plan EIR.

Impacts to air quality, water quality, and hazardous materials by the Project could directly affect human beings, and all CEQA impacts discussed above could indirectly affect human beings. However, implementation of the mitigation measures, General Plan policies, and conditions of approval; and compliance with applicable federal, state, and local regulations as discussed in the approved Plant Master Plan EIR and in this addendum would reduce these impacts to a less-than-significant level. This addendum has identified no other direct or indirect adverse effects on human beings.

3.11.1.2 Cumulatively Considerable Impacts

The adopted Plant Master Plan EIR did not evaluate impacts to Tribal Cultural Resources, as Assembly Bill (AB) 52 had not yet been adopted, as discussed in Section 3.4, Tribal Cultural Resources. As a result, cumulatively considerable impacts for Tribal Cultural Resources were also not previously considered and are thus briefly described below.

The geographic scope for cumulative effects on tribal cultural resources includes the immediate vicinity of locations where the project could cause disturbance to known tribal cultural resources. As the Project would not have an impact on known tribal cultural resources there would be no significant cumulative impact on known tribal cultural resources to which the Project could contribute. Similar to the proposed project, cumulative projects in the project vicinity could have a significant impact on previously undiscovered archaeological resources, including human remains interred outside of formal cemeteries, during ground-disturbing activities that could be considered tribal cultural resources. However, implementation of Mitigation Measures CUL-1a, CUL-1b, and CUL-3 would require that work halt in the vicinity of a find until it is evaluated by a Secretary of the Interior-qualified archaeologist, and in the case of human remains the County Coroner. In addition, cumulative projects undergoing CEQA review would have similar types of inadvertent discovery measures. Therefore, with implementation of Mitigation Measures CUL-1a, CUL 1b and CUL-3, the proposed project's contribution to cumulative impacts on tribal cultural resources would not be considerable.

Construction of the Project could overlap with construction of other projects at the Facility. (**IMPACT C-TR-1**) Therefore, implementation of Mitigation Measure C-TR (see below) as described in the approved Plant Master Plan EIR would reduce the Project's contribution to any potential traffic impacts to the surrounding network; and ensure that the Project would not result in any new or more significant traffic impacts than those identified in the approved Plant Master Plan EIR.

Mitigation Measures

Mitigation Measure C-TR-1: Implement Coordinated Transportation Management Plan.

Prior to construction, the City's contractor(s) shall develop a Coordinated Transportation Management Plan and work with other projects' contractors and appropriate City departments (e.g., Emergency Services, Fire, Police, Transportation) to prepare and implement a transportation management plan for roadways adjacent to and directly affected by the Project as well as planned Facility improvements and land uses, and to address the transportation impact of the overlapping construction projects within the vicinity of the Project. The transportation management plan shall include, but not be limited to, the following requirements:

- Coordination of individual traffic control plans for the Project with nearby projects.
- Coordination between the Project contractor and other project contractors in developing circulation and detour plans that include safety features (e.g., signage and flaggers). The circulation and detour plans shall address:

  - Full and partial roadways closures
  - Circulation and detour plans to include the use of signage and flagging to guide vehicles through and/or around the construction zone, as well as any temporary traffic control devices
  - Bicycle/Pedestrian detour plans, where applicable
  - Parking along public roadways
  - Haul routes for construction trucks and staging areas for instances when multiple trucks arrive at the work sites

- Protocols for updating the transportation management plan to account for delays or changes in the schedules of individual projects.

- A comprehensive and continual outreach program to notify affected citizens (i.e. residents of Alviso, commuters, etc.) of all construction activity and roadway closures for the duration of the projects.

3.11.2 Conclusion

Implementation of the Project would not result in new or more significant impacts related to 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, eliminate important examples of the major periods of California history or prehistory, or cause substantial direct or indirect adverse effects on human beings than those identified in the previously approved Plant Master Plan EIR. (**Same Impact as Previously Approved Project [Less than Significant Impact]**)

Implementation of the Project would not result in new or more significant individually limited but cumulatively considerable impacts to which the Project would contribute than those identified in the previously approved Plant Master Plan EIR. (**Same Impact as Previously Approved Project [Less than Significant Impact with Mitigation]**)

CHAPTER 4
Checklist Sources

1. CEQA Guidelines and professional judgment and expertise of the environmental consultant preparing this assessment, based upon a review of the site and surrounding conditions, as well as a review of the project plans

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5. BAAQMD, 2017. *Air Quality Standards and Attainment Status*, available at http://www.baaqmd.gov/research-and-data/air-quality-standards-and-attainment-status, last updated January 5, 2017

6. Carollo Engineers, *Task No. 5, Project memorandum No. 5, Odor Treatment Alternatives, Final Draft.* September 2011.

7. Headworks Improvements and New Headworks Alternatives Constraints Analysis reconnaissance survey performed by Liz Hill, August 23, 2016.

8. Headworks Improvements and New Headworks Project Preliminary Wetland Delineation, August 10, 2017, performed by Chris Rogers.

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18. State Water Resources Control Board (SWRCB), 2017. GeoTracker Database search, geotracker.waterboards.ca.gov, accessed October 5, 2017.

19. California Department of Toxic Substances Control (DTSC), 2017. EnviroStor Database search, www.envirostor.dtsc.ca.gov/public, accessed October 5, 2017.

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21. San José-Santa Clara Regional Wastewater Facility Environmental Services Division, *Contingency Plan for Operation Under Emergency Conditions*, December 2015.

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23. San José-Santa Clara Regional Wastewater Facility, *CIP Program RWF Flood Protection Study Final Flood Protection Guidelines for Future RWF Projects – Task 4.2,* April 5, 2016.

24. California Emergency Management Agency, *Tsunami Inundation Map for Emergency Planning, San Francisco Bay Area*, December 9, 2009.

25. Federal Transit Administration (FTA), *Transit Noise and Vibration Impact Assessment* (Guidance Manual) – Chapter 12, May 2006.

26. San José Municipal Code Section 20.50.300.

27. Santa Clara Valley Transportation Authority, 2014 Monitoring and Conformance Report.

28. Caltrans, 2015 Traffic Volumes on California State Highways.

29. CalRecycle, Solid Waste Information System (SWIS), available at http://www.calrecycle.ca.gov/swfacilities/directory/search.aspx.

30. CalRecycle, Jurisdiction Diversion/Disposal Rate Detail for San José, available at http://www.calrecycle.ca.gov/LGCentral/Reports/jurisdiction/diversiondisposal.aspx.

CHAPTER 5
Authors and Consultants

5.1 Lead Agency

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APPENDIX A
Air Quality Emissions Calculations

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CAP Emissions Summary - Headworks SO03

Construction Phase	Number of workdays	Average Daily Emissions (lb/day)			
		ROG	NOx	PM_{10}	$PM_{2.5}$
Site Preparation					
Construction Equipment	86	0.70	7.38	0.33	0.30
Truck Trips		0.03	1.01	0.02	0.01
Worker Trips		0.34	0.28	0.09	0.04
Total		**1.06**	**8.67**	**0.44**	**0.35**
Excavation / Grading					
Construction Equipment	115	1.41	13.35	1.68	0.62
Truck Trips		0.35	12.09	0.28	0.15
Worker Trips		0.34	0.28	0.09	0.04
Total		**2.10**	**25.72**	**2.05**	**0.80**
Demolition					
Construction Equipment	64	0.83	8.47	0.43	0.40
Truck Trips		0.01	0.50	0.01	0.01
Worker Trips		0.34	0.28	0.09	0.04
Total		**1.18**	**9.26**	**0.53**	**0.44**
Building Construction					
Construction Equipment	464	0.94	8.89	0.47	0.45
Truck Trips		0.06	2.02	0.05	0.02
Worker Trips		0.34	0.28	0.09	0.04
Total		**1.33**	**11.19**	**0.61**	**0.51**
Interceptors					
Construction Equipment	243	4.01	40.77	1.91	1.78
Truck Trips		0.03	1.01	0.02	0.01
Worker Trips		0.34	0.28	0.09	0.04
Total		**4.37**	**42.06**	**2.03**	**1.83**
Paving					
Construction Equipment	64	0.86	9.47	0.42	0.38
Truck Trips		0.03	1.01	0.02	0.01
Worker Trips		0.34	0.28	0.09	0.04
Total		**1.23**	**10.76**	**0.53**	**0.43**
Finish work, startup, testing					
Construction Equipment	84	0.25	2.20	0.12	0.12
Truck Trips		0.00	0.00	0.00	0.00
Worker Trips		0.34	0.28	0.09	0.04
Total		**0.59**	**2.48**	**0.21**	**0.16**
Total Project Average					
Construction Equipment	813	2.16	21.57	1.19	0.98
Truck Trips		0.10	3.39	0.08	0.04
Worker Trips		0.34	0.28	0.09	0.04
Total		**2.60**	**25.24**	**1.36**	**1.06**

