



Initial Study/Mitigated Negative Declaration (IS/MND)

Town of Discovery Bay – Diffuser Outfall Repairs

Town of Discovery Bay

12 December 2019

308010-00221-19200

Advisian
Worley Group

advisian.com

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Mitigated Negative Declaration

Project: Town Of Discovery Bay – Diffuser Outfall Repairs

Lead Agency: Town of Discover Bay, 1800 Willow Lake Road, Discovery Bay, CA 94514

Availability of Documents: The Initial Study for this Mitigated Negative Declaration has been made available for review at:

Town of Discovery Bay
1800 Willow Lake Road
Discovery Bay, CA 94514
<https://www.todb.ca.gov/>

Project Description:

Herwit Engineering (Hewit), on behalf of the Town of Discovery Bay California (TDB), commissioned Advisian Worley Group Inc. (Advisian) to complete an assessment of their sanitary sewage outfall diffuser (outfall) in December of 2017. The outfall is used to discharge treated effluent from the TDB wastewater treatment plant into the Old River and in past years has experienced diminishing discharge capacity. In addition, concerns have been raised that discharge pumping capacity of the plant has been reduced; this may be due to plugged sections of the outfall diffuser pipe and/or reduced capacity of the pumps.

The comprehensive assessment included an evaluation of the outfall existing conditions, a review of the system hydraulics, site investigations including closed circuit television (CCTV) camera inspection, a review of underwater surveys, and recommendations for upgrades/repair measures.

From the visual inspection, no damage of the outfall was observed above water, and no erosion along the bank slope existed. Good vegetation growth was observed next to the outfall along the bank slope as shown in Figure 3.

A CCTV camera inspection was completed and televised using a push/rod reel with self-leveling color camera and footage counter inserted into the outfall's shoreline opening availed by removal of the Harris syphon breaker. The inspection did not reveal significant obstruction in the 18-in High-density polyethylene (HDPE) segment (70 ft), except for algae growth along the walls of the pipe. As in the 18-in segment, algae growth was observed in the 10-in HDPE segment (30.5 ft). With the camera head inserted inside at approximately 152 ft (station 0+190 ft, C2 diffuser design drawing, Komex 2004a), the CCTV camera encountered a blockage in the 10-in segment and was not able to proceed further into the pipe. As a result, no footage was recorded beyond this point. No details of the 6-in HDPE segment were obtained. It is assumed that this segment may be partially or fully obstructed (with reduced flow capacity) as described in the 2013 and 2017 (section below) underwater survey (Bishop Diving & Salvage 2013 and 2017). Video files CCTV camera inspection were mailed to TDB and Herwit.

Also, as part of the site visit, a pump test was completed for all of the five vertical turbine pumps at the wastewater treatment plant. The test procedure consisted of allowing the lift station sump to fill to its maximum capacity and then activate the pumps to their maximum flow. Recordings were made for approximately 5 to 10 minutes, obtaining readings from the flow meter and pressure head for the pump gauges. One of the pump gauges (first pump from north to south) was not operating, so readings were obtained for only 4 of the 5 lift station pumps. Results indicated that for an average flow of 3.11 mega gallons per day (MGD) a pumping head of approximately 20 pounds per square inch gauge (psig) was required.

To simulate the results of the pumping test, the recorded flow of 3.11 MGD was used though the system (the lift station comprised of five vertical turbine pumps, 4079 ft. of conveyance pipe and the Old River outfall diffuser) and compared to recorded pumping head of approximately 20 psig (45.9 ft.). The assessment showed that for a flow of 3.11 MGP, the head losses though the system would require a pumping head of 14.6 psi (33.6 ft.). These results indicated that the current system has increased head losses and therefore the lift station must operate at a higher pumping head to convey the flow through the system. The higher-pressure head required is a result of additional losses encountered by flow being channeled through a lower number of diffusers which increases the jet velocity and the loss at each Tideflex valve. As expected, these head losses are attributed to the obstruction observed in the outfall diffuser.

The proposed project includes removing the 10-inch and 6-inch HDPE segments and replacing them with an 18-inch spool of the same combined length. This will result in a structure with a constant 18-inch diameter throughout the entire length of the outfall pipe body and with 36 ports. Tasks associated with this design will include the following:

- Prepare a dispersion model to validate the constant-diameter design as meeting or exceeding dilution goals for pollutant parameters listed in the National Pollutant Discharge Elimination System (NPDES) Permit No. CA0078590.
- Excavate trench in riverbed to uncover the 10-in and 6-in diffuser pipe segments.
- Remove the 10-in and 6-in sections from the existing structure, leaving the original 18-in segment installed in riverbed.
- Construct replacement segment(s) in shop consisting of 18-in diameter HDPE pipe.
- Install replacement segment(s) in riverbed trench, bolt to original 18-in segment
- Backfill trench covering new pipe segment(s) with granular material, per original design.

Acronyms and abbreviations

Acronym/abbreviation	Definition
BAAQMD	The Bay Area Air Quality Management District
BMP	Best Management Practices
CALEPA	California Department of Environmental Protection
CARB	California Air Resources Board
CBC	California Building Code
CCAA	California Clean Air Act
CCR	California Code of Regulations
CDC	California Department of Conservation
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CCTV	Closed Circuit Television
CCWD	Contra Costa Water District
CSLC	California State Lands Commission
CNDDDB	California Natural Diversity Database (maintained by CDFW)
CNPS	California Native Plant Society
CSQA	California Stormwater Quality Association
EIR	Environmental Impact Report
EPA	United States Environmental Protection Agency
HCP	Habitat Conservation Plan
HDPE	High-density polyethylene
Herwit	Herwit Engineering
IS	Initial Study
LSA	Lake and Streambed Alteration Permit
MGD	mega gallons per day
MND	Mitigated Negative Declaration
NAAQS	National Ambient Air Quality Standards

Acronym/abbreviation	Definition
NP	Natural Preserve
NPDES	National Pollutant Discharge Elimination System
OHWM	Ordinary High-Water Mark
PRC	Public Resources Code
psig	Pound Per Square Inch Gauge
RWQCB	Regional Water Quality Control Board
RWQCB5	Regional Water Quality Control Board, Region 5 - Central Valley Region
SAAQS	State Ambient Air Quality Standards
TDB	Town of Discovery Bay
TDBCSD	Town of Discovery Bay Community Services District
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey

1 Introduction

1.1 Introduction and Regulatory Guidance

This Initial Study/Mitigated Negative Declaration (IS/MND) has been prepared by the Town of Discovery Bay (TDB) to evaluate the potential environmental effects of a proposed replacement diffuser outfall at the Discover Bay Sanitary Outfall, Discovery Bay, California. This document has been prepared in accordance with the California Environmental Quality Act (CEQA), Public Resources Code §21000 *et seq.*, and the State CEQA Guidelines, California Code of Regulations (CCR) §15000 *et seq.*

An IS is conducted by a lead agency to determine if a project may have a significant effect on the environment [CEQA Guidelines §15063(a)]. If there is substantial evidence that a project may have a significant effect on the environment, an Environmental Impact Report (EIR) must be prepared, in accordance with CEQA Guidelines §15064(a). However, if the lead agency determines that revisions in the project plans or proposals made by or agreed to by the applicant mitigate the potentially significant effects to a less-than-significant level, an MND may be prepared instead of an EIR [CEQA Guidelines §15070(b)]. The lead agency prepares a written statement describing the reasons a proposed project would not have a significant effect on the environment and, therefore, why an EIR need not be prepared. This IS/MND conforms to the content requirements under CEQA Guidelines §15071.

1.2 Lead Agency

The lead agency is the public agency with primary approval authority over the proposed project. In accordance with CEQA Guidelines §15051(b)(1), "the lead agency will normally be an agency with general governmental powers, such as a city or county, rather than an agency with a single or limited purpose." The lead agency for the proposed project is TDB. The contact person for the lead agency is:

Aaron Goldsworthy, Project Manager
Town of Discovery Bay
1800 Willow Lake Road
Discovery Bay, CA 94505-9376
(925) 634-1131
agoldsworthy@todb.ca.gov

All inquiries regarding environmental compliance for this project, including comments on this environmental document should be addressed to:

Len Marino
Advisian, Worley Group Inc.
2330 E. Bidwell Street, Suite 120
Folsom, CA 95630
+1 (916) 605-9751
len.marino@advisian.com

1.3 Purpose and Document Organization

The purpose of this document is to evaluate the potential environmental effects of the proposed project on the Outfall. Mitigation measures have also been incorporated into the project to eliminate any potentially significant impacts or reduce them to a less-than-significant level.

This document is organized as follows:

- **Chapter 1 - Introduction.**
- **Chapter 2 - Project Description.** This chapter describes the purpose of the project, the need for the project, and how the project will be carried out.
- **Chapter 3 - Environmental Checklist (Environmental Setting, Impacts, and Mitigation Measures).** This chapter identifies the significance of potential environmental impacts, explains the environmental setting for each environmental resource or impact, and evaluates each through the CEQA Environmental (Initial Study) Checklist. Mitigation measures are incorporated, where appropriate, to reduce all potentially significant impacts to a less-than-significant level.
- **Chapter 4 - Mandatory Findings of Significance.** The overall significance of any potential impacts to natural and cultural resources, cumulative impacts and impacts to humans shall be identified and summarized within this chapter as required by the Initial Study guidelines.
- **Chapter 5 - Summary of Mitigation Measures.** This chapter includes the mitigation measures incorporated into the project as a result of the Initial Study.
- **Chapter 6 - References.** This chapter identifies the references and sources used in the preparation of this IS/MND.
- **Chapter 7 - Report Preparation.** This chapter provides a list of those involved in the preparation of this document.
- **Chapter 8 – Public and Agency Comment** (* Final document only). Summary of the public review process for the IS/MND and comments received.

1.4 Summary of Findings

Chapter 3 of this document contains the Environmental (Initial Study) Checklist that identifies potential environmental impacts (by environmental issue) which may result from implementation of the project. Avoidance, minimization and/or mitigation measures have been included that result in impacts that are less-than-significant or result in no impact.

Based on the IS and supporting environmental analysis provided in this document, the proposed project would result in less-than-significant impacts to the following resources or issues: aesthetics, agricultural resources, air quality, biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, land use and planning, mineral resources, noise, population and housing, public services, recreation, transportation/traffic, and utilities and service systems.

In accordance with §15064(f) of the CEQA Guidelines, an MND shall be prepared if the proposed project will not have a significant effect on the environment after the inclusion of mitigation measures. Based on the available project information and the environmental analysis presented in this document, there is no substantial evidence that, after the incorporation of mitigation measures, the proposed project would have a significant effect on the environment. It is proposed that a Mitigated Negative Declaration be adopted in accordance with CEQA Guidelines.

DRAFT

2 Project Description

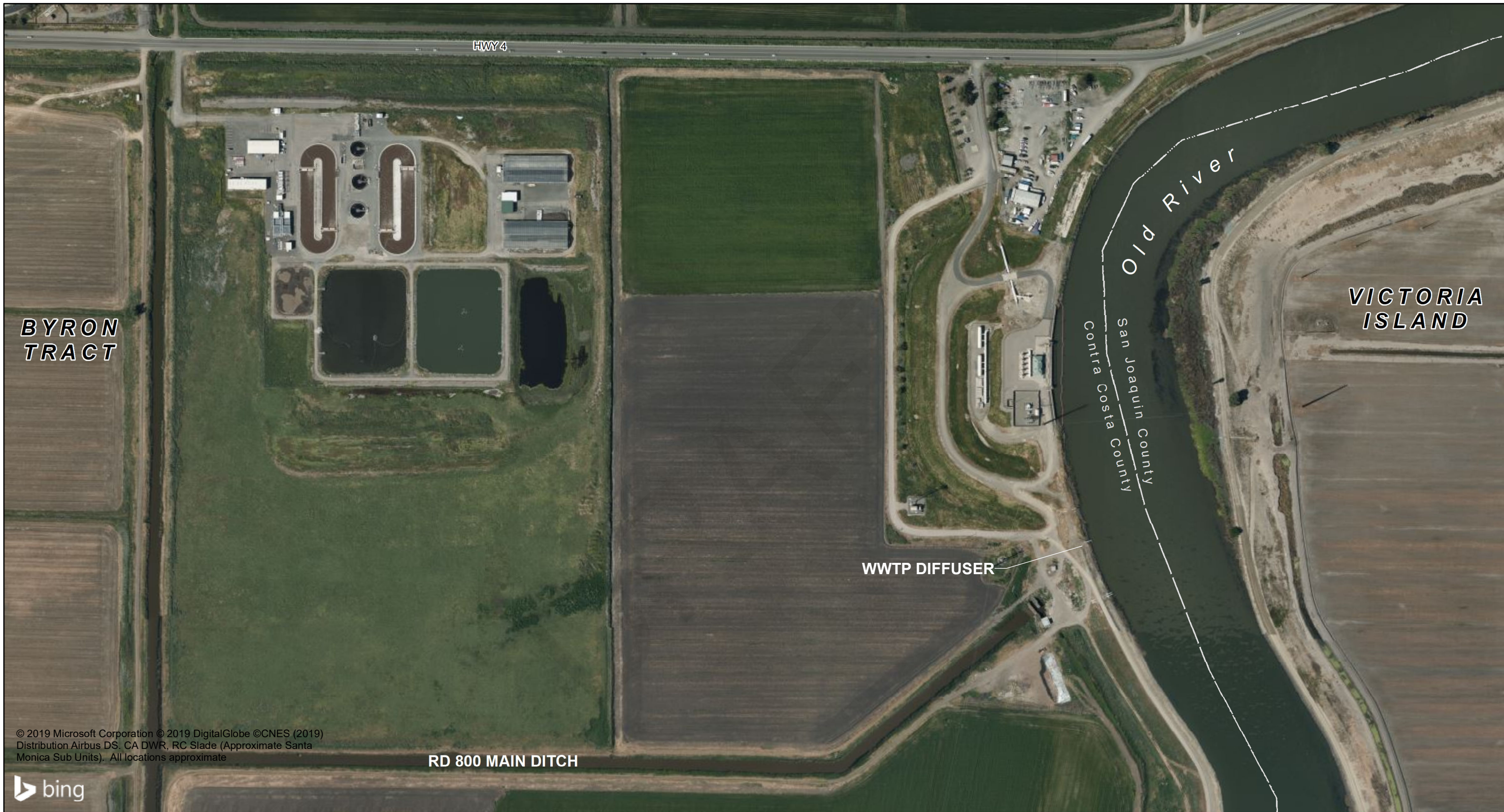
2.1 Introduction

This IS/MND has been prepared by Advisian, Worley Group to evaluate the potential environmental effects of the proposed project. The proposed project would replace the existing diffuser pipe at the Outfall with a new replacement pipe meeting the modelled discharge requirements and allow for continual observation and maintenance. The existing discharge piping is deteriorated and functionally substandard to the point of failure, which is not allowing the facility to operate as permitted and approved. The project will also address issues of ongoing inspections, commission a periodic maintenance program, and provide a flushing system installation within the revised design criteria.