GHG Emissions Summary - Headworks SO03

Source	GHG Emissions (tons)			
	CO_2	CH_4	N_2O	CO_2e
Site Preparation	36.80	0.01	0.00	37.35
Excavation / Grading	104.06	0.03	0.00	105.63
Demolition	30.64	0.01	0.00	31.06
Building Construction	272.42	0.05	0.01	276.06
Interceptors	603.08	0.17	0.02	612.01
Paving	28.75	0.01	0.00	29.18
Finish work, startup, testing	13.74	0.00	0.00	13.92
Total from Construction Equipment	1089.5	0.3	0.0	1105.2
On-road Truck Trips	383.7	0.0	0.0	384.1
Worker Commute Trips	235.2	0.1	0.1	256.8
TOTAL	**1708**	**0.3**	**0.1**	**1746.0**

Construction Schedule

Construction Calendar				
Construction Phase	**Start Date**	**End Date**	**Days/Week**	**Total Days**
Site Preparation	07/01/19	10/31/19	5	86
Excavation / Grading	11/01/19	04/30/20	5	115
Demolition	05/01/20	07/31/20	5	64
Building Construction	05/01/20	03/31/22	5	464
Interceptors	05/01/20	04/30/21	5	243
Paving	04/01/22	06/30/22	5	64
Finish work, startup, testing	07/01/22	10/31/22	5	84
	TOTAL			813

Emissions from OFFROAD Construction Equipment

Site Preparation

Construction Equipment To Be Used	Equivalent Equipment in OFFROAD/CalEEMod	Unit Amount (Days)	Hours per Day	Average horsepower (hp) based on CalEEMod	CalEEMod Emission Factors (lb/hr)				Emissions by Phase (lbs/phase)				GHG Emission Factors (g/hr)			GHG Emissions by Phase (tons/phase)			
					ROG	NOx	PM_{10}	$PM_{2.5}$	ROG	NOx	PM_{10}	$PM_{2.5}$	CO_2	CH_4	N_2O	CO_2	CH_4	N_2O	CO_2e
Concrete/Industrial Saws	Concrete/Industrial Saws	5	8	81	0.0577	0.4486	0.0287	0.0287	2.31	17.94	1.15	1.15	33603.58	2.37	0.97	1.34	0.00	0.00	1.36
Backhoe	Tractors/Loaders/Backhoes	21	8	97	0.0291	0.2922	0.0195	0.0180	4.89	49.08	3.28	3.02	17437.33	5.53	0.49	2.93	0.00	0.00	2.97
dozer/front-end loader	Rubber Tired Dozers	21	6	247	0.1418	1.5093	0.0736	0.0677	17.87	190.17	9.28	8.54	47934.99	15.22	1.33	6.04	0.00	0.00	6.13
grader	Graders	15	8	187	0.0609	0.8224	0.0264	0.0243	7.30	98.69	3.16	2.92	37286.83	11.81	1.04	4.47	0.00	0.00	4.54
roller	Rollers	15	8	80	0.0283	0.2801	0.0184	0.0163	3.40	33.61	2.21	1.95	14723.82	4.65	0.41	1.77	0.00	0.00	1.79
10-wheel dump truck	Off-Highway Trucks	21	4	402	0.0886	0.8987	0.0327	0.0300	7.44	75.49	2.74	2.52	74147.14	23.53	2.07	6.23	0.00	0.00	6.32
light Duty Truck	Off-Highway Trucks	21	3	402	0.0886	0.8987	0.0327	0.0300	5.58	56.62	2.06	1.89	74147.14	23.53	2.07	4.67	0.00	0.00	4.74
water truck	Off-Highway Trucks	21	6	402	0.0886	0.8987	0.0327	0.0300	11.16	113.24	4.12	3.78	74147.14	23.53	2.07	9.34	0.00	0.00	9.49
Total Emissions during Site Preparation									59.95	634.85	28.00	25.76				36.80	0.01	0.00	37.35
Average Daily Emissions during Site Preparation									0.70	7.38	0.33	0.30							

Excavation/Grading

Construction Equipment To Be Used	Equivalent Equipment in OFFROAD/CalEEMod	Unit Amount (Days)	Hours per Day	Average horsepower (hp) based on CalEEMod	CalEEMod Emission Factors (lb/hr)				Emissions by Phase (lbs/phase)				GHG Emission Factors (g/hr)			GHG Emissions by Phase (tons/phase)			
					ROG	NOx	PM_{10}	$PM_{2.5}$	ROG	NOx	PM_{10}	$PM_{2.5}$	CO_2	CH_4	N_2O	CO_2	CH_4	N_2O	CO_2e
Concrete/Industrial Saws	Concrete/Industrial Saws	25	2	81	0.0577	0.4486	0.0287	0.0287	2.89	22.43	1.43	1.43	33603.58	2.37	0.97	1.68	0.00	0.00	1.70
Backhoe	Tractors/Loaders/Backhoes	45	6	97	0.0291	0.2922	0.0195	0.0180	7.86	78.89	5.28	4.85	17437.33	5.53	0.49	4.71	0.00	0.00	4.78
hydraulic excavator	Excavators	45	8	158	0.0326	0.3352	0.0161	0.0148	11.72	120.68	5.81	5.34	28980.34	9.19	0.81	10.43	0.00	0.00	10.59
dozer/front-end loader	Rubber Tired Dozers	45	6	247	0.1418	1.5093	0.0736	0.0677	38.29	407.51	19.88	18.29	47934.99	15.22	1.33	12.94	0.00	0.00	13.14
grader	Graders	15	8	187	0.0609	0.8224	0.0264	0.0243	7.30	98.69	3.16	2.92	37286.83	11.81	1.04	4.47	0.00	0.00	4.54
roller	Rollers	15	8	80	0.0283	0.2801	0.0184	0.0163	3.40	33.61	2.21	1.95	14723.82	4.65	0.41	1.77	0.00	0.00	1.79
Thumper Soil Compactor (gas)	Plate Compactors	45	4	8	0.0050	0.0314	0.0012	0.0012	0.90	5.65	0.22	0.22	1954.95	0.20	0.97	0.35	0.00	0.00	0.41
10-wheel dump truck	Off-Highway Trucks	45	6	402	0.0886	0.8987	0.0327	0.0300	23.91	242.65	8.82	8.09	74147.14	23.53	2.07	20.02	0.01	0.00	20.33
light Duty Truck	Off-Highway Trucks	45	3	402	0.0890	0.0886	0.8987	0.0327	12.02	11.96	121.32	4.41	74147.14	23.53	2.07	10.01	0.00	0.00	10.16
water truck	Off-Highway Trucks	45	6	402	0.0886	0.8987	0.0327	0.0300	23.91	242.65	8.82	8.09	74147.14	23.53	2.07	20.02	0.01	0.00	20.33
5000-lb propane forklift	Forklifts	45	2	89	0.0200	0.1785	0.0138	0.0127	1.80	16.07	1.24	1.14	8579.72	2.72	0.54	0.77	0.00	0.00	0.79
Sheet Pile Driving Equipment	Other Construction Equipment	15	8	172	0.0656	0.7060	0.0371	0.0342	7.87	84.72	4.45	4.11	34707.84	10.98	0.97	4.16	0.00	0.00	4.23
generator	Generator Sets	45	8	84	0.0555	0.4722	0.0282	0.0282	19.98	170.01	10.16	10.16	35325.47	2.24	0.97	12.72	0.00	0.00	12.84
Total Emissions during Excavation/Grading									161.86	1535.52	192.82	71.02				104.06	0.03	0.00	105.63
Average Daily Emissions during Excavation/Grading									1.41	13.35	1.68	0.62							

Demolition

Construction Equipment To Be Used	Equivalent Equipment in OFFROAD/CalEEMod	Unit Amount (Days)	Hours per Day	Average horsepower (hp) based on CalEEMod	CalEEMod Emission Factors (lb/hr)				Emissions by Phase (lbs/phase)				GHG Emission Factors (g/hr)			GHG Emissions by Phase (tons/phase)			
					ROG	NOx	PM_{10}	$PM_{2.5}$	ROG	NOx	PM_{10}	$PM_{2.5}$	CO_2	CH_4	N_2O	CO_2	CH_4	N_2O	CO_2e
Concrete/Industrial Saws	Concrete/Industrial Saws	10	4	81	0.0577	0.4486	0.0287	0.0287	2.31	17.94	1.15	1.15	33603.58	2.37	0.97	1.34	0.00	0.00	1.36
Crane	Cranes	19	6	231	0.0631	0.7509	0.0319	0.0292	7.19	85.60	3.64	3.33	32387.09	10.25	0.90	3.69	0.00	0.00	3.75
Backhoe	Tractors/Loaders/Backhoes	19	8	97	0.0291	0.2922	0.0195	0.0180	4.43	44.41	2.97	2.73	17437.33	5.53	0.49	2.65	0.00	0.00	2.69
hydraulic excavator	Excavators	19	6	158	0.0326	0.3352	0.0161	0.0148	3.71	38.22	1.84	1.69	28980.34	9.19	0.81	3.30	0.00	0.00	3.35
dozer/front-end loader	Rubber Tired Dozers	19	6	247	0.1418	1.5093	0.0736	0.0677	16.17	172.06	8.39	7.72	47934.99	15.22	1.33	5.46	0.00	0.00	5.55
jack hammer	Other Construction Equipment	19	4	172	0.0656	0.7060	0.0371	0.0342	4.99	53.66	2.82	2.60	52574.75	16.69	0.97	4.00	0.00	0.00	4.05
10-wheel dump truck	Off-Highway Trucks	2	4	402	0.0886	0.8987	0.0327	0.0300	0.71	7.19	0.26	0.24	74147.14	23.53	2.07	0.59	0.00	0.00	0.60
light Duty Truck	Off-Highway Trucks	19	3	402	0.0886	0.8987	0.0327	0.0300	5.05	51.23	1.86	1.71	74147.14	23.53	2.07	4.23	0.00	0.00	4.29
generator	Generator Sets	19	8	84	0.0555	0.4722	0.0282	0.0282	8.44	71.78	4.29	4.29	35325.47	2.24	0.97	5.37	0.00	0.00	5.42
Total Emissions during Demolition									52.98	542.08	27.22	25.46				30.64	0.01	0.00	31.06
Average Daily Emissions during Demolition									0.83	8.47	0.43	0.40							

Building Construction

Construction Equipment To Be Used	Equivalent Equipment in OFFROAD/CalEEMod	Unit Amount (Days)	Hours per Day	Average horsepower (hp) based on CalEEMod	CalEEMod Emission Factors (lb/hr)				Emissions by Phase (lbs/phase)				GHG Emission Factors (g/hr)			GHG Emissions by Phase (tons/phase)			
					ROG	NOx	PM_{10}	$PM_{2.5}$	ROG	NOx	PM_{10}	$PM_{2.5}$	CO_2	CH_4	N_2O	CO_2	CH_4	N_2O	CO_2e
Concrete/Industrial Saws	Concrete/Industrial Saws	10	4	81	0.0577	0.4486	0.0287	0.0287	2.31	17.94	1.15	1.15	33603.58	2.37	0.97	1.34	0.00	0.00	1.36
Crane	Cranes	319	4	231	0.0631	0.7509	0.0319	0.0292	80.47	958.11	40.71	37.31	32387.09	10.25	0.90	41.33	0.01	0.00	41.95
Backhoe	Tractors/Loaders/Backhoes	200	6	97	0.0291	0.2922	0.0195	0.0180	34.94	350.60	23.45	21.55	17437.33	5.53	0.49	20.92	0.01	0.00	21.24
light Duty Truck	Off-Highway Trucks	319	3	402	0.0886	0.8987	0.0327	0.0300	84.76	860.05	31.26	28.68	74147.14	23.53	2.07	70.96	0.02	0.00	72.05
5000-lb propane forklift	Forklifts	319	4	89	0.0200	0.1785	0.0138	0.0127	25.49	227.82	17.63	16.22	8579.72	2.72	0.54	10.95	0.00	0.00	11.24
Concrete pump	Pumps	200	4	84	0.0588	0.4792	0.0297	0.0297	47.03	383.38	23.79	23.79	35325.47	2.36	0.97	28.26	0.00	0.00	28.54
pneumatic tools/ air compressor	Air Compressors	100	4	78	0.0444	0.3059	0.0215	0.0215	17.76	122.36	8.58	8.58	21277.11	1.80	0.97	8.51	0.00	0.00	8.65
electric welder	Welders	100	8	46					0.00	0.00	0.00	0.00				0.00	0.00	0.00	0.00
Sheet Pile Driving Equipment	Other Construction Equipment	14	0	172	0.0656	0.7060	0.0371	0.0342	0.00	0.00	0.00	0.00	34707.84	10.98	0.97	0.00	0.00	0.00	0.00
generator	Generator Sets	319	8	84	0.0555	0.4722	0.0282	0.0282	141.64	1205.15	72.04	72.04	35325.47	2.24	0.97	90.15	0.01	0.00	91.03
Total Emissions during Building Construction									434.40	4125.41	218.61	209.34				272.42	0.05	0.01	276.06
Average Daily Emissions during Building Construction									0.94	8.89	0.47	0.45							

Pipeline Construction/Interceptors

Construction Equipment To Be Used	Equivalent Equipment in OFFROAD/CalEEMod	Unit Amount (Days)	Hours per Day	Average horsepower (hp) based on CalEEMod	CalEEMod Emission Factors (lb/hr)				Emissions by Phase (lbs/phase)				GHG Emission Factors (g/hr)			GHG Emissions by Phase (tons/phase)			
					ROG	NOx	PM_{10}	$PM_{2.5}$	ROG	NOx	PM_{10}	$PM_{2.5}$	CO_2	CH_4	N_2O	CO_2	CH_4	N_2O	CO_2e
Concrete/Industrial Saws	Concrete/Industrial Saws	60	2	81	0.0577	0.4486	0.0287	0.0287	6.93	53.83	3.44	3.44	33603.58	2.37	0.97	4.03	0.00	0.00	4.07
Crane	Cranes	255	4	231	0.0631	0.7509	0.0319	0.0292	64.32	765.89	32.54	29.83	32387.09	10.25	0.90	33.03	0.01	0.00	33.54
Backhoe	Tractors/Loaders/Backhoes	255	6	97	0.0291	0.2922	0.0195	0.0180	44.55	447.02	29.90	27.48	17437.33	5.53	0.49	26.68	0.01	0.00	27.09
hydraulic excavator	Excavators	255	8	158	0.0326	0.3352	0.0161	0.0148	66.43	683.88	32.94	30.24	28980.34	9.19	0.81	59.12	0.02	0.00	60.03
dozer/front-end loader	Rubber Tired Dozers	255	6	247	0.1418	1.5093	0.0736	0.0677	216.95	2309.23	112.64	103.64	47934.99	15.22	1.33	73.34	0.02	0.00	74.46
grader	Graders	75	8	187	0.0609	0.8224	0.0264	0.0243	36.51	493.47	15.82	14.60	37286.83	11.81	1.04	22.37	0.01	0.00	22.71
roller	Rollers	75	8	80	0.0283	0.2801	0.0184	0.0163	17.01	168.07	11.06	9.77	14723.82	4.65	0.41	8.83	0.00	0.00	8.97
Thumper Soil Compactor (gas)	Plate Compactors	60	6	8	0.0050	0.0314	0.0012	0.0012	1.80	11.31	0.44	0.44	1954.95	0.20	0.97	0.70	0.00	0.00	0.81
10-wheel dump truck	Off-Highway Trucks	255	6	402	0.0886	0.8987	0.0327	0.0300	135.52	1375.00	49.98	45.86	74147.14	23.53	2.07	113.45	0.04	0.00	115.18
light Duty Truck	Off-Highway Trucks	255	3	402	0.0886	0.8987	0.0327	0.0300	67.76	687.50	24.99	22.93	74147.14	23.53	2.07	56.72	0.02	0.00	57.59
water truck	Off-Highway Trucks	255	4	402	0.0886	0.8987	0.0327	0.0300	90.34	916.67	33.32	30.57	74147.14	23.53	2.07	75.63	0.02	0.00	76.79
pneumatic tools/ air compressor	Air Compressors	255	4	78	0.0444	0.3059	0.0215	0.0215	45.30	312.01	21.89	21.89	21277.11	1.80	0.97	21.70	0.00	0.00	22.05
electric welder	Welders	200	8	46					0.00	0.00	0.00	0.00				0.00	0.00	0.00	0.00
Sheet Pile Driving Equipment	Other Construction Equipment	255	4	172	0.0656	0.7060	0.0371	0.0342	66.93	720.14	37.85	34.93	34707.84	10.98	0.97	35.40	0.01	0.00	35.94
generator	Generator Sets	255	8	84	0.0555	0.4722	0.0282	0.0282	113.22	963.36	57.59	57.59	35325.47	2.24	0.97	72.06	0.00	0.00	72.77
Total Emissions during Pipeline Construction/Interceptors									973.57	9907.39	464.41	433.22				603.08	0.17	0.02	612.01
Average Daily Emissions during Pipeline Construction/Interceptors									4.01	40.77	1.91	1.78							