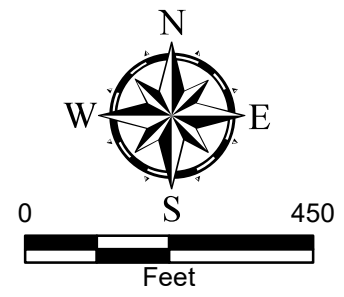
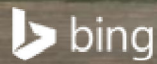
2.2 Project Location

The project sanitary outfall is located in eastern Contra Costa County, California approximately 60 miles from San Francisco, in a section of the Old River flanked by earthen levees (Figures 1, 2, and 3). The site is located adjacent to the west levee (left river bank) and south of the Contra Costa Water District (CCWD) Los Vaqueros Pump Station. Based on the Kleinfelder Inc. geotechnical report (2004), the Old River at the site location has the following tidal water-level fluctuations and elevations:

- 100-year Flood Elevation – 7.5 feet (ft)
- Mean High Water Elevation – 2.4 ft
- Mean Higher High-Water Elevation – 3.5 ft
- Mean Lower Low Water Elevation – -0.5 ft
- Extreme Low Water Elevation – -2.0 ft
- Flow velocity – 3 to 4 ft./s



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Distribution Airbus DS. CA DWR, RC Slade (Approximate Santa
Monica Sub Units). All locations approximate

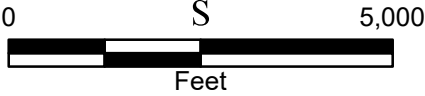
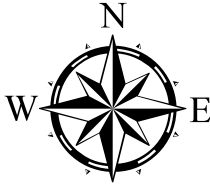
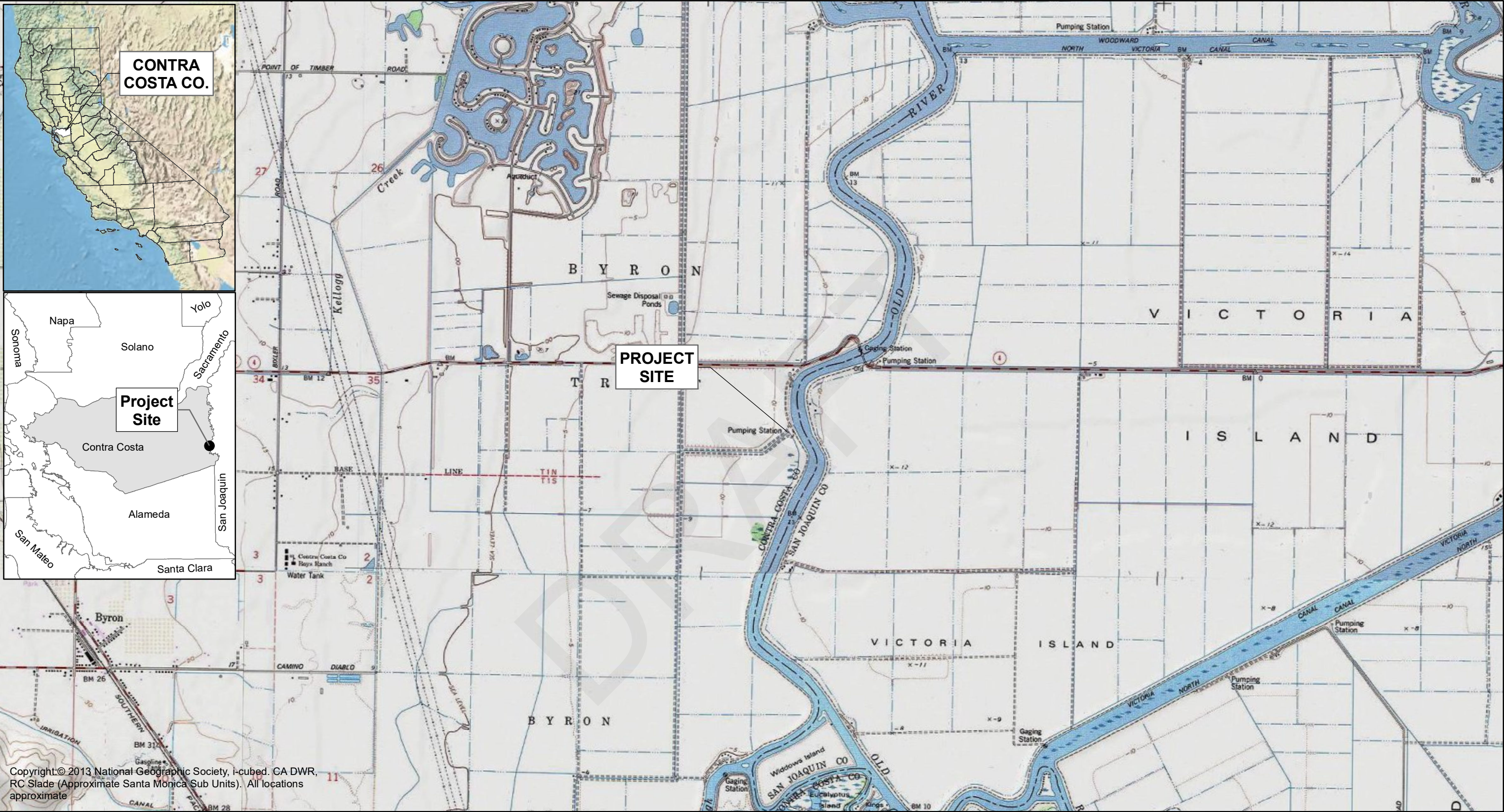


DISCOVERY BAY
CONTRA COSTA COUNTY, CA



SITE MAP

SWL	SB	12/6/2019
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DISCOVERY BAY
CONTRA COSTA COUNTY, CA



VICINITY MAP

SWL SB 12/6/2019

308010-00221

Figure 3 Area of Outfall



2.3 Background And Need For The Project

The Town of Discovery Bay Community Services District (TDBCSD) formerly discharged treated secondary effluent into the Reclamation District 800 (RD-800) Main Ditch adjacent to the south border of TDB's wastewater treatment plant. The wastewater flowed through the RD-800 pump station and discharged through the outfall pipes into the Old River. The TDBCSD no longer uses the RD-800 facility to discharge wastewater effluent.

The Regional Water Quality Control Board, Region 5 - Central Valley Region (RWQCB5) issued Water Discharge Requirements Order No. R5-2003-0067 and adopted a Cease and Desist Order No. R5-2003-0058 on April 25, 2003. The TDB applied for and received National Pollutant Discharge Elimination System (NPDES) Permit No. CA0078590, which allows TDBCSD to discharge directly into the Old River via the outfall structure connected to the TDB wastewater treatment plant. In order to meet the NPDES-permitted concentration limits for listed parameters, including copper, ammonia, nitrate/nitrite and others included in the NPDES permit, the TDB was compelled to construct the now-existing wastewater effluent outfall diffuser. The outfall structure's purpose is to promote rapid dispersion and mixing of the effluent plume

with ambient water as it is released into the Old River and effectively dilute concentrations of the listed parameters which may exist in the treated secondary effluent stream.

This existing outfall, constructed in May 2004, is comprised of a multi-port diffuser structure developed by Flow Science Inc., as noted in their Dye Study (2002). The original design concept (Komex 2004a, Komex 2004b), which was approved by the RWQCB5, consisted of the following:

- Total outfall length: 228.5 ft
- High-density polyethylene (HDPE) pipe diffuser length: 123 ft, including concentric reducer length
- Outfall pipe diameter: 18-in, 10-in, and 6-in segments
- Number of diffuser ports: 36
- Port spacing: average of 3 ft between ports
- Port diameter: 2-in, Series 35 Longneck Tideflex Valve

After operating the outfall for approximately 9 years, the TDB noticed a gradual performance degradation of the effluent pumping system. The pumps were not able to discharge the design flow through the outfall and operators suspected that it was plugged with sediment. On May 15, 2013, Bishop Diving & Salvage completed an underwater visual inspection of the outfall including 123 ft of HDPE pipe comprised of 18-in, 10-in and 6-in pipe segments. The result of the inspection revealed that, out of the 36 diffuser ports, two of them were missing and no flow (except for one port) was observed in the downstream-most 6-in segment, which is 16.5 ft long (Bishop Diving & Salvage 2013).

On December 7, 2017, Worley representatives visited the site to inspect the outfall condition. The site activities included shoreline visual inspection of the outfall and a closed circuit television (CCTV) camera inspection completed by Subtronic Corporation.

From the shoreline visual inspection, no damage of the outfall was observed above water, and no erosion along the bank slope existed. Good vegetation growth was observed next to the outfall along the bank slope.

A CCTV camera inspection was completed and televised using a push/rod reel with self-leveling color camera and footage counter inserted into the outfall's shoreline opening availed by removal of the Harris syphon breaker. The inspection did not reveal significant obstruction in the 18-in HDPE segment (70 ft), except for algae growth along the walls of the pipe. As in the 18-in segment, algae growth was observed in the 10-in HDPE segment (30.5 ft). With the camera head inserted inside at approximately 152 ft (station 0+190 ft, C2 diffuser design drawing, Komex 2004a), the CCTV camera encountered a blockage in the 10-in segment and was not able to proceed further into the pipe. As a result, no footage was recorded beyond this point. No details of the 6-in HDPE segment were obtained. It is assumed that this segment may be partially or fully obstructed (with reduced flow capacity) as described in the 2013 and 2017 (section below) underwater survey. Video files CCTV camera inspection were mailed to TDB and Herwit Engineering (Hewit).

Also, as part of the site visit, a pump test was completed for all of the five vertical turbine pumps at the wastewater treatment plant. The test procedure consisted of allowing the lift station sump to fill to its maximum capacity and then activate the pumps to their maximum flow. Recordings were made for approximately 5 to 10 minutes, obtaining readings from the flow meter and pressure head for the pump gauges. One of the pump gauges (first pump from north to south) was not operating, so readings were obtained for only 4 of the 5 lift station pumps. Results indicated that for an average flow of 3.11 mega gallons per day (MGD) a pumping head of approximately 20 pounds per square inch gauge (psig) was required.

On December 2, 2017, Bishop Diving & Salvage completed an updated underwater survey of the outfall including 123 ft of HDPE pipe (comprised of 18-in, 10-in, and 6-in pipeline segments). The inspection showed results consistent with the 2013 survey, with 2 out of the 36 ports missing and no flow observed in the 16.5-ft long 6-in pipeline segment. Also, some of the Tideflex valves appeared to have cracks and were suspected of not sealing properly, thus allowing sediment entrainment into the diffuser. These results confirmed the observations of the CCTV camera inspection, which indicated a partial blockage at the downstream end of the 10-in segment (weak flow out of port 28) and a complete blockage of the 6-in segment (with no flow observed out of ports 31-36).

The TDB conducted a hydraulics assessment of the pressurized effluent system. To simulate the results of the previous pumping test, the system was operated at the same average flow of 3.11 MGD with the river outfall structure bypassed. A line pressure of 14.6 psig (33.6 ft) was observed. This compared to a line pressure of approximately 19.9 psig (45.9 ft) required to achieve the same 3.11 MGD flow through the outfall. The assessment indicated that for the 3.11 MGD flowrate, the head losses through the system are in the range of 5.3 psig. To overcome the increased head loss, the lift station has to operate at a higher pumping head to convey the 3.11 MGD flow through the system. As expected, these head losses may be attributed to the obstruction observed in the outfall diffuser. Flow is being discharged through a fewer number of diffuser ports, causing higher back pressure on the pumps. With fewer discharge ports available, flow velocity increases inside the outfall pipe and causes increased friction loss at the remaining operable Tideflex valves, adding more back pressure.

The proposed replacement outfall diffuser is necessary to comply with the RWQCB5 Water Discharge Requirements Order No. R5-2003-0067 and NPDES Permit No. CA0078590. The repairs and replacement sections planned for the outfall structure would restore the original dispersion functionality to comply with the RWQCB5 requirements. It would consist of the originally-designed 36 ports within a constant 18-in diameter HDPE pipe segment that would release treated effluent into Old River at a non-erosive rate while effectively dispersing effluent to dilute concentrations of listed pollutant parameters.

2.4 Project Objectives

1. Restore original operational performance capability to the outfall in order to meet dilution requirements for copper, ammonia, nitrate/nitrite and other parameters listed in the NPDES permit issued by the RWQCB5.
2. Make improvements to the outfall that would facilitate maintenance and improve the operational performance between maintenance cycles.

3. Include a means for flushing sediment trapped within the outfall as it impedes hydraulic performance and reduces effluent dilution effectiveness.
4. Install an onshore valve or coupling connection downstream of the existing Harris syphon breaker to enable operators to isolate the outfall pipeline from the plant.

2.5 Project Description

The TDB's existing wastewater treatment facility consists of two adjacent sites, namely, Plants 1 and 2. Plant 1 is in the southeast corner of the Town of Discovery Bay, north of State Highway 4. Surrounding the plant are single-family homes and a golf course to the north and west, the Contra Costa County RD-800 drainage canal to the east (across which is open agricultural land), and State Highway 4 to the south (across which is more open agricultural land). The site is nearly flat, between 5 and 10 feet below sea level. Plant 1 consists of a bar screen, a comminutor, an oxidation ditch, two secondary clarifiers, and an emergency storage lagoon. The original capacity of Plant 1 was 1.2 MGD, but modifications in the late 1980's increased its capacity to 1.3 MGD, sufficient to serve 3,979 housing units. The treated effluent from the plant is discharged through a connection to the Old River outfall diffuser structure. The current project proposed no changes for Plant 1.

Plant 2 is diagonally across State Highway 4 from Plant 1. State Highway 4 forms the north boundary of the site, separating it from open agricultural land. The R D-800 drainage canal forms the west and south boundary of the Plant 2 site, separating it from open agricultural land. There is open agricultural land to the east of the plant. The site is nearly flat at about 10 feet below sea level. Plant 2 consists of an oxidation ditch, secondary clarifier with lift station, pump station, ultraviolet disinfection system, modified flow splitter box, and two sludge lagoons. The combined capacity of the two plants is a total of 2.1 MGD at full operational capacity. Treated effluent from the Plant 2 is discharged through the diffuser structure in the Old River. The TDB's NPDES Permit allows for a maximum discharge of 2.35 MGD through the outfall in the Old River.

Per the Outfall Assessment (Worley Assessment) Conclusions and Recommendation, the following conclusions were made:

- Sections of the diffuser appear to be damaged, either partially operating (downstream end of the 10-in segment) or non-operating (6-in segment). Based on the 2017 underwater survey prepared by Bishop Diving & Salvage, the 6-in segment of the diffuser is non-operational with no flow observed in any of its ports. Also, per the underwater survey, the 10-in segment appears to have weak flow at the downstream end. The CCTV camera inspection completed by Subtronic Corporation indicated that a blockage was present at the downstream end of 10-in segment, verifying the flow observations made by the underwater survey.
- The hydraulic assessment completed for the TDB sanitary system (from the lift station to the outfall) indicated that the current system is operating with higher head loss compared to its original design. The assessment indicated that the lift station has to deliver a higher pumping head to convey the design flow through the system. The results showed that to deliver a flow of 3.11 MGD, the lift station requires a pumping head of 19.9 psi, while under normal conditions the expected pumping head should be approximately 15 psi. The higher pressure head is attributed to obstruction observed in the outfall structure and higher friction losses through remaining the remaining operable Tideflex valve

ports. The increased head losses are consistent with the findings observed during the 2017 underwater survey and CCTV camera inspection.