Paving

Construction Equipment To Be Used	Equivalent Equipment in OFFROAD/CalEEMod	Unit Amount (Days)	Hours per Day	Average horsepower (hp) based on CalEEMod	CalEEMod Emission Factors (lb/hr)				Emissions by Phase (lbs/phase)				GHG Emission Factors (g/hr)			GHG Emissions by Phase (tons/phase)			
					ROG	NOx	PM_{10}	$PM_{2.5}$	ROG	NOx	PM_{10}	$PM_{2.5}$	CO_2	CH_4	N_2O	CO_2	CH_4	N_2O	CO_2e
Concrete/Industrial Saws	Concrete/Industrial Saws	5	4	81	0.0577	0.4486	0.0287	0.0287	1.15	8.97	0.57	0.57	33603.58	2.37	0.97	0.67	0.00	0.00	0.68
hydraulic excavator	Excavators	5	8	158	0.0326	0.3352	0.0161	0.0148	1.30	13.41	0.65	0.59	28980.34	9.19	0.81	1.16	0.00	0.00	1.18
dozer/front-end loader	Rubber Tired Dozers	23	8	247	0.1418	1.5093	0.0736	0.0677	26.09	277.71	13.55	12.46	47934.99	15.22	1.33	8.82	0.00	0.00	8.95
grader	Graders	23	8	187	0.0609	0.8224	0.0264	0.0243	11.20	151.33	4.85	4.48	37286.83	11.81	1.04	6.86	0.00	0.00	6.97
roller	Rollers	23	8	80	0.0283	0.2801	0.0184	0.0163	5.22	51.54	3.39	3.00	14723.82	4.65	0.41	2.71	0.00	0.00	2.75
light Duty Truck	Off-Highway Trucks	23	3	402	0.0886	0.8987	0.0327	0.0300	6.11	62.01	2.25	2.07	74147.14	23.53	2.07	5.12	0.00	0.00	5.19
water truck	Off-Highway Trucks	23	2	402	0.0886	0.8987	0.0327	0.0300	4.07	41.34	1.50	1.38	74147.14	23.53	2.07	3.41	0.00	0.00	3.46
Total Emissions during Paving									55.15	606.31	26.77	24.55				28.75	0.01	0.00	29.18
Average Daily Emissions during Paving									0.86	9.47	0.42	0.38							

Finish Work/Architectural Coatings

Construction Equipment To Be Used	Equivalent Equipment in OFFROAD/CalEEMod	Unit Amount (Days)	Hours per Day	Average horsepower (hp) based on CalEEMod	CalEEMod Emission Factors (lb/hr)				Emissions by Phase (lbs/phase)				GHG Emission Factors (g/hr)			GHG Emissions by Phase (tons/phase)			
					ROG	NOx	PM_{10}	$PM_{2.5}$	ROG	NOx	PM_{10}	$PM_{2.5}$	CO_2	CH_4	N_2O	CO_2	CH_4	N_2O	CO_2e
Light Duty Truck	Off-Highway Trucks	22	3	402	0.0886	0.8987	0.0327	0.0300	5.85	59.31	2.16	1.98	74147.14	23.53	2.07	4.89	0.00	0.00	4.97
5000-lb propane forklift	Forklifts	22	4	89	0.0200	0.1785	0.0138	0.0127	1.76	15.71	1.22	1.12	8579.72	2.72	0.54	0.76	0.00	0.00	0.77
pneumatic tools/ air compressor	Air Compressors	22	4	78	0.0444	0.3059	0.0215	0.0215	3.91	26.92	1.89	1.89	21277.11	1.80	0.97	1.87	0.00	0.00	1.90
generator	Generator Sets	22	8	84	0.0555	0.4722	0.0282	0.0282	9.77	83.11	4.97	4.97	35325.47	2.24	0.97	6.22	0.00	0.00	6.28
Total Emissions during Finish Work/Architectural Coatings									21.28	185.06	10.23	9.95				13.74	0.00	0.00	13.92
Average Daily Emissions during Finish Work/Architectural Coatings									0.25	2.20	0.12	0.12							

CAP Emissions from On-road Truck Trips

Construction Phase	Number of Workdays	Ave. Truck Trips/day (round trips)	One way trips/day	One Way Trip length (miles)	Truck Trip miles per day	Emission Factors (gms/mile)				Daily Emissions (lbs/day)			
						ROG	NOx	PM_{10}	$PM_{2.5}$	ROG	NOx	PM_{10}	$PM_{2.5}$
Site Preparation	86	2	4	20	80	0.1363	4.9825	0.1307	0.0670	0.03	1.01	0.02	0.01
Excavation / Grading	115	24	48	20	960	0.1363	4.9825	0.1307	0.0670	0.35	12.09	0.28	0.15
Demolition	64	1	2	20	40	0.1363	4.9825	0.1307	0.0670	0.01	0.50	0.01	0.01
Building Construction	464	4	8	20	160	0.1363	4.9825	0.1307	0.0670	0.06	2.02	0.05	0.02
Interceptors	243	2	4	20	80	0.1363	4.9825	0.1307	0.0670	0.03	1.01	0.02	0.01
Paving	64	2	4	20	80	0.1363	4.9825	0.1307	0.0670	0.03	1.01	0.02	0.01
Finish work, startup, testing	84	0	0	20	0	0.1363	4.9825	0.1307	0.0670	0.00	0.00	0.00	0.00
Total Project Average Daily	**813**									0.10	3.39	0.08	0.04

CAP Emissions from Worker Commute Trips

Vehicle type	Average Number of workers/day	One Way Trips per Day	One Way Trip length (miles)	Worker Commute miles per day	Emission Factors (gms/mile)				Daily Emissions (lbs/day)			
					ROG	NOx	PM_{10}	$PM_{2.5}$	ROG	NOx	PM_{10}	$PM_{2.5}$
LDA	9	18	12.5	219	0.0141	0.0680	0.0465	0.0194	0.04	0.04	0.02	0.01
LDT	26	53	12.5	656	0.0328	0.1512	0.0473	0.0201	0.30	0.24	0.07	0.03
Average Daily									0.34	0.28	0.09	0.04

GHG Emissions from On-road Truck Trips

Construction Phase	Number of Workdays	Ave. Truck Trips/day (round trips)	One way trips/day	One Way Trip length (miles)	Truck Trip miles per day	Emission Factors (gms/mile)			Total Emissions (tons/day)			
						CO_2	CH_4	N_2O	CO_2	CH_4	N_2O	CO_2e
Site Preparation	86	2	4	20	80	1652.3613	0.0051	0.0048	0.14	0.000000	0.000000	0.14
Excavation / Grading	115	24	48	20	960	1652.3613	0.0051	0.0048	1.68	0.000005	0.000005	1.69
Demolition	64	1	2	20	40	1652.3613	0.0051	0.0048	0.07	0.000000	0.000000	0.07
Building Construction	464	4	8	20	160	1652.3613	0.0051	0.0048	0.28	0.000001	0.000001	0.28
Interceptors	243	2	4	20	80	1652.3613	0.0051	0.0048	0.14	0.000000	0.000000	0.14
Paving	64	2	4	20	80	1652.3613	0.0051	0.0048	0.14	0.000000	0.000000	0.14
Finish work, startup, testing	84	0	0	20	0	1652.3613	0.0051	0.0048	0.00	0.000000	0.000000	0.00
Total over Project construction (tons)									383.73	0.00112	0.00105	384.07

CO_2 emission factor derived from EMFAC2014, CH_4 and N_2O emission factors from Table 13.4, page 36 of the 2017 TCR Default Emission Factors available at http://www.theclimateregistry.org/wp-content/uploads/2017/05/2017-Climate-Registry-Default-Emission-Factors.pdf

GHG Emissions from Worker Commute Trips

Vehicle type	Average Number of workers/day	One Way Trips per Day	One Way Trip length (miles)	Worker Commute miles per day	Emission Factors (gms/mile)			Daily Emissions (tons/day)			
					CO_2	CH_4	N_2O	CO_2	CH_4	N_2O	CO_2e
LDA	9	18	12.5	219	287.5633	0.0704	0.0647	0.06	0.0000	0.0000	0.07
LDT	26	53	12.5	656	337.1608	0.0776	0.1056	0.23	0.0001	0.0001	0.25
Total Daily Emissions (tons/day)								0.29	0.0001	0.0001	0.32
Total over Project construction (tons)								235.19	0.05	0.07	256.76

CO_2 emission factor derived from EMFAC2014, CH_4 and N_2O emission factors from Table 13.4, page 35 of the 2017 TCR Default Emission Factors available at http://www.theclimateregistry.org/wp-content/uploads/2017/05/2017-Climate-Registry-Default-Emission-Factors.pdf

CalendarYear	AirBasin	Equipment Class	Equipment Type	ScenBSFC (lbs/year)	ScenNOx (tons/year)	ScenPM (tons/year)	ScenHC (tons/year)	ScenActivity (hours/year)	ScenPopulation	ScenAvgHP	NOx emission rate (lbs/hour)	PM emission rate (lbs/hour)	ROG emission rate (lbs/hour)	ScenBSFC	BSFC (gal/hr)	N_2O (g/gal)	N_2O (g/hr)
2019	SF	Construction and Mining	Bore/Drill Rigs	2113300.307	13.53385826	0.492211185	0.864062414	52111.48767	150.6918291	205.840553	0.519419378	0.018890698	0.041996114	2113300.307	5.710	0.26	1.4845413
2019	SF	Construction and Mining	Cranes	5029217.383	74.46569288	3.430483256	5.402677006	205607.8229	453.8311203	226.1996922	0.724346884	0.03336919	0.066552878	5029217.383	3.444	0.26	0.895417
2019	SF	Construction and Mining	Crawler Tractors	12429894.81	171.9096595	8.464183102	12.74022666	371430.8342	835.9738947	208.2556544	0.925661758	0.045576093	0.08687537	12429894.81	4.712	0.26	1.2250507
2019	SF	Construction and Mining	Excavators	22365673.42	156.1703042	6.51182356	12.50703266	1006552.552	1625.716121	162.6651056	0.310307303	0.012938865	0.031471345	22365673.42	3.129	0.26	0.8134111
2019	SF	Construction and Mining	Graders	8413930.591	128.0510589	5.566884858	9.398767548	297387.8268	525.6657689	174.7195484	0.861172162	0.037438552	0.080047024	8413930.591	3.984	0.26	1.0357151
2019	SF	Construction and Mining	Off-Highway Tractors	4728479.38	42.16759866	2.299040548	4.130698669	235784.6168	369.8533437	122.6342171	0.357678963	0.019501192	0.044371644	4728479.38	2.824	0.26	0.734126
2019	SF	Construction and Mining	Off-Highway Trucks	28366395.62	276.9914764	9.51380697	20.31014652	501869.7588	387.1170678	400.172549	1.103838084	0.03791345	0.102498969	28366395.62	7.958	0.26	2.0690819
2019	SF	Construction and Mining	Other Construction Equipment	6331402.864	67.9426392	3.375196319	5.433902279	239853.2347	559.9006117	171.6353576	0.566535109	0.028143847	0.057380419	6331402.864	3.717	0.26	0.9663154
2019	SF	Construction and Mining	Pavers	1491325.457	15.75142101	0.84556477	1.247377187	75403.28531	198.8254328	125.7307399	0.417791372	0.022427797	0.041899129	1491325.457	2.785	0.26	0.7240136
2019	SF	Construction and Mining	Paving Equipment	867621.2495	8.606980423	0.430781539	0.667255101	50326.18733	112.653115	130.6169355	0.342047784	0.017119578	0.033581133	867621.2495	2.427	0.26	0.6311037
2019	SF	Construction and Mining	Rollers	3866632.836	40.97723762	2.479356274	4.159575349	341680.9885	1035.530841	80.52001806	0.239856703	0.014512697	0.0308337	3866632.836	1.593	0.26	0.4142635
2019	SF	Construction and Mining	Rough Terrain Forklifts	4197576.204	31.92597442	1.396501818	2.075888562	282749.6635	1044.162703	100.4351724	0.225825021	0.009878009	0.018595138	4197576.204	2.090	0.26	0.5434518
2019	SF	Construction and Mining	Rubber Tired Dozers	2481404.417	46.65868586	2.329858448	3.733016747	68200.18017	92.31703318	255.4405145	1.368286293	0.068324114	0.13863468	2481404.417	5.123	0.26	1.3319152
2019	SF	Construction and Mining	Rubber Tired Loaders	34098270.67	382.3244198	17.11800285	30.14457324	1273663.664	1353.300407	199.7246228	0.600353815	0.026879942	0.059944846	34098270.67	3.769	0.26	0.9800363
2019	SF	Construction and Mining	Scrapers	22208573.67	282.8215854	11.42578565	19.52824805	341597.1841	760.0427692	361.5769463	1.655877733	0.066896252	0.144792634	22208573.67	9.154	0.26	2.379967
2019	SF	Construction and Mining	Skid Steer Loaders	4066032.412	33.68153381	1.508816353	2.32257796	452392.1004	1354.031921	64.99755073	0.148904164	0.006670392	0.013003275	4066032.412	1.265	0.26	0.3290185
2019	SF	Construction and Mining	Surfacing Equipment	466628.3497	3.817773194	0.144413129	0.229506013	16043.60809	62.17866735	253.640553	0.475924514	0.018002575	0.036231765	466628.3497	4.095	0.26	1.0647156
2019	SF	Construction and Mining	Tractors/Loaders/Backhoes	31069765.76	321.0104482	19.15230964	26.68191821	2343981.419	4083.748569	97.91659377	0.273901871	0.016341691	0.028831043	31069765.76	1.866	0.26	0.4852308
2019	SF	Construction and Mining	Trenchers	1284067.383	16.63303702	1.086911752	1.825155553	85369.76044	245.3497062	80.78266757	0.389670462	0.025463624	0.054149355	1284067.383	2.118	0.26	0.5506153
2019	SF	Construction and Mining	Sweepers/Scrubbers	1252753.762	17.62635506	1.375849649	2.322544518	112959.9558	167.8092505	64.04977376	0.312081479	0.024359954	0.052075926	1252753.762	1.561	0.26	0.405981

Emission Factors from CalEEMod 2016 Users Guide

Construction Equipment	CalEEMod Equipment	Ave. hp	Load Factor	Emission Factors (g/bhp-hr)				Emission Factors (lb/hr)				GHG Emission Factors (g/bhp-hr)		GHG Emission Factors (g/hr)	
				ROG	NOx	PM_{10}	$PM_{2.5}$	ROG	NOx	PM_{10}	$PM_{2.5}$	CO_2	CH_4	CO_2	CH_4
Pneumatic tools/Air compressor	Air Compressors	78	0.48	0.538	3.706	0.26	0.26	0.0444	0.3059	0.0215	0.0215	568.299	0.048	21277.1146	1.7971
Concrete/Industrial saws	Concrete/Industrial Saws	81	0.73	0.443	3.441	0.22	0.22	0.0577	0.4486	0.0287	0.0287	568.3	0.04	33603.5790	2.3652
Generator	Generator Sets	84	0.74	0.405	3.446	0.206	0.206	0.0555	0.4722	0.0282	0.0282	568.299	0.036	35325.4658	2.2378
Thumper Soil Compactor (gas)	Plate Compactors	8	0.43	0.661	4.142	0.161	0.161	0.0050	0.0314	0.0012	0.0012	568.299	0.059	1954.9486	0.2030
Concrete pump	Pumps	84	0.74	0.429	3.497	0.217	0.217	0.0588	0.4792	0.0297	0.0297	568.299	0.038	35325.4658	2.3621
Electric welder	Welders	46	0.45	1.055	4.449	0.273	0.273	0.0481	0.2030	0.0125	0.0125	568.299	0.095	11763.7893	1.9665
Auger	Bore/Drill rigs	221	0.5	0.143	1.8943	0.054	0.0490	0.0348	0.4615	0.0132	0.0119	475.7896	0.151	52574.7508	16.6855
Crane	Cranes	231	0.29	0.427	5.0842	0.216	0.1980	0.0631	0.7509	0.0319	0.0292	483.4616	0.153	32387.0926	10.2495
Hydraulic excavator	Excavators	158	0.38	0.246	2.53264	0.122	0.1120	0.0326	0.3352	0.0161	0.0148	482.6838	0.153	28980.3354	9.1861
5000-lb propane forklift	Forklifts	89	0.2	0.509	4.54965	0.352	0.3240	0.0200	0.1785	0.0138	0.0127	482.0069	0.153	8579.7228	2.7234
Grader	Graders	187	0.41	0.36	4.86575	0.156	0.1440	0.0609	0.8224	0.0264	0.0243	486.3288	0.154	37286.8291	11.8072
10-wheel dump truck	Off-highway trucks	402	0.38	0.263	2.66851	0.097	0.0890	0.0886	0.8987	0.0327	0.0300	485.3832	0.154	74147.1376	23.5250
Light Duty Truck	Off-highway trucks	402	0.38	0.263	2.66851	0.097	0.0890	0.0886	0.8987	0.0327	0.0300	485.3832	0.154	74147.1376	23.5250
Water truck	Off-highway trucks	402	0.38	0.263	2.66851	0.097	0.0890	0.0886	0.8987	0.0327	0.0300	485.3832	0.154	74147.1376	23.5250
Jack Hammer	Other construction equipment	172	0.42	0.412	4.4331	0.233	0.2150	0.0656	0.7060	0.0371	0.0342	480.4518	0.152	34707.8380	10.9805
Sheet Pile Driving Equipment	Other construction equipment	172	0.42	0.412	4.4331	0.233	0.2150	0.0656	0.7060	0.0371	0.0342	480.4518	0.152	34707.8380	10.9805
Concrete paver	Pavers	130	0.42	0.299	3.24473	0.159	0.1460	0.0360	0.3906	0.0191	0.0176	483.3938	0.153	26393.3015	8.3538
Roller	Rollers	80	0.38	0.423	4.17949	0.275	0.2430	0.0283	0.2801	0.0184	0.0163	484.3362	0.153	14723.8205	4.6512
Dozer/Front-end loader	Rubber tired dozers	247	0.4	0.651	6.92923	0.338	0.3110	0.1418	1.5093	0.0736	0.0677	485.172	0.154	47934.9936	15.2152
Backhoe	Tractors/Loaders/Backhoes	97	0.37	0.368	3.69257	0.247	0.2270	0.0291	0.2922	0.0195	0.0180	485.8548	0.154	17437.3288	5.5271

EMFAC2014 (v1.0.7) Emission Rates
Region Type: Air Basin
Region: San Francisco Bay Area
Calendar Year: 2019
Season: Annual
Vehicle Classification: EMFAC2011 Categories