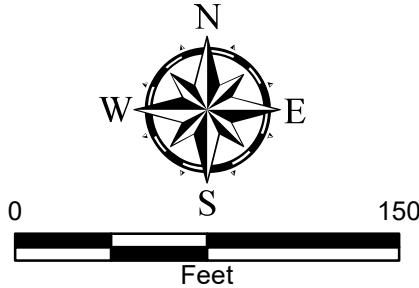
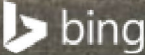
- To improve the overall system performance, the existing outfall should be repaired and upgraded.

2.5.1 Staging Areas

During construction, a small area on the immediate shore adjacent to the proposed project area (<0.5 acre) (Figure 4) will be used for temporary staging. The temporary staging area is now used daily by the treatment plant operators for routine operations and maintenance and this usage has not changed since the original diffuser facility was installed. This site will be managed daily for traffic mitigation, dust and access control, as well as storm water management under the existing operation Storm Water Pollution Prevention Plan and Spill Prevention Control and Countermeasures Plan.



© 2019 Microsoft Corporation © 2019 DigitalGlobe ©CNES (2019)
Distribution Airbus DS. CA DWR, RC Slade (Approximate Santa
Monica Sub Units). All locations approximate



DISCOVERY BAY
CONTRA COSTA COUNTY, CA



DISCOVERY BAY STAGING AREA

SWL	SB	12/6/2019
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308010-00221

4

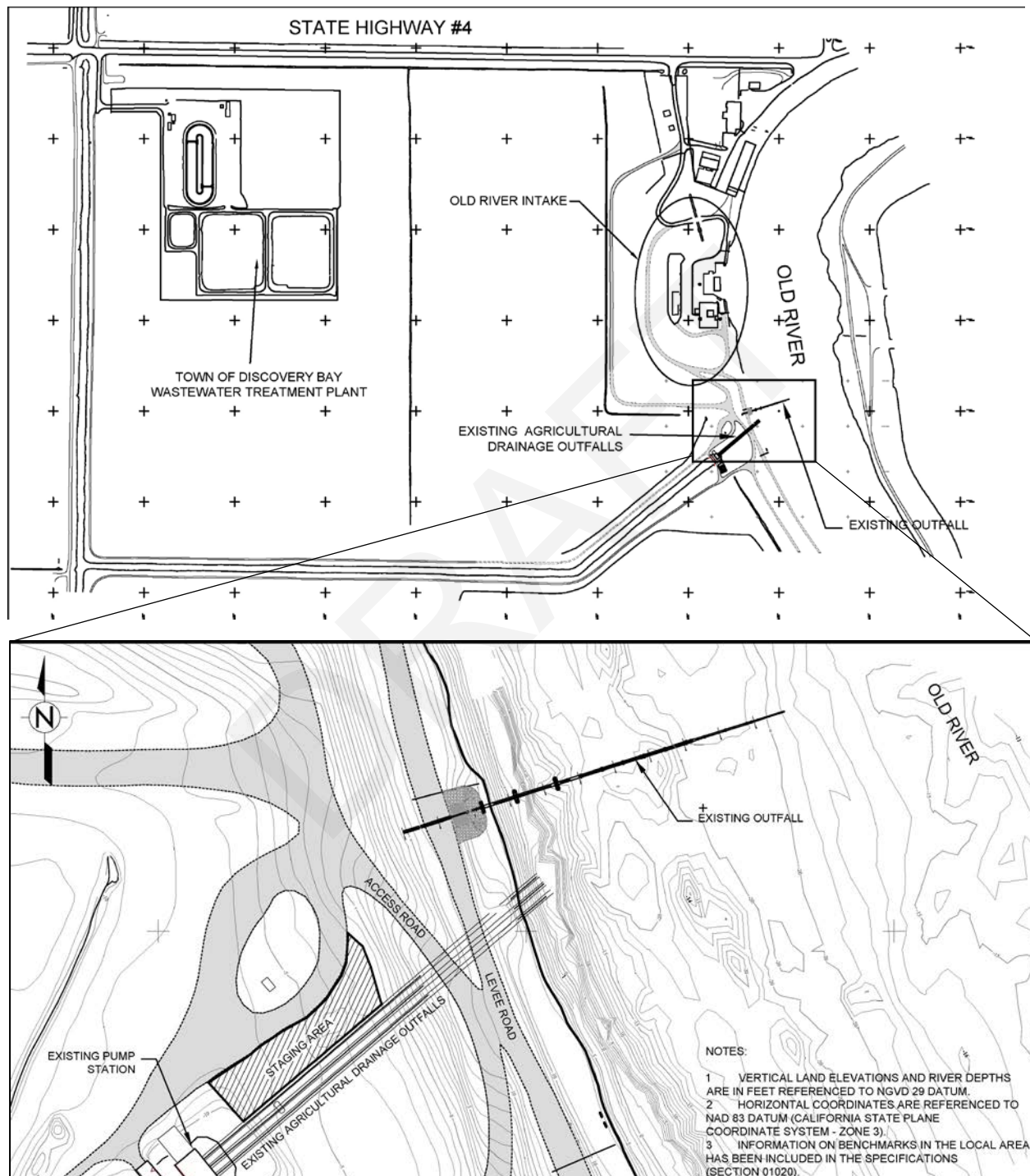
2.5.2 Construction of Outfall and Diffuser Repairs and Upgrades

The outfall replacement and diffuser upgrades include removing the 10-in and 6-in HDPE segments and replacing them with a continuous 18-in segment of the same combined length. This structure will then have a constant 18-inch diameter throughout its entire length and still contain 36 ports. Tasks associated with this design include the following:

- Prepare a dispersion model to validate the constant-diameter design as meeting or exceeding dilution goals for pollutant parameters listed in the NPDES Permit No. CA0078590.
- Excavate trench in riverbed to uncover the 10-in and 6-in diffuser pipe segments.
- Remove the 10-in and 6-in sections from existing structure, leaving the original 18-in segment installed in riverbed.
- Construct replacement segment(s) in shop consisting of 18-in diameter HDPE pipe.
- Install replacement segment(s) in riverbed trench, bolt to original 18-in segment.
- Backfill trench covering new pipe segment(s) with granular material, per original design.

The replacement segment(s) would be assembled onshore and installed by divers working from a barge. There would be some dredging required to remove previously installed granular material in order to remove the 10-in and 6-in segments from the existing structure. Approximately 20 to 25 cubic yards of settled material, including silt, sands, gravel and other native fill, would need to be removed from the existing trench and then replaced when the new structure is placed. Crews will not need a cofferdam or turbidity curtain, as they are not applicable for this site. The use of a suction dredge will help reduce turbidity during dredging as opposed to a clamshell-type dredge. The granular material is of small enough diameter (4 to 6-inches) to be handled by suction dredge.

Figure 5 Outfall Design and Schematic



2.5.3 Signage

Signs will be posted notifying visitors of construction activities/schedule with regards to public safety, access, and any related facility closures or road detours.

2.6 Project Implementation

Construction work is projected to start in June 2020, or soon thereafter, and continue for approximately 2-3 weeks. Work would occur only during daylight hours and not during weekends or on State Holidays in order to avoid unnecessary impact; however, weekend or holiday work could be implemented to address emergencies or unforeseen circumstances impacting construction or delays in the mobilization schedule.

Heavy equipment, such as a water barge, loader, compressor, and suction dredge will be used during construction. All equipment would be transported to the site and be parked within the construction staging area/temporary impact zone identified in Figure 1. Transport vehicles for material, equipment delivery trucks, and crew vehicles would also be present intermittently at the site.

Best Management Practices (BMPs) will be incorporated into this project design to ensure that the natural and cultural resources in and around the project area are adequately protected during and after construction. The BMPs discussed in this document and used in the implementation of this project were obtained from the California Stormwater Quality Association (CSQA), Stormwater Best Management Practices Construction Handbook. Temporary BMPs will be used to keep sediment on-site throughout the duration of the project; during construction, BMPs will be checked weekly, maintained, and modified as needed. Some BMPs will be left in place after construction if needed to stabilize the site and minimize erosion. The disposal of the suction dredge effluent will be pumped to shore and released over open land so as not to contribute turbidity to ambient river water. The dredge effluent will be discharged in a manner that would not cause or aggravate erosion.

The Town of Discovery Bay has consistently referenced CSQA BMPs and has identified them as an acceptable standard for use in all project planning.

2.7 Involved Public Agencies And Required Approvals

TDB received the following regulatory approvals during initial construction of the outfall diffuser structure:

2.7.1 Mitigated Negative Declaration (MND)

Authority: California Environmental Quality Act.

TDB filed a Mitigated Negative Declaration (MND), State Clearinghouse No. 2003072160, in support of their Discovery Bay Wastewater Treatment Plant Upgrade Project, which included completing the following components of the system on land adjacent to the site: solar drying facilities, an export pump station, emergency storage lagoon, pipeline and outfall. The California State Lands Commission and the California Department of Fish and Wildlife reviewed the MND as responsible agencies and filed Notices of Determination, indicating that the project will not have a significant effect on the environment and that mitigation measures were made as a condition to the project.

2.7.2 California State Lands Commission Lease

Authority: California Code of Regulations, Title 2, Chapter 1 State Lands Commission.

A CSLC lease is required whenever a project is built upon the State's natural, navigable waterways, and tide and submerged lands, including those adjacent to the coast and offshore islands of the State from the ordinary high-water mark extending out to three geographic miles offshore. Since the outfall diffuser rests on the riverbed below the ordinary high-water mark, a land lease application was prepared concurrently with the filing of the MND. TDB received CSLC land lease No. PRC 8547.9 issued 11/5/2004 for the construction of the outfall structure on the riverbed of the Old River.

2.7.3 US Army Corps of Engineers Regulatory Division, Nationwide Permits (NWP)

Authorities:

- Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403)
- Section 404 of the Clean Water Act (33 U.S.C. 1344)

TDB applied for a USACE Nationwide Permit No. 7 (Outfall Structures and Associated Intake Structures), which was received on June 17, 2004. The TDB also received their Section 401 Clean Water Certification (WDID # 5B07CR00032) on July 22, 2004, which was a mandatory condition of the NWP7, prior to beginning construction.

2.7.4 Lake and Streambed Alteration Permit (LSA Permit)

Authority: California Fish and Game Code section 1602

Section 1602 requires an entity to notify the California Department of Fish and Wildlife (CDFW) prior to commencing any activity that may:

- Substantially divert or obstruct the natural flow of any river, stream or lake;
- Substantially change or use any material from the bed, channel or bank of any river, stream, or lake; or
- Deposit debris, waste or other materials that could pass into any river, stream or lake.

A Lake or Streambed Alteration (LSA) permit application was prepared and submitted to CDFW concurrently with the filing of the original MND. TDB received LSA permit No. 1600-2004-0047-04 issued 7/15/2004 from CDFW prior to construction of the outfall structure.

2.7.5 National Pollutant Discharge Elimination System (NPDES) Permit

Authority: The National Pollutant Discharge Elimination System (NPDES) program is a federal program, under the Clean Water Act, that has been delegated to the State of California for implementation through the State Water Resources Control Board and the nine Regional Water Quality Control Boards.

TDB received NPDES Permit No. 2003072160 prior to construction of the outfall diffuser. The permit describes the basic configuration of the facility as it discharges to Old River via an outfall diffuser that ensures rapid mixing in the receiving water. The diffuser is 123-feet long with 36 ports (2-inch diameter ports, spaced 3 feet on center). TDB's NPDES permit was initially approved by the Regional Water Quality Control Board, Region 5, Central Valley Region (RWQCB5) and was renewed in 2014 as Permit No. CA0078590.

2.8 Effect Of The Regulatory Approvals On Upgrade/Repair Options – General Comments

2.8.1 NPDES Permit - Regional Water Quality Control Board, Region 5

The NPDES permit includes a basic description of the configuration of the outfall diffuser. The diffuser is designed to achieve dilution goals for copper and temperature specific to the Basin Plan. The outfall is located approximately two miles upstream of Clifton Court, where the California Department of Water Resources and the United States Bureau of Reclamation each operate large export pumping plants for the State Water Project and the Central Valley Project, respectively. Some of the exported water is diverted and treated for drinking water by State and federal water contractors. RWQCB5 is very much aware of the outfall's proximity to the export pumping stations and requires strict monitoring and reporting of water quality parameters in order to maintain the NPDES permit. A significant alteration to the as-permitted diffuser configuration will trigger a permit review by the RWQCB5 and compel TDB to undertake hydraulic model studies of the new diffuser configuration to ensure that dilution requirements comply with the Basin Plan.

2.8.2 Nationwide Permits (NWP) – US Army Corps of Engineers

Projects constructed in waters of the United States involving minor dredging (less than 25 cubic yards) require an NWP19-Minor Dredging. Outfall construction for effluent discharges in waters of the USA requires an NWP7-Outfall Structures. Maintenance of previously authorized structures installed in waters of the USA requires an NWP3-Maintenance. Periodic maintenance to the outfall diffuser structure involving flushing of sediment, trench excavation, and backfill with granular material would fall under NWP3 and NWP19.

Construction of a replacement outfall structure resting on the riverbed will require a new NWP7 application and new Section 401 Clean Water Certification. The USACE Regulatory Division permitting process takes approximately six to twelve months from the date of application submittal to permit issuance. The TDB intends to file applications for the NWP7 and Section 401 Clean Water Certification when this Mitigated Negative Declaration Document has been adopted by the TDB's Board.

2.8.3 Land Lease – California State Lands Commission

Project options having a footprint on the riverbed greater than the existing footprint would trigger consultation with CSLC and a revision to the lease. Advisian consulted with the CSLC and was advised to prepare an update of the original land lease to show the revised configuration of the outfall and construction methodology planned. Advisian plans no changes to the existing lease footprint due to this

project, however the CSLC expects to be fully apprised of proposed activity within the previously leased area. Advisian will prepare a revised lease application to accomplish this update.

2.8.4 Lake and Streambed Alteration Permit – California Dept. of Fish & Wildlife

A new LSA permit will be needed since the project involves excavation trenching, placement of granular backfill material in the trench upon the riverbed. In consultation with CDFW, this Mitigated Negative Declaration document will be included after adoption by the TDB's Board.

2.8.4.1 Periodic Maintenance

Maintenance work on the structure would be required to keep the system operating as intended in the permits. The regulatory agencies expect TDB to perform periodic maintenance to ensure optimal hydraulic performance of the diffuser system. Maintenance involving little or no changes to the diffuser's structural configuration would be covered under the USACE's NWP7 and CDFW's LSA permit if maintenance was limited to repairing broken Tideflex risers and sediment flushing into the receiving water body. No new permits would be needed if the flushing operation included capturing and diverting the flush effluent into an onshore holding tank where it could be properly disposed.

3 Environmental Checklist (Environmental Setting, Impacts, and Mitigation Measures)

PROJECT INFORMATION

1. Project Title: Town of Discovery Bay Diffuser Outfall Replacement
2. Lead Agency Name & Address: Town of Discovery Bay
3. Contact Person & Phone Number: Aaron Goldsworthy, (925) 634-1131
4. Project Location: 17001 State Highway 4, Discovery Bay, Adjacent to the west levee (left river bank) and south of the Contra Costa Water District (CCWD) Los Vaqueros Pump Station
5. Project Sponsor Name & Address:
Town of Discovery Bay
Community Services District
1800 Willow Lake Road
Discovery Bay, CA 94505-9376
6. General Plan Designation: Old River Stream Zone;
7. Zoning/Classification: Stream Zone
8. Description of Project: Refer to Chapter 2, Section 5
9. Approval Required from Other Public Agencies: No

1. ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project but would be mitigated to a less-than-significant level with implementation of recommended mitigation measures, as indicated by items marked "Potentially Significant Unless Mitigation Incorporated" within the checklist on the following pages.

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

DETERMINATION

On the basis of this initial evaluation:

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

I find that, although the original scope of the proposed project **COULD** have had a significant effect on the environment, there **WILL NOT** be a significant effect because revisions/mitigations to the project have been made by or agreed to by the applicant. A **MITIGATED NEGATIVE DECLARATION** will be prepared. ☒

I find that the proposed project **MAY** have a significant effect on the environment and an **ENVIRONMENTAL IMPACT REPORT** or its functional equivalent will be prepared. ☐

I find that the proposed project **MAY** have a "potentially significant impact" or "potentially significant unless mitigated impact" on the environment. However, at least one impact has been adequately analyzed in an earlier document, pursuant to applicable legal standards, and has been addressed by mitigation measures based on the earlier analysis, as described in the report's attachments. An **ENVIRONMENTAL IMPACT REPORT** is required, but it must analyze only the impacts not sufficiently addressed in previous documents. ☐

I find that, although the proposed project could have had a significant effect on the environment, because all potentially significant effects have been adequately analyzed in an earlier EIR or Negative Declaration, pursuant to applicable standards, and have been avoided or mitigated, pursuant to an earlier EIR, including revisions or mitigation measures that are imposed upon the proposed project, all impacts have been avoided or mitigated to a less-than-significant level and no further action is required. ☐

Environmental Coordinator

Date

EVALUATION OF ENVIRONMENTAL IMPACTS

1. A brief explanation is required for all answers, except "No Impact", that are adequately supported by the information sources cited. A "No Impact" answer is adequately supported if the referenced information sources show that the impact does not apply to the project being evaluated (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on general or project-specific factors (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
2. All answers must consider the whole of the project-related effects, both direct and indirect, including off-site, cumulative, construction, and operational impacts.
3. Once the lead agency has determined that a particular physical impact may occur, the checklist answers must indicate whether that impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate when there is sufficient evidence that a substantial or potentially substantial adverse change may occur in any of the physical conditions within the area affected by the project that cannot be mitigated below a level of significance. If there are one or more "Potentially Significant Impact" entries, an Environmental Impact Report (EIR) is required.
4. A "Mitigated Negative Declaration" (Negative Declaration: Less Than Significant with Mitigation Incorporated) applies where the incorporation of mitigation measures, prior to declaration of project approval, has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact with Mitigation." The lead agency must describe the mitigation measures and briefly explain how they reduce the effect to a less than significant level.
5. Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR (including a General Plan) or Negative Declaration [CCR, Guidelines for the Implementation of CEQA, § 15063(c)(3)(D)]. References to an earlier analysis should:
 - a) Identify the earlier analysis and state where it is available for review.
 - b) Indicate which effects from the environmental checklist were adequately analyzed in the earlier document, pursuant to applicable legal standards, and whether these effects were adequately addressed by mitigation measures included in that analysis.
 - c) Describe the mitigation measures in this document that were incorporated or refined from the earlier document and indicate to what extent they address site-specific conditions for this project.
6. Lead agencies are encouraged to incorporate references to information sources for potential impacts into the checklist or appendix (e.g., general plans, zoning ordinances, biological assessments). Reference to a previously prepared or outside document should include an indication of the page or pages where the statement is substantiated.
7. A source list should be appended to this document. Sources used, or individuals contacted should be listed in the source list and cited in the discussion.
8. Explanation(s) of each issue should identify:
 - a) the criteria or threshold, if any, used to evaluate the significance of the impact addressed by each question **and**
 - b) the mitigation measures, if any, prescribed to reduce the impact below the level of significance.

3.1 Evaluation Of Environmental Impacts

This section identifies the environmental impacts of this project by answering questions from Appendix G of the CEQA Guidelines, the Environmental Checklist Form. The environmental issues evaluated in this chapter include:

- Aesthetics
- Agricultural Resources
 - Biology
 - Air Quality
- Cultural Resources
 - Geology
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use Planning
- Mineral Resources
 - Noise
- Population and Housing
 - Public Services
 - Recreation
- Transportation/ Traffic
- Utilities and Services Systems
- Mandatory Findings of Significance

All analyses take account the entire action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts. Impacts are categorized as follows:

Potentially Significant Impact is appropriate if there is substantial evidence that an effect is significant, or where the established threshold has been exceeded. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR may be required.

Less Than Significant with Mitigation Incorporated applies where the incorporation of mitigation measures would reduce an effect from Potentially Significant Impact to a Less Than Significant Impact. Mitigation measures are prescribed to reduce the effect to a less than significant level.

Less Than Significant applies when the project will affect or is affected by the environment, but based on sources cited in the report, the impact will not have an adverse effect. For the purpose of this report, beneficial impacts are also identified as less than significant. The benefit is identified in the discussion of impacts, which follows each checklist category.

A No Impact answer is adequately supported if referenced information sources show that the impact simply does not apply to projects like the one involved. A No Impact Answer is explained where it is based on project-specific factors as well as general standards.

3.2 Aesthetics.

3.2.1 Environmental Setting

The project site is south of State Highway 4, which is designated as a scenic route by the Transportation Element of the Contra Costa County General Plan (Contra Costa County 2010a), and west of Old River. The

existing plant facilities, and the undeveloped current and former agricultural land surrounding it, is set several feet below the level of State Highway 4 and at least 300 feet from the highway. The Plant site contains low buildings, open steel-beam superstructures and light standards surrounded by a chain-link fence. The surrounding agricultural fields are nearly level.

Landscape elements in the project area consist of agricultural fields to the south and west, single-family residences to the northwest, largely concealed by a masonry sound wall and the Old River levee to the east. Vistas are expansive in most directions with distant views of Mt. Diablo and its foothills to the west beyond the raised levees surrounding the project site. Immediate views to the north, south and west sides along the project area vary from open agricultural fields, fences and utility lines to common landscape trees and homes that are set back at various distances from State Highway 4 (Federal Highway Administration 2006). Views to the east are limited by the Old River levee, but trees, utility lines, the superstructure of the State Highway 4 bridge across the river, and the existing RD-800 pumping station can be seen above the levee.

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?				<input checked="" type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings?				<input checked="" type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?				<input checked="" type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?				<input checked="" type="checkbox"/>

3.2.2 Discussion

Item a)

Neither existing distant nor immediate views would be affected by the proposed project because all of the elements would be at or below ground level. Additionally, as this project replaces existing facilities in the same location, there are not additional aesthetic impacts than the existing facilities have previously produced. The project would not have the potential to affect scenic views adversely in the State Highway 4 scenic corridor, and impacts would be less than significant.

Item b)

The project site contains no scenic resources such as rock outcroppings, or historic buildings. No trees would be removed as part of the proposed project. Consequently, damage to the scenic resources is not considered an impact of the project.

Item c)

The visual character of the existing wastewater treatment plant would not be altered by the proposed replacement project. Most of the area surrounding the project site has been designated for agriculture, recreation and infrastructure in the Contra Costa County General Plan Land Use Element (Contra Costa County 2010b). Consequently, adverse effects on the existing visual character of the project area are not considered an impact of the project.

Item d)

Security lighting is an integral part of the existing Plant facilities, and these improvements will remain. The lighting standards are mounted as low as is compatible with maintaining a secure site. These lighting standards would not be changed as part of the proposed project design, and therefore no alteration of the current lighting conditions will occur. Because reflective materials would not be used in the construction of the outfall replacement, glare is not a significant impact and the proposed project would have a less-than-significant effect on day or night-time views in the area (CBSC 2019).

3.3 Agricultural Resources

3.3.1 Environmental Setting

In determining whether impacts to agricultural resources are significant environmental effects, the lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation (CDC 1997) as an optional model to use in assessing impacts on agriculture and farmland.

No agricultural resources exist within the project (CDC 2003).

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?				<input checked="" type="checkbox"/>

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Conflict with existing zoning for agricultural use or a Williamson Act contract?				<input checked="" type="checkbox"/>
c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use				<input checked="" type="checkbox"/>

3.3.2 Discussion

Items a) through c)

No farmlands exist within or immediately adjacent to Discovery Bay Diffuser Outfall.

The proposed project would not conflict with any existing agricultural use or a Williamson Act contract because none exist on the project site. There are no changes associated with the project that would result in the conversion of farmland to non-agricultural uses because the project would only include upgrades to the existing permitted facilities. Because the project does not exist in an area of prime, unique, or important farmland, would not conflict with agricultural uses, nor provide for the conversion of existing farmland, implementation of the outfall replacement Project would result in a less than significant agricultural impact. No mitigation measures would be required.

3.4 Air Quality

3.4.1 Environmental Setting

The United States Environmental Protection Agency (EPA) has set National Ambient Air Quality Standards (NAAQS) for ozone, nitrogen dioxide, carbon monoxide (CO), sulfur dioxide, respirable particulate matter (PM10 and PM2.5), and airborne lead. Similarly, the California Air Resources Board (CARB) has established State Ambient Air Quality Standards (SAAQS) to protect public health and welfare. The CARB is responsible for control program oversight activities, while regional Air Pollution Control Districts and Air Quality Management Districts are responsible for air quality planning and enforcement.

The project site lies within the Bay Area Air Basin on the eastern edge of Contra Costa County. The Bay Area Air Quality Management District (BAAQMD) is responsible for implementing emissions standards and other requirements of federal and state laws in the project area.

Ambient air quality is described in terms of compliance with state and national standards, and the levels of air pollutant concentrations considered safe to protect the public health and welfare. These standards are designed to protect people most sensitive to respiratory distress, such as asthmatics, the elderly, very

young children, people already weakened by other disease or illness, and persons engaged in strenuous work or exercise. Although the EPA has established NAAQS for the air pollution constituents listed above, states have the option to add other pollutants, to require more stringent compliance, or to include different exposure periods. NAAQS and SAAQS are listed in Table 1.

Table 1 Federal and State Ambient Air Quality Standards

Pollutant	Averaging Time	Federal Standards	California Standards
Ozone (O ₃)	8 Hour	0.075 ppm (147 µg/m ³) ^d	0.070 ppm (137 µg/m ³)
	1 Hour	---	0.09 ppm (180 µg/m ³)
Carbon Monoxide (CO)	8 Hour	9 ppm (10 mg/m ³)	9.0 ppm (10 mg/m ³)
	1 Hour	35 ppm (40 mg/m ³)	20 ppm (23 mg/m ³)
Nitrogen Dioxide (NO ₂)	Annual Average	53 ppb (100 µg/m ³)	0.030 ppm (57 µg/m ³)
	1 Hour	100 ppb (188.68 µg/m ³)	0.18 ppm (338 µg/m ³)
Sulfur Dioxide (SO ₂)	24 Hour	---	0.04 ppm (105 µg/m ³)
	3 Hour	0.5 ppm (1300 µg/m ³)	---
	1 Hour	75 ppb (365 µg/m ³)	0.25 ppm (655 µg/m ³)
Particulate Matter (PM ₁₀)	Annual Arithmetic Mean	---	20 µg/m ³
	24 Hour	150 µg/m ³	50 µg/m ³
Fine Particulate Matter (PM _{2.5}) ^b	Annual Arithmetic Mean	12 µg/m ³	12 µg/m ³
	24 Hour	35 µg/m ³	---
Sulfates	24 Hour	---	25 µg/m ³
Lead ^a	Calendar Quarter	1.5 µg/m ³	---
	30 Day Average	---	1.5 µg/m ³
Hydrogen Sulfide	1 Hour	---	0.03 ppm (42 µg/m ³)
Vinyl Chloride (chloroethene)	24 Hour	---	0.01 ppm (26 µg/m ³)
Visibility Reducing particles	8 Hour (1000 to 1800 PST)	---	(See Note 1)
ppm = parts per million mg/m ³ = milligrams per cubic meter µg/m ³ = micrograms per cubic meter			

Source: CARB 2017

a 1-Hour ozone standard revoked effective June 15, 2005.

- b The 1997 PM 2.5 standards were replaced by the 2006 PM 2.5 standards, effective December 18, 2006. The 2008 PM 2.5 Plan due to EPA in April 2008 addresses attainment of the 1997 PM 2.5 standards. For this reason, the District continues to list the 1997 24-hour PM 2.5 standard.
- c Annual PM 10 standard revoked effective December 17, 2006.
- d EPA finalized the revised (2008) 8-hour ozone standard of 0.075 ppm on March 27, 2008. The 1997 8-hour ozone standard of 0.08 ppm has not been revoked. (Environmental Protection Agency. 2008.)
- e On October 15, 2008, EPA strengthened the lead standard. (Environmental Protection Agency. 2008.)

Notes

- 1 Extinction coefficient of 0.23 per kilometer —visibility of ten miles or more (0.07 — 30 miles or more for Lake Tahoe) due to particles when relative humidity is less than 70 percent. Method: Beta Attenuation and Transmittance through Filter Tape.

National and state air quality standards consist of two parts: an allowable concentration of a pollutant, and an averaging time over which the concentration is to be measured. Allowable concentrations are based on the results of studies on the effects of the pollutants on human health, crops and vegetation, and, in some cases, damage to paint and other materials. The averaging times are based on whether the damage caused by the pollutant is more likely to occur during exposures to a high concentration for a short time (i.e. one hour), or to a relatively lower average concentration over a longer period (i.e., eight hours, 24 hours, or one month). For some pollutants, there is more than one air quality standard, reflecting both its short-term and long-term effects.

The CARB is required to designate areas of the state as attainment, non-attainment, or unclassified for any state standard. An "attainment" designation for an area signifies that pollutant concentrations do not violate the standard for that pollutant in that area. A "nonattainment" designation indicates that a pollutant concentration violated the standard at least once, excluding those occasions when a violation was caused by an exceptional event, as defined in the criteria. An "unclassified" designation signifies that data do not support either an attainment or non-attainment status. An area where the standard for a pollutant is exceeded is considered in non-attainment and is subject to planning and pollution control requirements that are more stringent than normal requirements. The California Clean Air Act (CCAA) divides districts into moderate, serious, and severe air pollution categories, with increasingly stringent control requirements mandated for each category. Table 2 summarizes the attainment status of Contra Costa County for ambient air quality standards. Of the criteria pollutants, the project area is in non-attainment for ozone, PM10, and PM 2.5.