Units: miles/day for VMT, trips/day for Trips, g/mile for RUNEX, PMBW and PMTW, g/trip for STREX, HTSK and RUNLS, g/vehicle/da

Region	CalYr	VehClass	MdlYr	Speed	Fuel	Population
San Francisco Bay Area	2019	LDA	Aggregated	Aggregated	GAS	2622100.436
San Francisco Bay Area	2019	LDA	Aggregated	Aggregated	DSL	27359.26932
San Francisco Bay Area	2019	LDA	Aggregated	Aggregated	ELEC	37558.47252
San Francisco Bay Area	2019	LDT1	Aggregated	Aggregated	GAS	213974.2861
San Francisco Bay Area	2019	LDT1	Aggregated	Aggregated	DSL	285.2844067
San Francisco Bay Area	2019	LDT1	Aggregated	Aggregated	ELEC	169.2572666
San Francisco Bay Area	2019	T7 single construction	Aggregated	Aggregated	DSL	1034.874225

VMT	Trips	ROG_RUNEX	ROG_IDLEX	ROG_STREX	ROG_HOTSOAK	ROG_RUNLOSS
miles/day	trips/day	g/mile	g/veh/day	g/trip	g/trip	g/trip
93611644.29	16487699.76	0.014130018	0	0.127476536	0.137096187	0.272902284
1017923.113	168742.3046	0.026446836	0	0	0	0
1913792.452	244656.4092	0	0	0	0.004883985	0
7071281.951	1305129.857	0.032841037	0	0.271469087	0.287232614	1.048727764
5962.444283	1390.467698	0.165095298	0	0	0	0
5107.4711	1029.06159	0	0	0	0.004883985	0
96474.09493	0	0.1363386	1.203383635	0	0	0

ROG_RESTLOSS	ROG_DIURN	TOG_RUNEX	TOG_IDLEX	TOG_STREX	TOG_HOTSOAK	TOG_RUNLOSS
g/veh/day	g/veh/day	g/mile	g/veh/day	g/trip	g/trip	g/trip
0.228487069	0.259153921	0.020583422	0	0.139565366	0.137096187	0.272902284
0	0	0.030107965	0	0	0	0
0.00407116	0.015166428	0	0	0	0.004883985	0
0.503511915	0.626755293	0.047219249	0	0.2971698	0.287232614	1.048727764
0	0	0.18795002	0	0	0	0
0.003976557	0.014808647	0	0	0	0.004883985	0
0	0	0.155211118	1.369960666	0	0	0

TOG_RESTLOSS	TOG_DIURN	CO_RUNEX	CO_IDLEX	CO_STREX	NOx_RUNEX	NOx_IDLEX
g/veh/day	g/veh/day	g/mile	g/veh/day	g/trip	g/mile	g/veh/day
0.228487069	0.259153921	0.703853067	0	1.848417009	0.067974127	0
0	0	0.277619816	0	0	0.155065828	0
0.00407116	0.015166428	0	0	0	0	0
0.503511915	0.626755293	1.452335941	0	3.852998827	0.151208236	0
0	0	1.000379688	0	0	0.99061024	0
0.003976557	0.014808647	0	0	0	0	0
0	0	0.532107451	4.753760866	0	4.982519682	29.20501965

NOx_STREX	CO2_RUNEX	CO2_IDLEX	CO2_STREX	PM10_RUNEX	PM10_IDLEX	PM10_STREX	PM10_PMTW
g/trip	g/mile	g/veh/day	g/trip	g/mile	g/veh/day	g/trip	g/mile
0.121016681	287.5632836	0	65.098424	0.001759419	0	0.00243103	0.008000002
0	279.6971492	0	0	0.015975749	0	0	0.008000002
0	0	0	0	0	0	0	0.008000002
0.218176276	337.1608351	0	75.8700174	0.002548217	0	0.003585562	0.008000002
0	369.7554522	0	0	0.128861628	0	0	0.008000002
0	0	0	0	0	0	0	0.008000002
0	1652.361343	4108.654723	0	0.032972169	0.101169812	0	0.03600001

PM10_PMBW	PM2_5_RUNEX	PM2_5_IDLEX	PM2_5_STREX	PM2_5_PMTW	PM2_5_PMBW	SOx_RUNEX
g/mile	g/mile	g/veh/day	g/trip	g/mile	g/mile	g/mile
0.036750011	0.001617832	0	0.002235544	0.002000001	0.015750005	0.002882031
0.036750011	0.015284645	0	0	0.002000001	0.015750005	0.002670162
0.036750011	0	0	0	0.002000001	0.015750005	0
0.036750011	0.002344116	0	0.00329903	0.002000001	0.015750005	0.003389622
0.036750011	0.123287131	0	0	0.002000001	0.015750005	0.003529915
0.036750011	0	0	0	0.002000001	0.015750005	0
0.061740018	0.031545807	0.096793251	0	0.009000003	0.026460008	0.0157643

SOx_IDLEX	SOx_STREX
g/veh/day	g/trip
0	0.000683025
0	0
0	0
0	0.000826768
0	0
0	0
0.039198487	0

Please confirm/change as necessary the equipment choices in the gray cells and the average hp ratings used. Select from the drop down list in the gray cells to pick other available equipment. Average hp for equipment is provides in rows 31 through 67 below if project specific data is not available.

Construction Equipment To Be Used for Project	From the drop down list please pick equivalent equipment from the equipment list in				
	OFFROAD	Avg hp	Or	CalEEMod	Avg hp
Concrete/Industrial Saws			Or	Concrete/Industrial Saws	81
Crane	Cranes	226	Or		
Backhoe	Tractors/Loaders/Backhoes	98	Or		
hydraulic excavator	Excavators	163	Or		
dozer/front-end loader	Rubber Tired Dozers	255	Or		
grader	Graders	175	Or		
roller‡	Rollers	81	Or		
auger	Bore/Drill Rigs	206	Or		
jack hammer*	Other Construction Equipment	172	Or		
Thumper Soil Compactor (gas)			Or	Plate Compactors	8
concrete paver‡	Pavers	126	Or		
10-wheel dump truck	Off-Highway Trucks	400	Or		
light Duty Truck	Off-Highway Trucks	400	Or		
water truck	Off-Highway Trucks	400	Or		
5000-lb propane forklift	Forklifts	89	Or		
Concrete pump			Or	Pumps	84
pneumatic tools/ air compressor†			Or	Air Compressors	78
electric welder			Or	Welders	46
Sheet Pile Driving Equipment	Other Construction Equipment	172	Or		
generator			Or	Generator Sets	84

Below are the equipment lists in OFFROAD and CalEEMod with average hp and load factor. Average hp can be used where project specific data is not available. Emission factors can also be generated for different hp categories.

Available Equipment in OFFROAD		Available Construction Equipment in CalEEMod		
Equipment	Average hp for 2019 fleet	Equipment	Average hp	Load Factor
A/C Tug Narrow Body	132	Aerial lifts	63	0.31
A/C Tug Wide Body	248	Air Compressors	78	0.48
Aerial Lifts	63	Bore/Drill Rigs	221	0.5
Baggage Tug	74	Cement and Mortar Mixers	9	0.56
Belt Loader	75	Concrete/Industrial Saws	81	0.73
Bobtail	144	Cranes	231	0.29
Bore/Drill Rigs	206	Crawler Tractors	212	0.43
Cargo Loader	117	Crushing/Proc. Equipment	85	0.78
Cargo Tractor	94	Dumpers/Tenders	16	0.38
Cranes	226	Excavators	158	0.38
Crawler Tractors	208	Forklifts	89	0.2
Drill Rig (Mobile)	238	Generator Sets	84	0.74

Excavators	163	Graders	187	0.41
Forklift (GSE)	107	Off-Highway Tractors	124	0.44
Forklifts	89	Off-Highway Trucks	402	0.38
Graders	175	Other Construction Equipment	172	0.42
Lift (GSE)	95	Other General Industrial Equipment	88	0.34
Off-Highway Tractors	123	Other Material Handling Equipment	168	0.4
Off-Highway Trucks	400	Pavers	130	0.42
Other Construction Equipment	172	Paving Equipment	132	0.36
Other General Industrial Equipment	88	Plate Compactors	8	0.43
Other GSE	108	Pressure Washers	13	0.3
Other Material Handling Equipment	167	Pumps	84	0.74
Passenger Stand	70	Rollers	80	0.38
Pavers	126	Rough Terrain Forklifts	100	0.4
Paving Equipment	131	Rubber Tied Dozers	247	0.4
Rollers	81	Rubber Tired Loaders	203	0.36
Rough Terrain Forklifts	100	Scrapers	367	0.48
Rubber Tired Dozers	255	Signal Boards	6	0.82
Rubber Tired Loaders	200	Skid Steer Loaders	65	0.37
Scrapers	362	Surfacing Equipment	263	0.3
Skid Steer Loaders	65	Sweepers/Scrubbers	64	0.46
Surfacing Equipment	254	Tractors/Loaders/Backhoes	97	0.37
Sweepers/Scrubbers	64	Trenchers	78	0.5
Tractors/Loaders/Backhoes	98	Welders	46	0.45
Trenchers	81			
Workover Rig (Mobile)	381			