Table 2 Contra Costa County Ambient Air Quality Attainment Status

Pollutant	Federal Standards ^a	State Standards ^b
Ozone, 1 hour	No Federal Standard	Nonattainment
Ozone, 8 hour	Nonattainment	Nonattainment
PM ₁₀	Unclassified	Nonattainment
PM _{2.5}	Attainment-annual/ Nonattainment- 24 hour	Nonattainment
Carbon Monoxide	Attainment	Attainment
Nitrogen Dioxide	Attainment/Unclassified	Attainment
Sulfur dioxide	Attainment	Attainment
Lead (Particulate)	No Designation/Classification	Attainment
^a See 40 CFR Part 81 ^b See CCR Title 17 Sections 60200-60210 Nonattainment = does not meet primary standards Unclassified = can not be classified or better than national standards Source: BAAQMD http://www.baaqmd.gov/planning.htm		

As required by the CCAA, the BAAQMD has published its 2001 Air Quality Attainment Plan (BAAQMD 2001), which addresses requirements to bring the District into compliance with the federal and state ambient air quality standards. The Bay Area 2005 Ozone Strategy (BAAQMD 2005) proposes expanded implementation of transportation control measures and programs such as Spare the Air. Spare the Air is a public outreach program designed to educate the public about air pollution in the Bay Area and promote individual behavior changes that improve air quality. Some of these measures or programs rely on local governments for implementation. The clean air planning efforts for ozone also will reduce PM₁₀ and PM_{2.5}, as a substantial amount of particulate matter comes from combustion emissions such as vehicle exhaust.

The area's air quality monitoring network provides information on ambient concentrations of air pollutants in the Bay Area Air Basin. The BAAQMD operates a monitoring station on Bethel Island, the station nearest the project area, where the air quality data for ozone were obtained. Table 3 compares a five-year summary of the highest annual criteria air pollutant emissions collected at these monitoring stations with applicable SAAQS, which are more stringent than the corresponding NAAQS. O₃ and PM₁₀ are expected to be representative of the project site, due to the regional nature of these pollutants. The monitoring data are not a good representation of expected carbon monoxide levels for the project area, as it is rapidly dispersed and primarily a local concern.

The BAAQMD recommends quantification of construction emissions for land development projects or roadway construction projects; the proposed outfall replacement project, however, falls outside the scope

of those types of developments. Therefore, the construction emissions for the proposed outfall replacement project will not be quantified. Instead, Best Management Practices including fugitive dust control measures would be implemented (BMP 2). As described under Avoidance, Minimization, Mitigation Measure – Air Quality, the project would incorporate measures to reduce fugitive dust and nitrogen oxides to avoid potential impacts to air quality during construction.

Construction activities would also generate emissions of ozone precursors, CO, and PM10. As discussed above, the BAAQMD has not established significance thresholds for these construction-related emissions, nor does the BAAQMD require quantification of such emissions, as they are already included in the emission inventory that is the basis for the BAAQMD's regional air quality plans and are not expected to impede the BAAQMD's attainment or maintenance of ozone and CO standards.

Standard project requirements/BMPs for air quality during construction shall be incorporated and followed.

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:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan or regulation?			<input checked="" type="checkbox"/>	
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?				<input checked="" type="checkbox"/>
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?				<input checked="" type="checkbox"/>
d) Expose sensitive receptors to substantial pollutant concentrations (e.g., children, the elderly, individuals with compromised respiratory or immune systems)?				<input checked="" type="checkbox"/>
e) Create objectionable odors affecting a substantial number of people?				<input checked="" type="checkbox"/>

3.4.2 Impact Analysis

Potential air quality impacts are assessed for both construction and operational phases of the outfall replacement project. The construction phase will include material distribution, material disturbance, dredging, trucking and transport, installation, and testing of the outfall. Operations emissions will not create pollutants to affect ozone and particulates.

Throughout construction, employee trips are generated from commute trips to and from the work site, business throughout the day, and lunch trips. Emissions are released through the evaporation of solvents contained in materials used during the construction phases. Emissions from stationary construction equipment occur when machinery, such as generators or gas-powered equipment, is used at the construction site. Emissions from mobile construction equipment such as loader and dump trucks constitute the primary components of construction emissions. Construction Emissions would not exceed the BAAQMD's thresholds because the project will implement BMP 2 to reduce fugitive dust management emissions.

3.4.3 Discussion

Items a) through c)

The project would result in air emissions during the construction process. Construction emissions for all construction aspects of the project were determined to be less than significant with implementation of best management practices for fugitive dust and nitrogen oxides (BMP 2). Operational emissions were found to be less than significant given the non-existent emissions levels post installation. Therefore, the project would not conflict with or obstruct attainment of any attainment plan adopted by the BAAQMD; it would not violate any air quality standard or contribute substantially to an existing violation; and it would not result in a cumulatively considerable net increase in any criteria air pollutant. This would result in less than significant air quality impacts; no mitigation measures would be required.

Item d)

With implementation of the project, sensitive receptors would not be exposed to air toxics emissions because no new diesel engines would be necessary to implement the project. A mobile diesel generator(s) would be sufficient to meet emergency power needs at the proposed project site. The emergency use of a backup generator would not exceed air toxics thresholds and potential impacts to sensitive receptors would be less than significant. No mitigation measures would be necessary.

Item e)

The project will not create objectionable odors affecting a substantial number of people.

AVOIDANCE, MINIMIZATION, MITIGATION MEASURES - AIR QUALITY (AQ)

AQ BMP-1: Standard construction protocols for dust control during construction and demolition shall be implemented. These protocols shall be included within the Storm Water Plan. The State's Representative and/or State Natural Resources Specialist will periodically inspect the work area to ensure that construction-related activities do not generate excessive amounts of dust or cause other related air quality disturbances.

AQ BMP-2: Idling of vehicles shall be minimized to the maximum extent practicable.

AQ BMP-3: All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.

AQ BMP-4: All haul trucks transporting soil, sand, or other loose material off-site shall be covered.

AQ BMP-5: 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.

AQ BMP-6: All vehicle speeds on unpaved roads shall be limited to 15 mph.

AQ BMP-7: 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.

AQ BMP-8: Post a publicly visible sign with the telephone number and person to contact at the lead agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

3.5 Biological Resources

3.5.1 Environmental Setting

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modification, on any species identified as a sensitive, candidate, or special status species in local or regional plans, policies, or regulations, or		<input checked="" type="checkbox"/>		

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
by the California Department of Fish and Game or the U.S. Fish and Wildlife Service?				
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or the U.S. Fish and Wildlife Service?			<input checked="" type="checkbox"/>	
c) Have a substantial adverse effect on federally protected wetlands, as defined by §404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?				<input checked="" type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?			<input checked="" type="checkbox"/>	
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?				<input checked="" type="checkbox"/>
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?				<input checked="" type="checkbox"/>

3.5.2 Discussion

Item a)

Information developed for a Notification of Lake or Streambed Alteration for the Town of Discovery Bay as required by the CDFW (and in turn, required by CEQA) was used to facilitate an assessment of species which could be affected by the project. The information was developed on behalf of the Town of Discovery Bay Notice of the Intent to Adopt a Mitigated Negative Declaration (MND) in 2003 (Town of Discovery Bay 2003) for the completion of a wastewater treatment plant upgrade (Notification of Lake or Streambed Alteration for the Town of Discovery Bay 2004). The checklist for biological resources require the evaluation of whether the project would have significant impacts on threatened or endangered, candidate, sensitive or special status species (sensitive species) as designated by the California Department of Fish and Game and/or the U.S. Fish and Wildlife Service in administering the Endangered Species Act. This evaluation was carried out and the potential for such species to be affected significantly or not by the proposed project was documented. In addition, the list of sensitive species with potential to occur in the proposed project area was updated with the current listing to document species' status and secondly, to determine if species have been added or removed from the listing, or the status has changed.

Plants – According to the California Natural Diversity Database (CNDDDB; CDFW 2019), sixteen species of sensitive plants and their habitats have potential to occur within the U.S. Geological Survey (USGS) 7.5-minute quadrangle map (Woodward Island) that encompass the area of the proposed project site. Field surveys conducted in 2003 did not observe any of these species in the vicinity of the proposed project (Moore 2003). The levees and ditches of the area primarily contain annual grass species and the area is routinely mowed and disked for weed control, and native grassland vegetation that could support sensitive species is not present (Sadler 2019). Furthermore, the river levee is lined with rip-rap and does not support contiguous vegetation (Figure 3). Thus, because adequate habitat does not occur to support such plants, the project will not impact these species.

Invertebrates – Two sensitive species of invertebrates are reported for the area in general (CDFW 2019) and include: curved-foot hygrotus diving beetle (*Hygrotus curvipes*) and vernal pool fairy shrimp (*Branchinecta lynchi*). The curved-foot hygrotus diving beetle was designated by the US Fish and Wildlife Service (USFWS) as a candidate for listing in 1994. (<http://ecos.fws.gov/ecoO/profile/speciesProfile?spcode=106J>). The vernal pool fairy shrimp was listed by the USFWS as threatened in 1994 and critical habitat designated in 2003 (<http://fws.gov/oregonfws/articles.cfm?id=149489448>). Habitat of these species include temporary pools, vernal pools, and freshwater wetlands. Because such habitats do not occur in or are not associated with the project area, the proposed project would have no impact on these species.

Vertebrates – Twelve sensitive wildlife species are reported in the CNDDDB for the USGS quadrangle map (Woodward Island 7.5-minute topographic map) that contains the project area. These include four bird species and the potential for several reptiles and amphibians, several fish species, and a mammal (San Joaquin kit fox) to occur in the area. The potential for these species to be affected by the project is evaluated on the basis of distribution, habitats, and field surveys that were conducted in 2003 (Notification of Lake or Streambed Alteration for the Town of Discovery Bay 2004).

Birds – Four species of birds (Swainson’s hawk, white-tailed kite, burrowing owl, and horned lark) have potential to occur in the vicinity of the proposed project area. Swainson’s hawk (*Buteo swainsoni*), a state-threatened species, commonly nest in trees along riparian corridors as well as other large trees near foraging habitat. A cottonwood tree occurs along RD-800 drainage canal west of the project area, which could provide nesting and perching/roosting structure. No nests were observed in this tree during the 2003 field observations. A nest site that was active in 2018 occurs approximately 5 miles northwest of the project site along Balfour Road (East County Today 2018). The grasslands of the project area provide foraging habitat for Swainson’s hawks, and the cottonwood tree provides a suitable perching site for these activities (Notification of Lake or Streambed Alteration for the Town of Discovery Bay 2004). However, maintenance activities for the current treatment facility have curtailed grassland habitat in the vicinity of the site, and moreover, there is an abundance of grasslands in the area in general, and construction work would be unlikely to adversely affect this species.

White-tailed kite (*Elanus leucurus*) is a federal species of special concern and also fully protected by the California Department of Fish and Wildlife (CDFW). The Contra Costa County Breeding Bird Atlas indicates that breeding of this species occurs immediately adjacent to the western side of the proposed project site. White-tailed kites forage across grasslands and shrub vegetation and uses a variety of trees with a dense lower strata tree or shrub canopy for nesting, along with an abundance of nearby prey. Suitable nesting habitat does not occur in the vicinity of the proposed project area, although foraging habitat is present. However, such habitat is not restricted in this area, and construction of the project is not anticipated to affect this species by limiting foraging areas.

Burrowing owls (*Athene cunicularia*), a CDFW species of special concern, have been reported to occur in the southwestern part of the project site. However, during the site surveys conducted in February and May in 2003, no owls were observed and there were no signs that the burrows of this area were being used (Notification of Lake or Streambed Alteration for the Town of Discovery Bay 2004). Moreover, maintenance activities that have included disking and mowing the site for weed control have reduced the occurrence of California ground squirrels (*Otospermophilus beecheyi*) in this area, which provide burrows for the owls. Maintenance staff have not observed burrowing owls in the vicinity of the project site (Sadler 2019).

Horned larks (*Eremophila alpestris*) are a CDFW species of special concern and have been confirmed breeding in Contra Costa County. This species was reported in 2003 as breeding immediately adjacent to the western side of the proposed project site (Breeding Bird Atlas). The CNDDDB (2019) reported two occurrences of this species approximately 6.5 miles south of the proposed project site in 2002 (Notification of Lake or Streambed Alteration for the Town of Discovery Bay 2004), but this species is not listed for the area of the proposed project site and within the area covered by the Woodward Island USGS 7.5-minute map (CDFW 2019). This species nests and forages in open grasslands, with nests constructed in a shallow hollow or depression within a clump of grass or near a shrub. Breeding-nesting generally concludes by late June. Annual disking of the area for weed control reduces the potential of the site to be used for nesting. Construction work that occurs near or within grassland areas of the proposed project is not expected to significantly affect foraging habitat because of its abundance in this area.

Reptiles and Amphibians – Several sensitive reptile and amphibian species have potential to occur in the vicinity of the proposed project area. Site surveys conducted in May 2003 located a western pond turtle (*Actinemys [Clemmys] marmorata*) in RD-800 drainage canal near the proposed project site. Suitable

habitat is not present for giant garter snake (*Thamnophis gigas*), California red-legged frog (*Rana draytonii*), or California tiger salamander (*Ambystoma californiense*), which have been noted for the area previously, and moreover, none of these species was observed during 2003 field surveys (Notification of Lake or Streambed Alteration for the Town of Discovery Bay 2004).

Western pond turtle is a CDFW species of special concern and Federal species of concern (CDFW 2019). Pond turtles typically occur in a wide array of aquatic habitats, including pools of streams and rivers, and in lakes and ponds. Primary habitat requirements include aquatic vegetation and basking sites such as logs or rocks. Nests are excavated in stream and pond margins, usually with south exposures and eggs are laid from March to August (Wildlifeheritage.org. 2019). Suitable habitat occurs in RD-800 drainage canal and along slower-moving water at the edges of Old River (Figure 2). Rip-rap along Old River provide basking sites, but no nesting sites. Construction of a new diffuser would include disturbance in and near water of the Old River, which could disturb any turtles if present in the vicinity and would be considered to be a significant impact depending on the magnitude and number of turtles affected.

Operation of a new diffuser would discharge water into the Old River at a location adjacent to the west levee and south of the CCWD Los Vaqueros Pump Station (Figure 2). According to U.S. Geological Survey gauging station data, Old River flows average 1,824 ft³/second (USGS 2016). However, flows are highly variable because of tides as well as export pumps, and flows measured at Old River at State Highway 4 (nearest to the proposed project site; (Figure 3) vary from a maximum of 3,540 ft³/second to a reverse flow of – 13,500 ft³/second (California Department of Water Resources 2019). Discharge volumes of treated water from the current diffuser were measured during a site visit in December 2017 and resulted in an average flow of 3.11 MGP (WorleyParsons 2018). Treated water input into the Old River upon project completion is estimated to be 1.1 to 1.6 MGP, although peak flows each day are estimated at 3.38 MGD and flows of up to 5.0 MGD could be expected during wet weather (Harris 2019). Based on the current and predicted flows from the treatment plant, no appreciable increases from the new diffuser are expected upon project completion. Moreover, the input of treated water is only a small percentage of the total flows of Old River (6.28 ft³/second versus ~1,824 ft³/second or 0.3%, using a conversion factor of 0.53817 MGP = 1 ft³/second).

Fish – Up to eight sensitive fish species may use Old River over the course of the year, primarily as they travel for upstream spawning in the mountain and foothill streams, and again as young fish migrate back to the ocean. Such species include the river lamprey (*Entosphenus [Lampetra] ayresi*), Pacific lamprey (*E. [L.] tridentatus*), and fall and winter run chinook (*Oncorhynchus tshawytscha*) (Federally and state-listed as threatened). These species could be present in the Old River, but only briefly during fall and winter runs. Pacific lamprey migrate to fresh water spawning sites between February and June, and after maturing for several years near spawning sites, drift and swim downstream and emigrate to the ocean between late fall and spring (fws.gov/pacificlamprey/Documents/Fact%20Sheets/111407%20PL%20sheet.pdf.2007). Chinook salmon spawn in summer, but in stream reaches with cold water, although they are a winter-run species ([Fisheries.noaa.gov/species/chinook-salmon-protected](https://fisheries.noaa.gov/species/chinook-salmon-protected). 2019).

No suitable spawning habitat occurs in the proposed project area, and no suitable rearing habitat occurs, especially in rip-rap areas along the banks for young fish as they migrate back to the ocean. There is no habitat in the project area that would provide long-term residency for these species.

No known populations of green sturgeon (*Acipenser medirostris*) or steelhead (*Oncorhynchus mykiss*) (Federally listed as threatened) occur in the San Joaquin River system, which includes Old River (Notification of Lake or Streambed Alteration for the Town of Discovery Bay 2004). Sturgeon may rear in the Sacramento-San Joaquin delta, but the distance from the project area precludes their use of the Old River. Steelhead populations that historically occurred in the San Joaquin River system are thought to be extinct (Notification of Lake or Streambed Alteration for the Town of Discovery Bay 2004).

Three pelagic (tolerant of fresh and salt or brackish water) fish species of the San Joaquin River system are considered of concern because of population declines. These species include the delta smelt, longfin smelt, and Sacramento splittail.

Delta smelt (*Hypomesus transpacificus*) was listed as threatened in 1993 (CDFW 2007) and elevated to endangered status in 2009 (CDFW 2019), and critical habitat was designated, including all streams in the project area (Notification of Lake or Streambed Alteration for the Town of Discovery Bay 2004). For a large part of its life span, this species is tolerant of the mixing zone of fresh and brackish water. Spawning varies from year to year, but generally occurs from late winter (February) to early summer (July), with a core period of April through May. Delta smelt have been observed during CDFW surveys near Woodward Island on Old River (Moore 2003). This species has not been observed in the area of Discovery Bay however, although suitable spawning habitat occurs within the rivers and sloughs of the area (Notification of Lake or Streambed Alteration for the Town of Discovery Bay 2004).

Longfin smelt (*Spirinchus thaleichthys*) was listed as threatened under the California Endangered Species Act in 2009 (CDFW 2018). This species occurs in the San Joaquin River system and Sacramento/San Joaquin Delta, using a variety of habitats from near-shore waters to estuaries (Los Vaqueros Reservoir Expansion Project 2017). Spawning peaks from February through April and eggs are released in freshwater over sandy or gravel substrate, rocks and aquatic plants (CDFW 2019). After hatching, juveniles are swept downstream to brackish water. The riprap banks of the project area in Old River are suitable habitat for spawning, and sampling in the area of the Old River near Woodward Island captured this species in 2002 (Notification of Lake or Streambed Alteration for the Town of Discovery Bay 2004).

Sacramento splittail (*Pogonichthys macrolepidotus*) was initially listed as threatened in 1999, but was delisted in 2003, with a final determination that listing was not warranted in 2010 (U.S. Fish and Wildlife Service 2017). The change was in accordance with observations that the population was not in a decline and that no threats currently rise to the level of being significant. However, this species remains a California species of concern (CDFW 2019). In any case, this population is still affected by changes in food sources and water quality, with fluctuations related to increases during wet years and reduced spawning during dry years. However, populations still must be monitored to ensure that declines again do not occur (U.S. Fish and Wildlife Service 2017).

The Sacramento splittail occurs primarily in the San Francisco estuary, although Sacramento splittail have been collected in the Sacramento River and San Joaquin River (LSA Associates, Inc. 2012). The spawning period for this species begins in late January and early February and lasts through July, although most spawning occurs from February through April in flooded vegetation (USFWS 2002). No suitable spawning habitat occurs in the proposed project area, although adults and juveniles could be present during their movements to and from spawning areas (Notification of Lake or Streambed Alteration for the Town of Discovery Bay 2004).

Construction of the new diffuser could affect Delta smelt and Sacramento splittail, if they are moving through the area when such work occurs. In addition, longfin smelt could use the rip-rap in the project area for spawning, and exposed eggs could be affected by construction work. Actions that could affect this species include removal of the old diffuser pipe and trenching to install the new pipeline, both of which would cause sediment that could detrimentally affect eggs. However, construction of the project in June would avoid the February to April spawning period and no significant effects would be expected to this species from the project.

Operation of the new diffuser would not appreciably change the amount of water entering the Old River, and moreover, fish movements along the banks in slower water would not likely be impeded. Therefore, operation of the project would have less-than-significant effects to sensitive species.

Mammals - The project site is outside the range of the federally endangered, state threatened San Joaquin kit fox (*Vulpes macrotis mutica*). The closest known occurrence of this species is approximately 5 miles southwest of the proposed project site in the foothills of the valley floor, and no dens were observed during field surveys of the project site in 2002 (Notification of Lake or Streambed Alteration for the Town of Discovery Bay 2004).

Item b)

There is no riparian habitat on the project site. Additionally, there are no sensitive vegetation communities within the project area (Moore 2003) and for these reasons, the proposed project would have no impact on these resources.

Item c)

The proposed project would include construction of a new discharge structure in the Old River. Part of this structure would be below the Ordinary High-Water Mark (OHWM), which delineates the jurisdictional boundary of the United States Army Corps of Engineers (Corps) under Section 10 of the Rivers and Harbors Act. The discharge structure is below the OHWM and is subject to the Corps jurisdiction, and a permit would be required. The Town of Discovery Bay is required to obtain a permit from the Corps prior to construction work. The banks of Old River are entirely of rip-rap in the project area and provide none of the habitat functions required for wetlands (Figure 3). Therefore, modification of the existing structure would have a less-than significant effect of federally protected wetlands.

The export pipeline between the plant and Old River would replace the existing line in Old River (Figure 5). No jurisdictional wetlands would be affected by construction work (Figure 3) to install the new pipeline. Therefore, construction of the pipeline would have a less-than-significant effect on wetland resources.

Item d)

The plant site is isolated from adjacent properties and is fenced. The site is bordered on three sides by water (Old River to the east, and RD-800 to the west and south; Figure 2). These channels are defined by steep-sided levees (Figure 3) and in combination with the open water, provides an effective barrier to non-aquatic organisms. State Highway 4 parallels the site on the north, which in combination with the open water, isolates the site from adjacent properties. This site is already fenced and isolated from other possible corridors and would not impede resident or migratory species. The export pipeline would be

buried for its entire length and would not block the movement of animals. Pipeline construction would create a temporary barrier to local animals (primarily ground squirrels), but there is abundant habitat outside the pipeline area for these species. For these reasons, the project would have no impact on wildlife movements or wildlife movement corridors.

Item e)

The proposed project site is not in any of the Significant Ecological Resource Areas designated in the Contra County General Plan (Contra Costa County Ordinances 2010). Additionally, the project would not conflict with any of the Vegetation and Wildlife Goals or Policies within the General Plan. For these reasons, the project would not conflict with local policies or ordinances and no impact would occur to these resources from the proposed project.

Item f)

A Habitat Conservation Plan (HCP) was prepared for eastern Contra Costa County to address preserving the rich landscape and rare species that reside in this area (East Contra Costa County Habitat Conservancy 2019). The nearest project designated for conservation to the Town of Discovery Bay is Kellogg Creek Basin, which is southwest of the town and approximately 2 miles west of the proposed project area. Therefore, the proposed project would not pose a threat to any HCP or a Natural Community Conservation Plan.

3.5.3 Proposed Mitigation Measures

The following mitigation measures would need to be implemented to reduce potential impacts to sensitive species from the proposed project to less-than-significant levels. If subsequent permitting or a resource agency (CDFW, U.S. Fish and Wildlife Service, Corps, Regional Water Quality Board) modifies any of these measures, that modification would take precedent over the measures hereby provided.

AVOIDANCE, MINIMIZATION, MITIGATION MEASURES - BIOLOGICAL RESOURCES (BIO)

BIO 1: Birds: To reduce the potential for the project to negatively affect sensitive bird species, the following mitigation measures shall be implemented as part of the project:

Burrowing Owls – Burrowing owls have occurred in the southwestern part of the project site (Notification of Lake or Streambed Alteration for the Town of Discovery Bay 2004). Thus, the potential for burrowing owls to occur near the site remains. However, maintenance operations to control weeds through disking and mowing have reduced the potential for burrows to occur on the project site, and this species has not recently been observed by treatment-plant maintenance personnel (Sadler 2019). If burrowing owls are not observed within 150 meters of the construction area, no mitigation measures are required. Conversely, if owls are observed within this area, the following measures, as specified by the CDFW (2012), shall be followed:

- All occupied burrows should be avoided, and disturbance should not occur within 50 meters (160 feet) during the non-breeding season (September 1 through January 31) or within 200 meters (655 feet) during the breeding season (February 1 through August 31).

Horned Lark – Maintenance activities, including disking and mowing, that have reduced vegetation stature on the site reduce the potential for horned larks to nest in the vicinity of the proposed project site. Moreover, if no vegetation removal would occur as part of the project, and especially during the nesting period (February 1 through August 31), then no effects would be anticipated. Because of the lack of nesting habitat and the lack of vegetation removal by the project, impacts from the proposed project to horned larks would be less-than-significant.

BIO 2: Western Pond Turtle – No appreciable changes in water levels from the discharge of treated water into Old River are anticipated and no effects would be expected to western pond turtle use of the area and no mitigation measures are required. Pond turtles would be more likely to use slowly moving water at the river's edge and areas on the banks for basking. Turtles could wander into construction areas, which could place them at risk. Mitigation measures to reduce potential impacts from construction include:

- Open trenches shall be inspected prior to the start of work each day to ensure that no turtles have entered into the construction zone. Any turtles in such areas, including trenches, shall be removed and placed in the closest body of water.
- Prior to the start of work each day at the diffuser structure, the rip-rap shall be inspected to ensure that no turtles are present. Any turtles occurring in this area shall be relocated 100 feet downstream of the construction area.

BIO 3: Fish – Construction of the proposed project has potential to cause direct impacts to Delta smelt, longfin smelt, and Sacramento splittail. Work to remove the old diffuser pipe and install a new diffuser could affect Delta smelt and Sacramento splittail as they move through the area, and the longfin smelt spawning in areas of rip-rap along the banks. Delta smelt spawning habitats also occur in the area of the proposed project, but this species has not been reported for the area (Moore 2003).

Mitigation measures to reduce impacts to these three-fish species to less-than-significant include restricting construction work to June to reduce the potential for sedimentation to affect fish movements and especially longfin smelt spawning that may occur while removing the old diffuser and in the vicinity of trenching to place the new diffuser. Construction outside of this time period could be considered a significant impact but constricting the trenching work to the shortest period possible (e.g., two weeks) in any case, would help reduce the potential for sediment to negatively affect spawning, including egg maturation and juvenile survival.

3.6 Cultural Resources

3.6.1 Environmental Setting

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource, as defined in §15064.5?				<input checked="" type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource, pursuant to §15064.5?			<input checked="" type="checkbox"/>	
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?				<input checked="" type="checkbox"/>
d) Disturb any human remains, including those interred outside of formal cemeteries?			<input checked="" type="checkbox"/>	

3.6.2 Discussion

Item a)

The Delta Protection Act of 1992 (Public Resources Code 1992) was updated in 2009 to help preserve unique resources and allows the Delta Protection Commission to review projects which may affect unique cultural resources (Delta Protection Commission 2010). Similarly, California Senate Bill 18 was enacted in 2004 to establish consultations between California Native American tribal governments and California local governments in land use planning processes (Los Vaqueros Reservoir Expansion Project 2017).

No archaeological sites were noted for the proposed project area. This included a review of records for the site earlier, as conducted for the Town of Discovery Bay Notice of the Intent to Adopt a Mitigated Negative Declaration (MND) in 2003 (Town of Discovery Bay 2003), as integrated in the Notification of Lake or Streambed Alteration for the Town of Discovery Bay (2004) and literature on file with the Office of Historic Preservation, Northwest Information Center. This review indicates that the Town of Discovery Bay and the vicinity contain no recorded Native American or historic-period archaeological resources, as listed by the Historical Resources Information System (Haydu 2003). Surveys for the Los Vaqueros Reservoir Expansion Project (2017) indicated that archaeological sites and Native American cultural sites occur in an area approximately 7 miles from the proposed project site. However, because of the topographical position in relation to preferred locations, and the disturbed nature of the project area (Figure 3, no

historical or pre-historical sites are likely to occur in the vicinity of the proposed project area. Consequently, the project would cause no impacts to historic resources.

Item b)

Native American archaeological sites in this area of Contra Costa County tend to be situated near alluvial flats, and near sources of fresh water, including springs (Contra Costa County Sanitation District 1998). The proposed project site would have low probability to contain prehistoric archaeological sites because of its location in a flat valley plain with no fresh-water sources (Haydu 2003). Although unlikely to occur, there is potential for subsurface archaeological resources to occur and be exposed by excavation. In this case, if such resources are significant according to Section 15064.5 of the CEQA Guidelines, mitigation measures as described in the guidelines would need to be implemented.

Item c)

The surface of the site is a level alluvial plain similar to alluvial areas throughout the Sacramento-San Joaquin valley. Consequently, no unique geological features exist at or near the proposed project site (Haydu 2003). The alluvial deposits consist of material that has been reworked by the action of rivers in recent geologic history. Consequently, unique paleontological resources are unlikely to occur in this area. As such, the project would have no impact on geologic or paleontological features.

Item d)

No human remains, including those interred outside of formal cemeteries, are known to occur at or near the project site (Haydu 2003). A file check with the Native American Heritage Commission revealed that no sacred lands occur on or near the project area (Pilas-Treadway 2003). Although unlikely to occur, existence of buried human remains could be exhumed during excavation. Thus, project-related ground disturbance may affect previously unknown burials.

3.6.3 Proposed Mitigation Measures

Implementation of the standard mitigation measures (**Mitigation Measure CR-1**) should be part of the proposed project, pursuant to Section 15064.5(f) of the CEQA Guidelines and Public Resources Code 21082 would reduce potential impacts to unknown archaeological resources to less than significant levels.

Implementation of the standard mitigation measure (**Mitigation Measure CR-2**), which is to be included as part of the project, pursuant to CEQA Section 15064.5 of and Health and Safety Code Section 7050.5, would reduce potential impacts to unknown burials to less-than-significant levels.

AVOIDANCE, MINIMIZATION, MITIGATION MEASURES – CULTURAL RESOURCES (BIO)

CR-1: Cease Construction Work Upon the Discovery of Historic or Archaeological Resources: Evaluate Resources Before Continuing Construction

If potential historic or archaeological resources are discovered during construction, all work should be suspended in the immediate vicinity (within approximately 50 feet) with the objective to avoid altering the material and their context pending a site investigation by a qualified archaeological or cultural

resources consultant who should be retained by the project sponsor. Construction work shall not commence again until an opportunity is provided to examine the findings, assess their significance and provide proposals for any additional exploratory measures deemed necessary for further evaluation of and/or mitigation of adverse impacts to any potential historical resources or unique archaeological resources that have been encountered.