SCHEDULE

	July 2019	Aug 2019	Sep 2019	Oct 2019	Nov 2019	Dec 2019	Jan 2020	Feb 2020	Mar 2020	Apr 2020
Site Preparation										
Excavation / Grading										
Demolition										
Building Construction										
Interceptors										
Paving										
Finish work, startup, testing										

SCHEDULE

May 2020	Jun 2020	Jul 2020	Aug 2020	Sep 2020	Oct 2020	Nov 2020	Dec 2020	Jan 2021	Feb 2021	Mar 2021	Apr 2021

SCHEDULE

May 2021	Jun 2021	Jul 2021	Aug 2021	Sep 2021	Oct 2021	Nov 2021	Dec 2021	Jan 2022	Feb 2022	Mar 2022	Apr 2022

SCHEDULE

May 2022	Jun 2022	Jul 2022	Aug 2022	Sep 2022	Oct 2022

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APPENDIX B

Biological Resources Supporting Information

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TABLE B-1
SPECIAL-STATUS PLANTS AND ANIMALS WITH POTENTIAL TO OCCUR IN THE PROJECT REGION

Scientific and Common Names	Status Federal/State/ CRPR	Geographic Distribution	Habitat Requirements	Potential Occurrence in Project Area
Plants				
Astragalus tener var. *tener* Alkali milk-vetch	--/--/1B.2	Southern Sacramento Valley, northern San Joaquin Valley, east San Francisco Bay Area. Considered extirpated from Santa Clara County.	Alkali playas, on adobe clay in valley and foothill grassland, vernal pools on alkaline soils; below 60 meters above MSL. Blooms March - June	Low; may occur in the seasonal wetland located south of the Project area. Nearest extant occurrence is 4.5 miles north in Fremont. There is no suitable habitat within the Project area.
Atriplex depressa Brittlescale	--/--/1B.2	Western and eastern Central Valley and adjacent foothills on west side of Central Valley.	Alkaline clay soils in chenopod scrub, playas, valley and foothill grasslands, meadows and seeps and vernal pools on alkaline, clay soils; below 320 meters above MSL. Blooms April - October	Absent; there is no suitable habitat within the Project area.
Atriplex joaquiniana San Joaquin spearscale	--/--/1B.2	West edge of Central Valley from Glenn County to Tulare County. Also reported from Monterey and San Luis Obispo Counties.	Alkaline soils in chenopod scrub, meadows and seeps, playas, valley and foothill grassland; below 835 meters above MSL. Blooms April - September	Absent; there is no suitable habitat within the Project area.
Atriplex minuscula Lesser saltscale	--/--/1B.1	Sacramento and San Joaquin Valley, Butte County and from Merced County to Kern County. Also recorded from Don Edwards NWR in Alameda County.	Sandy alkaline soils in chenopod scrub, playas, valley and foothill grassland; 15-200 meters above MSL. Blooms May - October	Absent; there is no suitable habitat within the Project area.
Centromadia parryi ssp. *congdonii* Congdon's tarplant	--/--/1B.1	East San Francisco Bay Area, Salinas Valley, Los Osos Valley.	Alkaline soils in annual grassland, on lower slopes, flats, and swales, sometimes on saline soils; below 230 meters above MSL. Blooms May - October	Moderate; the species is documented in alkali grassland in the western portion of the Project area. Suitable habitat for this species does occur in the Project area; During surveys in 2011, approximately 1,700 individuals of Congdon's tarplant were observed growing in alkaline soils in alkali and annual grassland and seasonal wetland habitat approximately 600 feet to the west of the Project area; however none were observed within the Project area during ESA's Headworks Improvements and New Headworks Alternatives Constraints Analysis reconnaissance survey in August 2016 or the wetland delineation in August 2017.

TABLE B-1 (Continued)
SPECIAL-STATUS PLANTS AND ANIMALS WITH POTENTIAL TO OCCUR IN THE PROJECT REGION

Scientific and Common Names	Status Federal/State/ CRPR	Geographic Distribution	Habitat Requirements	Potential Occurrence in Project Area
Plants (cont.)				
Chorizanthe robusta var. *robusta* Robust spineflower	E/--/1B.1	Coastal central California, from San Mateo to Monterey County.	Coastal bluff scrub, coastal dunes openings in cismontane woodland, on sandy soil. Blooms April - September	Absent; there is no suitable habitat within the Project area.
Chloropyron maritimum ssp. *palustre* Point Reyes bird's-beak	--/--/1B.2	Coastal northern California, from Humboldt to Santa Clara County, though presumed extirpated from Santa Clara County.	Coastal salt marsh, tidal salt marsh; below 10 meters above MSL. Blooms June - October	Absent; there is no suitable habitat within the Project area.
Eryngium aristulatum var. *hooveri* Hoover's button-celery	--/--/1B.1	South San Francisco Bay area, South Coast Ranges in Alameda, San Benito, Santa Clara, and San Luis Obispo Counties, though presumed extirpated from Santa Clara County.	Vernal pools; 3-45 meters above MSL. Blooms June - August	Low; may occur in the seasonal wetlands within the Project area.
Lasthenia conjugens Contra Costa goldfields	E/--/1B.1	Scattered occurrences in Coast Range valleys and southwest edge of Sacramento Valley, Alameda, Contra Costa, Monterey, Marin, Napa, Solano and Sonoma Counties. Presumed extirpated in Mendocino, Santa Barbara and Santa Clara Counties.	Wet areas in cismontane woodland, valley and foothill grassland, vernal pools, alkaline playas or saline vernal pools and swales; seasonal wetlands below 470 meters above MSL. Blooms March - June	Low; there is no suitable habitat within the Project area.
Malacothamnus arcuatus arcuate bush-mallow	–/–/1B.2	Santa Clara, Santa Cruz, and San Mateo Counties.	Chaparral, between 15-355 meters above MSL. Blooms April - September	Absent; there is no suitable habitat within the Project area.
Navarretia prostrata Prostrate vernal pool navarretia	--/--/1B.1	Western San Joaquin Valley, interior South Coast Ranges, central South Coast, Peninsular Ranges: Alameda, Los Angeles, Merced, Monterey, Orange, Riverside, San Diego, and San Luis Obispo Counties.	Vernal pools and mesic areas in coastal scrub and alkali grasslands, seasonal wetlands in alkaline soils; between 15-700 meters above MSL. Blooms April - July	Low; may occur in the seasonal wetlands in the Project area.
Suaeda californica California seablite	E/--/1B.1	Morro Bay, San Luis Obispo County, and San Francisco and Contra Costa Counties; historically found in the south San Francisco Bay.	Margins of tidal salt marsh; below 15 meters above MSL. Blooms June - October	Absent; there is no suitable habitat within the Project area.
Trifolium hydrophilum (T. depauperatum var. *hydrophilum)* Saline clover	--/--/1B.2	Sacramento Valley, central western California.	Salt marsh, mesic alkaline areas in Valley and foothill grasslands, vernal pools, marshes and swamps; below 300 meters above MSL. Blooms April - June	Low; may occur in the seasonal wetlands surrounding Project area. Nearest documented occurrence is in Alviso, ~ 1-mile away.

TABLE B-1 (Continued)
SPECIAL-STATUS PLANTS AND ANIMALS WITH POTENTIAL TO OCCUR IN THE PROJECT REGION

Scientific and Common Names	Status Federal/State/ CRPR	Geographic Distribution	Habitat Requirements	Potential Occurrence in Project Area
Invertebrates				
Euphydryas editha bayensis Bay checkerspot butterfly	T/--	Disjunct occurrences in San Mateo and Santa Clara Counties.	Associated with specific host plants that typically grow on serpentine soils.	Absent; there is no suitable habitat for this species, as there are no serpentine soils in the Project area.
Lepidurus packardi Vernal pool tadpole shrimp	E/--	Shasta County south to Merced County.	Vernal pools and ephemeral stock ponds.	Absent; there is no suitable habitat in the Project area.
Amphibians				
Ambystoma californiense California tiger salamander	T/T	Central Valley, including Sierra Nevada foothills, up to approximately 1,000 feet, and coastal region from Sonoma County south to Santa Barbara County.	Small ponds, lakes, or vernal pools in grasslands and oak woodlands for larvae; rodent burrows, rock crevices, or fallen logs for cover for adults and for summer dormancy.	Low; suitable habitat occurs in the annual grassland within the Project area and suitable breeding habitat occurs in seasonal wetlands that inconsistently pond for a short period of time annually; however the nearest documented occurrence of this species is 4.5 miles away from the Project area near Albrae.
Rana draytonii California red-legged frog	T/SSC	Found along the coast and coastal mountain ranges of California from Mendocino County to San Diego County and in the Sierra Nevada from Butte County to Stanislaus County.	Permanent and semipermanent aquatic habitats, such as creeks and cold-water ponds, with emergent and submergent vegetation; may aestivate in rodent burrows or cracks during dry periods.	Low; may occur in the drainages of the Project area on a transient basis. There is no high-quality suitable breeding habitat in the Project area.
Reptiles				
Emys marmorata Western pond turtle	–/SSC	The western pond turtle is uncommon to common in suitable aquatic habitat throughout California, west of the Sierra-Cascade crest and absent from desert regions, except in the Mojave Desert along the Mojave River and its tributaries.	Occupies ponds, marshes, rivers, streams, and irrigation canals with muddy or rocky bottoms and with watercress, cattails, water lilies, or other aquatic vegetation in woodlands, grasslands, and open forests. Nests are typically constructed in upland habitat within 0.25 mile of aquatic habitat.	Low; may occur in the drainages of the Project area on a transient basis. There is no high-quality suitable breeding habitat in the Project area.
Mammals				
Reithrodontomys raviventris Salt marsh harvest mouse	E/E	The San Francisco Bay Estuary and Suisun Marsh.	Saline to brackish salt marsh habitat. Pickleweed is primary habitat.	Low; known to use the salt marsh and salt panne habitats within the greater SJSC WPCP grounds; however, there is no suitable habitat in the Project area.