If the finding is determined to be an historic or unique archaeological resource, and if avoidance would not be feasible, the archaeological or cultural resources consultant shall prepare a plan for the methodical excavation of the site and resources that would be adversely affected. The plan shall be designed to result in the extraction of sufficient volumes of non-redundant archaeological data to address important regional research considerations. The work shall be performed by the archaeological or cultural resources consultant and shall result in detailed technical reports. Such reports will be submitted to Contra Costa County, the Town of Discovery Bay, and the California Historic Resources Regional Information Center. Construction in the vicinity of the find shall be accomplished in accordance with current professional standards. The project sponsor shall assure that project personnel are informed that law prohibits collecting significant historic or unique archaeological resources discovered during development of the project. Prehistoric or Native American resources can include chert or obsidian flakes, projectile points, mortars, and pestles; and dark friable soils containing shell and bone dietary debris, heat-affected rock, or human burials. Historic resources can include nails, bottles, or other items occurring in refuse deposits.

CR-2: Cease Work upon the Discovery of Human Remains: Evaluate Remains before Continuing Construction.

In the event of discovery or recognition of any human remains on the project site, the contractor shall contact Contra Costa County Coroner, pursuant to Section 7050.5(b) of the California Health and Safety Code. In this event, there shall be no further excavation or disturbance of the site or any nearby areas reasonably suspected to overlie adjacent remains until the coroner determines the origin of such remains. The coroner, upon recognizing the remains as being of Native American origin, shall contact the Native American Commission within 24 hours of the coroner being notified. No further disturbance of the site may occur except as authorized by the coroner. The Commission has various powers and duties to provide for the ultimate disposition of any Native American remains, including the designation of a Native American Most Likely Descendant. Sections 5097.98 and 5097.99 of the Public Resources Code also call for the protection of Native American human remains and skeletal remains from vandalism and inadvertent destruction. To achieve this goal, construction personnel on the project shall be instructed as to both potential for discovery of cultural or human remains, and the need for proper and timely reporting of such finds, and the consequences of failure to do so.

3.7 Geology And Soils

3.7.1 Environmental Setting

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

3.7.2 Discussion

Item a) i)

No known active faults are mapped within the proposed project area and no faults have been mapped in an Alquist-Priolo Earthquake Fault Zone that trends toward the site (Hart and Bryant 2002). The nearest State of California zoned active faults occur at: the Clayton-Marsh Creek-Greenville fault, which is approximately 13 miles southwest of the project area; the Pleasanton fault, which is approximately 19 miles to the southwest; the Green Valley-Concord fault, which is 23 miles to the west-northwest of the project area; and the Calaveras fault, also 23 miles, but west-southwest of the project site. The Great Valley fault is considered a seismically active thrust fault, but because it does not extend to the ground surface, is not in an Alquist-Priolo Earthquake Fault Zone. The Stockton fault is mapped approximately 9 miles east of the project site (Figure 2), but it is concealed by overlying sediments and is not in an Alquist-Priolo Earthquake Fault Zone.

Item a) ii)

Because of the pressure of active faults in the San Francisco Bay area, the Discovery Bay area is considered seismically active (Association of Bay Area Governments 2003). An earthquake of moderate to high magnitude similar to those that have occurred would cause strong groundshaking in the proposed project area (Modified Mercalli Intensity VII). The design earthquake for the project area is a Moment Magnitude (Mw) 6.9 earthquake on the Greenville fault (California Geological Survey 1993). Higher magnitude earthquakes could probably occur along such major faults as the Hayward or San Andre (35 and 52 miles west of the project site, respectively), but these would not cause more intensive groundshaking than Mw 6.9 earthquake on the Greenville fault. Based on historical evidence, it is probable that at least one such earthquake will occur during the life of the proposed facility. The proposed project would include structural elements, and such, is subject to California Building Code (CBC). Prior to the issuance of a building permit, the CBC requires that appropriate studies be carried to determine the characteristics of groundshaking at the project site (Ref: California Existing Building Codes 2016a, Chapter 16, Division IV – Earthquake Design, 19). The Town of Discovery Bay must review the groundshaking studies and make recommendations for construction. All recommendations of the Town's Building Official are required to be incorporated unto the proposed construction plan as a condition of the building permit (California Existing Building Codes 2016b).

Consequently, the requirements of the CBC would reduce potential impacts caused by groundshaking to a less-than-significant level. No mitigation measures are required.

Item a) iii)

Soil conditions in the area are primarily of a fine-grained nature and composed of clay, silt, fine-grained sand, and organic matter (Association of Bay Area Governments 2003, Sims et al. 1973, USGS 2001). These areas may be subject to liquefaction during a seismic event if perched groundwater is present. The water table in the project vicinity is shallow, being less than 5 feet below the surface, and as shallow as 18 inches below the surface in conjunction with clay-dominated soils. The USGS classifies the liquefaction susceptibility of this area as high. However, the project area is outside the area evaluated as a risk for liquefaction or landslides (California Geologic Survey 2018). Pursuant CBC, a site-specific analysis must be

prepared by a registered engineer specializing in geotechnical assessments for sites lying in potential liquefaction areas (known as soil type SF) to the satisfaction of the Town's Building Official. Type SF soils include those that are highly expansive (CEBC 1997. Soil Profile Types, Division V, Chapter 16, Section 1636). All recommendations of the Town's Building Official are required to be incorporated in the proposed construction plans as a condition of the project grading permit. The Town is then required to monitor grading and initial construction phases on a weekly basis, at a minimum, to ensure that all recommendations of the Town's Building Official are implemented.

Consequently, the CBC requirements would reduce any potentially significant liquefaction or expansive soil impacts to less-than-significant levels.

Item a) iv)

The project area is nearly level, sloping gently to the east, southeast, and south from approximately 8 feet below sea level to about 10 feet below mean sea level (Contra Costa County Sanitation District 1998). The only substantial slopes in the project vicinity occur on the levees, which are constructed of compacted soil material at gradients between 3:1 and 5:1, and therefore stable (Figure 3). Because the area is nearly level and not adjacent to unstable slopes, impacts from landslides are negligible.

Based on this analysis, landslides are not considered to be of concern and impacts are not anticipated.

Item b)

Parts of the project site would be trenched for pipelines (Figure 5). The surface material at the site consists of as much as 5 feet of naturally occurring peat and muck (Kingile muck) (Contra Costa County Community Development Department 1996, CDC 2003, U.S. Department of Agriculture 1977). Unconsolidated, moderately poorly sorted, but rich in organic matter silt and clay occur beneath the peat (mostly Egbert mucky clay loam). The agricultural soils developed on these deposits provide good to fair growth of crops, if properly drained (Section 3.3 Agricultural Resources). In their natural condition, soils are expansive, but are not especially erosion-prone from flowing water because of the nearly level surface. These soils are moderately sensitive to wind erosion if tilled or otherwise exposed to drying. An erosion control plan would be required as part of the Construction Storm Water Pollution Protection Plan (see Section 3.9, Hydrology and Water Quality) to protect excavated soils and stockpiles from wind erosion.

Because the site is separated from Old River and from RD-800 drainage canal by levees (Figure 3) there is little likelihood that soil disrupted during most of the construction work would enter into these waterways. It is anticipated that the facilities for completing the treatment plant would be set back at least 100 feet from RD-800 drainage canal and ditch south of State Highway 4. The only work that would be conducted adjacent to a waterway would be the construction of the new outfall and diffuser in Old River (Figure 1). An erosion control plan would be required by the Regional Water Control Board for the construction period. This plan would be prepared as part of the NPDES permit process needed for projects that disturb more than one acre of ground (Section 3.9, Hydrology and Water Quality). For underwater construction of part of the diffuser, the California Department of Fish and Game would require a Fish and Game Code Section 1600 streambed alteration agreement. Both the erosion control plan and the streambed alteration agreement would contain conditions for the protection of the waterways from sedimentation as specified in Section 3.9, Hydrology and Water Quality.

An erosion control measure for earthwork in areas south of State Highway 4 (which describes the earthwork of the project) must be incorporated into the construction plans, as previously incorporated in the 1998 Initial Study and Mitigated Negative Declaration (Contra Costa County Sanitation District 1998) for the treatment facility. The measure included limiting excavation and filling to the dry season, preparing an erosion and sediment control plan prior to construction, wet-season maintenance, regular inspection during the wet season, and spot inspection following storms. These activities would be continued throughout the construction period of the proposed project.

Based on this information, substantial soil erosion or loss of topsoil are not considered significant impacts associated with the proposed project.

Item c)

The project would not involve permanent withdrawal of groundwater, oil, or natural gas from beneath the site. Therefore, the project would not contribute to regional subsidence. Structures on the site would have foundation designs incorporating recommendations of existing site-specific geotechnical studies to reduce potential damage from settlement or lateral spreading to an acceptable level (Contra Costa County Community Development Department 1996). See Section 3.7, Item a) iv) regarding landslides not being considered an impact associated with this project, and Section 3.7, Item a) iii) regarding the potential for liquefaction being reduced to a less than significant level through strict enforcement of building standards by the Town of Discovery Bay.

Based on this information, landslides, lateral spreading, liquefaction or collapse are not considered significant impacts from the project.

Item d)

The soils of the project site have high expansion potential, either at the ground surface or within a few feet of the ground surface (Contra Costa County Community Development Department 1996, Contra Costa County 2005). These soils shrink and swell with moisture changes (the critical characteristics of expansive soil) sufficiently to damage pavements, slabs-on-grade, and structures supported on shallow foundations. Structures on the site would have foundation designs incorporating the recommendations of existing site-specific geotechnical studies to reduce the potential for damage from expansive soils to an acceptable level (see Section 3.7, Item a) iii) regarding the potential for damage caused by expansive soils being reduced to a less-than-significant level through strict enforcement of building standards by the Town of Discovery Bay).

Based on this information, soil expansion is considered a less-than-significant impact from construction at this site.

Item e)

The proposed project does not include septic tanks or on-site disposal of wastewater. Consequently, the capacity of the soils on the project site to support septic systems is not pertinent.

Based on the above-information, the septic system capacity of on-site soils is not considered an impact associated with the proposed project.

AVOIDANCE, MINIMIZATION, MITIGATION MEASURES - GEOLOGY & SOILS (GEO)

GEO 1: Erosion Control

- A. Prior to the start of construction, Contractor will prepare a Storm Water Plan for DB approval that identifies the BMPs to be used in all construction areas to reduce or eliminate the discharge of soil, surface water runoff, and pollutants during all excavation, grading, or trenching.
- B. BMPs must be in place at all times including covering (tarping) any stockpiled materials or soils and by constructing silt fences, straw bale barriers, fiber rolls, or other structures around stockpiles and disturbed areas.

3.8 Hazards And Hazardous Materials

3.8.1 Environmental Setting

The California Department of Environmental Protection (CALEPA) has the responsibility for compiling (pursuant to Government Code §65962.5) information on hazardous material sites in California that together comprise the "Cortese" list (CALEPA 2019). A review of this list found the closest identified site to be Discovery Bay West, a school investigation site, located approximately 3.1 miles northwest of the outfall project.

It is not anticipated that any hazardous materials will be encountered during demolition and excavation of the existing dispersion and outfall facility, which includes silt, native fill, gravel, rock and HDPE piping.

Standard project requirements and BMPs will be followed to prevent accidental spills associated with construction equipment operation, maintenance, and repair.

Would The Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?				<input checked="" type="checkbox"/>
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?				<input checked="" type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste				<input checked="" type="checkbox"/>

Would The Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
within one-quarter mile of an existing or proposed school?				
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?				<input checked="" type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?				<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?				<input checked="" type="checkbox"/>
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?				<input checked="" type="checkbox"/>
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?				<input checked="" type="checkbox"/>

3.8.2 Discussion

Items a) through d)

The proposed project is not anticipated to transport, use or dispose of any hazardous materials, accidentally release hazardous material, substance or waste, emit or handle hazardous waste within one-quarter mile of an existing or proposed school or be located on a site which is listed as a hazardous material site

Items e) and f)

The project is not within two miles of a public airport, public use airport or private airstrip. The closest airport is Byron Airport, located approximately 10 miles to the northeast.

Item g)

Neither emergency response plans nor emergency evaluation plans shall be impaired by implementation of the project.

Item h)

The project shall not expose people or structures to a significant risk of loss, injury or death from wildland fires.

AVOIDANCE, MINIMIZATION, MITIGATION MEASURES - HAZARDS/HAZARDOUS MATERIALS (HAZ)

HAZ 1: Hazardous Material Spills

- A. Prior to the start of construction, the contractor shall clean all equipment before entering the project site. Equipment shall be cleaned and repaired (other than emergency repairs) outside the project site boundaries. All contaminated water, sludge, spill residue, or other hazardous compounds shall be contained and disposed of outside the boundaries of the site, at a lawfully permitted or authorized destination.
- B. Prior to the start of construction, the contractor shall inspect all equipment for leaks and regularly inspect thereafter until equipment is removed from the project site.
- C. Prior to the start of construction, the designated contractor shall prepare a Spill Prevention and Response Plan (SPRP) to provide protection to on-site workers, the public, and the environment from accidental leaks or spills of vehicle fluids or other potential contaminants. This plan shall include (but not be limited to):
 - 1. A map with both primary and secondary containment areas with a listing of BMPs to be used to prevent the accidental release of fluid materials, including concrete.
 - 2. A map that delineates construction staging areas, where refueling, lubrication, and maintenance of equipment will occur.
 - 3. A list of items required in a spill kit on-site that will be maintained throughout the life of the project.

HAZ 2: Fire Safety

- A. Prior to the start of construction, the Project Contractor shall develop an approved Fire Safety Plan. The plan will include the emergency calling procedures for the Local Fire Department.
- B. Spark arrestors or turbo chargers (which eliminate sparks in exhaust) and fire extinguishers will be required for all heavy equipment.
- C. Cutting of vegetation within the staging area and the use a ground barrier covered with leveling fill will keep construction vehicles away from flammable material, such as dry grass or brush.

HAZ 3: Worker Safety

Require construction personal to have appropriate training in compliance with 29 CFR, §§1910, et seq. (Occupational Safety and Health Standards), 1926 et seq (Safety and Health Regulations for Construction) and 8 CCR § 5192 (Hazardous Waste Operations and Emergency Response) to protect workers (Occupational Health and Safety, U.S Department of Labor 1993).

3.9 Hydrology and Water Quality

3.9.1 Environmental Setting

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements?			<input checked="" type="checkbox"/>	
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?				<input checked="" type="checkbox"/>
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?			<input checked="" type="checkbox"/>	
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?				<input checked="" type="checkbox"/>
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?				<input checked="" type="checkbox"/>
f) Otherwise substantially degrade water quality?				<input checked="" type="checkbox"/>

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?				<input checked="" type="checkbox"/>
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?				<input checked="" type="checkbox"/>
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?				<input checked="" type="checkbox"/>
j) Inundation by seiche, tsunami, or mudflow?			<input checked="" type="checkbox"/>	

3.9.2 Discussion

Item a)

Construction of the proposed outfall replacement will comply with the NPDES General Permit for Storm Water Discharges Associated with Construction Activities (Order No 2009-0009DWQ) (State Water Board 1999). The Clean Water Act prohibits the discharging of pollutants through a point source into a water of the United States without a National Pollutant Discharge Elimination System (NPDES) permit. The permit contains limits on what can be discharged, monitoring and reporting requirements, and other provisions to ensure that the discharge does not hurt water quality or people's health.

However, during the construction period, there could be a potential for temporary violation of waste discharge requirements. Grading and excavation activities could expose disrupted soils or material stockpiles to wind erosion. Deposition of fine wind-blown particles could degrade water quality of the RD-800 drainage canal and Old River.