TABLE B-1 (Continued)
SPECIAL-STATUS PLANTS AND ANIMALS WITH POTENTIAL TO OCCUR IN THE PROJECT REGION

Scientific and Common Names	Status Federal/State/ CRPR	Geographic Distribution	Habitat Requirements	Potential Occurrence in Project Area
Mammals (cont.)				
Sorex vagrans halicoetes Salt-marsh wandering shrew	-/SSC	Southern arm of the San Francisco Bay in San Mateo, Santa Clara, Alameda, and Contra Costa Counties.	Salt marshes from 6 to 9 feet above mean sea level (MSL).	Absent; there is no suitable habitat in the Project area.
Birds				
Agelaius tricolor Tricolored blackbird	--/SSC	Permanent resident in the Central Valley from Butte County to Kern County. Breeds at scattered coastal locations from Marin County south to San Diego County; and at scattered locations in Lake, Sonoma, and Solano Counties. Rare nester in Siskiyou, Modoc, and Lassen Counties.	Nests in dense colonies in emergent marsh vegetation, such as tules and cattails, or upland sites with blackberries, nettles, thistles, and grainfields. Habitat must be large enough to support 50 pairs. Probably requires water at or near the nesting colony.	Low (foraging only); may occur over the Project area on a transient basis. There is no suitable nesting habitat in the Project area.
Aquila chrysaetos Golden eagle	--/FP	Foothills and mountains throughout California. Uncommon non-breeding visitor to lowlands such as the Central Valley.	Nest on cliffs and escarpments or in tall trees overlooking open country. Forages in annual grasslands, chaparral, and oak woodlands with plentiful medium and large-sized mammals.	Low (foraging only); may occur over the Project area on a transient basis. There is no high-quality suitable nesting habitat in the Project area.
Ardea herodias Great blue heron (rookery)	--/--	Nests in suitable habitat throughout California except at higher elevations in Sierra Nevada and Cascade mountain ranges.	Widely distributed in freshwater and calm-water intertidal habitats.	Low (foraging only); may occur over the Project area on a transient basis. There is no known rookery in the Project area.
Athene cunicularia hypugaea Western burrowing owl	--/SSC	Lowlands throughout California, including the Central Valley, northeastern plateau, southeastern deserts, and coastal areas; rare along south coast.	Level, open, dry, heavily grazed or low stature grassland or desert vegetation with available burrows.	High (foraging and breeding); western burrowing owl is known to forage and breed in the non-native grassland south and west of the Project area. Burrowing owls were observed during the Project BUOW surveys in 2015 (ESA, 2015).
Charadrius alexandrines nivosus Western snowy plover	T/SSC	Population defined as those birds that nest adjacent to or near tidal waters, including all nests along the mainland coast, peninsulas, offshore islands, and adjacent bays and estuaries. Twenty breeding sites are known in California from Del Norte to Diego County.	Coastal beaches above the normal high tide limit in flat, open areas with sandy or saline substrates; vegetation and driftwood are usually sparse or absent.	Absent; there is no suitable habitat in the Project area.

TABLE B-1 (Continued)
SPECIAL-STATUS PLANTS AND ANIMALS WITH POTENTIAL TO OCCUR IN THE PROJECT REGION

Scientific and Common Names	Status Federal/State/ CRPR	Geographic Distribution	Habitat Requirements	Potential Occurrence in Project Area
Birds (cont.)				
Circus cyaneus Northern harrier	--/SSC	Occurs throughout lowland California. Has been recorded in fall at high elevations.	Grasslands, meadows, marshes, and seasonal and agricultural wetlands.	Moderate (foraging only); northern harrier is documented in the annual non-native grassland areas immediately south and west of the Project area and has the potential to forage in the Project area. Nest observed nearest Project area documented at mouth of Coyote Creek, over 5 miles north of Project area.
Elanus leucurus White-tailed kite	--/CFP	Lowland areas west of Sierra Nevada from the head of the Sacramento Valley south, including coastal valleys and foothills to western San Diego County at the Mexico border.	Low foothills or valley areas with valley or live oaks, riparian areas, and marshes near open grasslands for foraging.	Low (foraging and nesting); white-tailed kite may forage in open grasslands within and adjacent to the Project area. Suitable nesting habitat is present in the mature trees bordering roads of the Project area.
Geothlypis trichas sinuosa Saltmarsh common yellowthroat	--/SSC	Found only in the San Francisco Bay Area in Marin, Napa, Sonoma, Solano, San Francisco, San Mateo, Santa Clara, and Alameda Counties.	Freshwater marshes in summer and salt or brackish marshes in fall and winter; requires tall grasses, tules, and willow thickets for nesting and cover.	Low; may occur over the Project on a transient basis. There is no suitable habitat in the Project area.
Laterallus jamaicensis coturniculus California black rail	--/T	Inhabits freshwater marshes, wet meadows & shallow margins of saltwater marshes bordering larger bays.	Require dense cover of upland vegetation for protection. Needs water depths of ~1 inch that do not fluctuate during the year & dense vegetation for nesting.	Low; there is no suitable nesting habitat in the Project area.
Melospiza melodia pusillula Alameda song sparrow	--/SSC	Found only in marshes along the southern portion of the San Francisco Bay.	Brackish marshes associated with pickleweed; may nest in tall vegetation or among the pickleweed.	Low; there is no suitable habitat in the Project area.
Pelecanus occidentalis californicus California brown pelican	D/E	The Pacific coast from Canada through Mexico.	Coastal areas. Nests on islands.	Absent; may occur over the Project on a transient basis. There is no suitable habitat in the Project area.
Rallus longirostris obsoletus Ridgway's (=California clapper) rail	E/CFP	Found along the Pacific Coast in Monterey and San Luis Obispo Counties.	From tidal mudflats to tidal sloughs. Associated with abundance grow of pickleweed. Feeds on invertebrates from mud-bottom sloughs.	Absent; may occur over the Project on a transient basis. There is no suitable habitat in the Project area.

TABLE B-1 (Continued)
SPECIAL-STATUS PLANTS AND ANIMALS WITH POTENTIAL TO OCCUR IN THE PROJECT REGION

Scientific and Common Names	Status Federal/State/ CRPR	Geographic Distribution	Habitat Requirements	Potential Occurrence in Project Area
Birds (cont.)				
Sternula antillarum browni California least tern	E/E/CFP	Found along the Pacific Coast of California from San Francisco to Baja California.	Nest on open beaches kept free of vegetation by natural scouring from tidal action.	Absent; there is no suitable habitat in the Project area.

NOTES:

Potential Occurrence in the Project area:
High = Species is expected to occur and habitat meets species requirements.
Moderate = Habitat is only marginally suitable or is suitable but not within species geographic range.
Low = Habitat does not meet species requirements as currently understood in the scientific community.

California Rare Plant Rank (CRPR):
Rank 1A = Plants presumed extirpated in California and either rare or extinct elsewhere.
Rank 1B = Plants rare, threatened, or endangered in California and elsewhere.
Rank 2A = Plants presumed extirpated in California, but more common elsewhere.
Rank 2B = Plants rare, threatened, or endangered in California, but more common elsewhere.
Rank 3 = Plants about which we need more information – a review list
Rank 4 = Plants of limited distribution – a watch list

An extension reflecting the level of threat to each species is appended to each rarity category as follows:
.1 – Seriously endangered in California.
.2 – Fairly endangered in California.
.3 – Not very endangered in California.

Status Codes:

Federal
E = listed as endangered under the ESA
T = listed as threatened under the ESA
– = no listing

State
E = listed as endangered under CESA
T = listed as threatened under CESA
SSC = California Department of Fish and Wildlife designated “species of special concern”
CFP = California Department of Fish and Wildlife designated “fully protected”
– = no listing

SOURCE: USFWS, 2017, CNPS, 2017, and CDFW, 2017.