An erosion control measure for earthwork in areas south of State Highway 4 was incorporated in the 1998 Initial Study and Mitigated Negative Declaration (Contra Costa County Sanitation District 1998) for the wastewater treatment facilities. The measure included limiting excavation and filling to the dry season, preparing an erosion and sediment control plan prior to construction, wet-season maintenance, regular inspection during the wet season, and spot inspections following severe storms. These activities would be continued throughout the construction period of the proposed project.

Based on this information, violation of water quality standards or waste discharge requirements are not considered significant impacts associated with this project.

Item b)

The surface material at the site consists of as much as 5 feet of naturally occurring peat and muck (the Kingpile muck). Beneath the peat is unconsolidated, moderately to poorly sorted silt and clay, and rock in organic material (probably the Egbert mucky clay loam). These soils are of a fine-grained nature, composed of clay, silt, fine grained sand, and as much as 50 percent organic material. Because water does not percolate rapidly through these materials, perched groundwater conditions are present locally throughout the site during the rainy winter months. The water table in the project vicinity generally is less than 5 feet below the ground surface and can be as little as 18 inches below the ground surface where particularly clayey soils occur. Consequently, the surface aquifer is not used as a source of potable water or irrigation water. Potable water is provided by wells penetrating to a deep aquifer far below the surface deposits: irrigation water for nearby agricultural operations is supplied from surface water (not groundwater).

Based on this information, substantial depletion of groundwater supplies is not an impact associated with this project.

Item c)

The project area is nearly flat, sloping gently east, southeast and south from about 8 feet below mean sea level to about 10 feet below mean sea level. This condition would not be altered by the proposed project. The construction phase of the project would entail excavation and removal and replacement of soils and material for the pipeline. This material is currently existing within the Old River but may erode into the RD-800 drainage canal or further downstream of Old River, resulting in potential pollution (turbidity). Temporary impacts (soil erosion and sedimentation) associated with construction activities would be controlled by the design and implementation of the required erosion and sediment control plan described in Section 3.9, Item a) above.

Based on this information, alteration of the existing drainage pattern of the site and substantial erosion or siltation on or off-site are not considered a potential impact to this project.

Item d)

The project area is nearly flat, sloping gently east, southeast and south from about 8 feet below mean sea level to about 10 feet below mean sea level. This condition would not be altered by the proposed project. Because the staging site is separated from Old River and from the RD-800 drainage canals by levees, there is little likelihood that soil disrupted during most of the project construction would be washed into these waterways. The planned activities of this project would not generate additional uncontrolled runoff.

Based on this, no alteration of the existing drainage pattern of the site is planned to result in any increase in the rate or amount of surface runoff in a manner which could cause on – or off-site flooding and this is not considered an impact associated with this project.

Item e)

No changes are planned in the design of the construction staging areas, nor to the treatment process that would add new sources of pollution to surface runoff. The proposed project of the outfall replacement will not require drainage facilities or containment nor alter the current drainage patterns.

Based on this information, stormwater treatment capacity and additional pollutant sources in runoff are not considered impacts associated with this project.

Item f)

See Sections 3.9, Items a), (c) and d) above.

Item g)

The proposed project does not include housing.

Based on this information, placing housing in a 100-year flood hazard area is not an impact associated with this project.

Item h)

The project staging site is protected on the east, south and west sides by levees along Old River and the RD-800 drainage canal. On the north side, the site is protected by State Highway 4, which is on a raised roadbed that acts as a levee. The area of construction is in the 500-year flood zone, as established by the Federal Emergency Management Agency.

Based on this information, placing structures in a 100-year flood hazard area is not an impact associated with this project.

Item i)

The project site is between 8 and 10 feet below mean sea level and is protected on all sides by levees. The Federal Emergency Management Agency considers the levees adequate protection from flooding and, therefore, classifies the site as being in the 500-year flood zone. The facility to be constructed is below mean sea level and is not intended for human occupancy. Town staff will continue to visit the site periodically for inspections and maintenance purposes, but do not reside there. In the event of failure of Old River levee, the site could be inundated to a depth of 8 to 10 feet. It is highly unlikely that such a failure would occur without warning, and the risk is considered extremely low.

Based on this information, exposure to flood hazards is not considered a significant impact associated with this project.

Item j)

Old River is the closest major water body to the site, which the proposed project lies within. The river is about 160-yards wide, 10-feet deep, and contained by levees that rise to about 13 feet above mean sea level, at the point where it passes the project area, and 51 miles upstream from Carquinez Bridge. At this point, the river is too far inland, with channels that are too narrow and too sinuous to be affected

substantially by a tsunami to enter the Golden Gate. The amount of water stored between the Old River levee at any given time would be sufficient to allow the generation of a seiche during a major earthquake (Mw 7.0 to 8.0). Such an earthquake is unlikely to affect the area, because the closest earthquake fault to the site (the Greenville fault) does not appear capable of producing a great earthquake, and the groundshaking even from a great earthquake (Mw 8.0 and higher) on the more distant Hayward and San Andreas faults would not be as intense as from the design earthquake on the Greenville fault. The natural terrain adjacent to the project on the site is flat, and the levees are constructed of compacted material of a size, range and density to withstand flowing when wet: there is very little risk of mudflow at the project site.

Based on this information, seiche, tsunami, or mudflow hazards are not considered impacts associated with this project.

AVOIDANCE, MINIMIZATION, MITIGATION MEASURES - HYDROLOGY/WATER QUALITY (WQ)
WQ 1: Prior to the start of work, the contractor shall develop a Storm Water Plan that identifies BMPs to be used in all construction areas to reduce or eliminate the discharge of soil, surface water runoff, and pollutants during all ground disturbing activities.
WQ 2: The project shall comply with all applicable water quality standards as specified in the Central Valley RWQCB Water Quality Control Plan (Valley Plan).
WQ 3: For construction activities that extend into the rainy season or if an unseasonal storm is anticipated, the contractor shall cover (i.e., tarp) any stockpiled materials or soil and install silt fences, straw bale barriers, fiber rolls, or other structures around stockpiles and areas of ground disturbance as may be required.
WQ 4: Signage related to the presence of a potential inundation zone will be installed pursuant to the County of Contra Costa and Town of Discovery Bay Signage Policy, including an applicable Tsunami Evacuation Route. Such measures are intended to reduce the potential impacts resulting from a mudflow or tsunami event.

3.10 Land Use And Planning

3.10.1 Environmental Setting

The Town of Discovery Bay does not have land use or zoning authority. However, the Town can and does advise the County on decisions affecting the community. The Town works with the County to ensure new development compliments existing properties.

Land use and planning within Discover Bay is managed by the established East County Regional Planning Commission with a five-member board (Contra Costa County Ordinances 2010).

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

3.10.2 Discussion

Item a)

State Highway 4 forms the north boundary of the study area, separating it from open agricultural land. The Town of Discovery Bay is northwest of the study area, separated from it by a sound barrier (concrete wall). The RD-800 drainage canal forms the west boundary of the study area, separating it from open agricultural land. A connecting drainage canal to Old River forms the south and southwest boundaries of the study area, separating it from open agricultural land. A connecting drainage canal to Old River forms the south and southeast boundaries of the study area, separating it from open agricultural land to the southwest, south and southeast. The Contra Costa Water District's pump station on the west side of Old River forms the east boundary of the study area, separating it from Old River. Therefore, there is no established community that the project would divide, and no significant impact is expected.

Item b)

The project will not conflict with any other plans being developed.

Item c)

This information is discussed in Section 3.5 Biological Resources, Item d), above.

3.11 Mineral Resources

3.11.1 Environmental Setting

There is no mineral resource extraction associated with this project. Moreover, it is a land use that is not compatible with the mission of the Town of Discovery Bay.

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

3.11.2 Discussion

Items a) and b)

The project area is classified by the California Division of Mines and Geology as MRZ-1, a Mineral Resource Zone for which there is adequate information to indicate there are no aggregate mineral resources present. The closest known mineral aggregate resource is an outcrop of Domengine Sandstone about 4 miles southwest of the site. According to the CDC, Division of Oil, Gas and Geothermal Resources, the project vicinity is not a recognized methane problem area. The closest known oil or gas resource is the Brent Oil and Gas Field 10 miles west of the site. Completion and operation of the proposed replacement project would not involve quarrying, mining, or extraction of any known regionally or locally important mineral, oil, or gas resources on site, nor would it deplete any non-renewable natural resources.

Consequently, there would be no impact on mineral resources.

3.12 Noise

3.12.1 Environmental Setting

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?			<input checked="" type="checkbox"/>	
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?				<input checked="" type="checkbox"/>

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?			<input checked="" type="checkbox"/>	
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?			<input checked="" type="checkbox"/>	
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?				<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?				<input checked="" type="checkbox"/>

3.12.2 Discussion

Item a)

Construction of the proposed outfall replacement will not expose people or generate noise levels in excess of any state or federal standards. The project will also adhere to the applicable noise regulations for construction activities established by the Town of Discovery Bay. There are no nearby sensitive receptors present in the vicinity of the proposed project. The project site is bounded by agricultural lands to the south and west, State Highway 4 to the north, and Old River just to the east, none of which are sensitive receptors. There are sensitive receptors (residences) within the existing Discovery Bay community. There is also a sound barrier north of State Highway 4, the proposed construction area is at least 2000 feet away from that sound barrier, and the project site is 5 to 10 feet lower than the highway, all of which provides additional noise buffering. During the construction period daytime noise levels at the site could increase by more than 10 dBA Leq over the existing levels but would return to existing levels at night and after the completion of construction. The project would not create a substantial permanent increase in ambient noise levels in the project vicinity. The daytime increase during the construction period would be less than significant because policies and procedures are in place to reduce noise to an acceptable level. Construction period noise-reduction mitigation measures were included in the 1998 Initial Study and Mitigated Negative Declaration (Contra Costa County Sanitation District 1998) for work that was planned within the Discovery Bay Community. Implementation of similar Best Management practices to Reduce Construction Noise will be implemented to maintain construction noise at a less-than-significant level.

Item b)

Construction of the proposed project will not require pile driving or other construction techniques likely to cause perceptible off-site groundborne noise or vibration. Activities associated with the movement of heavy-duty trucks and similar construction equipment would occur on a temporary basis. Consequently, groundborne noise or vibration impacts are not considered an impact of this project.

Item c)

See Section 3.12, above, and Avoidance, Minimization, Mitigation Measures – Noise section below.

Item d)

See Section 3.12, above, and Avoidance, Minimization, Mitigation Measures – Noise section below.

Item e)

The project site is not located within an airport land use plan or within two miles of a public airport. Consequently, airport-related noise impacts do not apply at this project site.

Item f)

The project site is not located within the vicinity of a private airstrip. Consequently, airport-related impacts do not apply at this project site.

AVOIDANCE, MINIMIZATION, MITIGATION MEASURES - NOISE (NO)

NO 1: All work will be performed between the hours of 7a.m. and 7p.m. Monday through Saturday. Additional implementation of BMPs will include the following procedures, to be incorporated in to the construction documents and to be implemented by the project contractor:

- Comply with noise and vibration control measures identified in the Contra Costa County Special Plan
- Maximize the physical separation between noise generators and noise receptors.
- Select quiet construction equipment whenever possible, particularly air compressors.
- Prohibit unnecessary idling of internal combustion engines for near sensitive receptors.
- Select routes for movement of construction-related vehicles and equipment in conjunction with Contra Costa County such that noise-sensitive areas, including residences, hotels and outdoor recreation areas are avoided as much as possible.
- Transportation of heavy equipment and trucks shall be limited to weekdays between the hours of 7a.m. and 7p.m.
- Designate a noise coordinator who will be responsible for responding to complaints about noise during construction. Post the telephone number as well as the construction schedule in a conspicuous place at the construction site.

NO 2: Construction activities shall be limited to daylight hours, Monday through Friday between 7:00 AM and 7:00 PM. Weekend or holiday work could be implemented to address emergencies or unforeseen circumstances impacting construction.

NO 3: Internal combustion engines used for any purpose at the job site shall be equipped with a muffler of a type recommended by the manufacturer. Equipment and trucks used for construction shall utilize noise control techniques (e.g., engine enclosures, acoustically attenuating shields, or shrouds, intake silencers, ducts, etc.).

NO 4: Noise monitoring will be conducted, and sound-absorbing barriers will be installed local to the loader as needed (for an estimated additional 5 dBA attenuation).

NO 5: Noise generated from demolition or construction activities shall be limited to avoid seasons of peak visitation, and time periods when sensitive wildlife species may be significantly impacted.

With implementation of the above mitigation measures, all work necessary to implement the project construction would be performed between the hours of 7a.m. and 7p.m. Monday through Saturday. During the six to ten days of continuous excavation, additional noise attenuation measures would include: mufflers on equipment, and limited use of impact wrenches to daytime hours. In addition, the Town of discovery Bay will ensure that all nearby impacted residences are notified of the construction schedule and will provide a contact number for a community liaison (BMP 6). Because: (1) implementation of mitigation measures would reduce construction related noise levels; (2) implementation of Best Management Practices (BMPs 6) would ensure adjacent neighbors would be informed of potential construction impacts; and (3) total construction would be temporary, construction related noise levels would be reduced to less than significant levels.

3.13 Population and Housing

3.13.1 Environmental Setting

There is no population living within the project area, or the adjacent lands.

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?				<input checked="" type="checkbox"/>

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?				<input checked="" type="checkbox"/>
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?				<input checked="" type="checkbox"/>

3.13.2 Discussion

Item a)

The completion of this project, although a facility to support the wastewater treatment facilities, does not represent an expansion of capacity or otherwise considered a growth project. The current project and proposed project do not include new housing, new businesses, or new infrastructure other than for the already permitted and approved usage and facility. Therefore, the proposed outfall replacement would not promote growth beyond the limits of the approved General Plan and would have no impact on population and housing in the project area.

Item b)

There are no existing residence on the project site. The proposed project would not displace any existing residences. Therefore, no impact would be expected.

Item c)

See Section 3.13.2 b), above.

3.14 Public Services

3.14.1 Environmental Setting

The closest fire station to the project site is East Contra Costa Fire Protection District on Bixler Road, approximately 5.2 miles north of the site, as well as the Town of Discovery Bay Community Center, which is approximately 2.5 to the northeast. Other public facilities in the vicinity are Delta Vista High School and Discovery Bay Elementary School, both approximately 3.0 miles from the site (Wikipedia contributors 2019).

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

3.14.2 Discussion

Item a)

Source 1: The proposed project will be constructed primarily of HDPE piping, and the facilities would be open-air and submerged. None of the structures would be used for human occupancy. The material treated by the wastewater treatment facility is not flammable, no volatile chemicals are used in the treatment, and the facility is not supported by electricity at the proposed outfall replacement. Consequently, the proposed project would not pose any special fire-fighting challenges and would not necessitate additional fire protection services. Therefore, no impact is expected.

Item b)

Source 2: Because no unusual law enforcement problems are associated with the completion of the proposed facility, the project would not necessitate additional police protection at the project site. Therefore, no impact is expected.

Item c)

The proposed project does not involve residential uses. Consequently, the proposed project is not anticipated to result in new demand for schools. Therefore, no impact is expected.

Item d)

The demand for parks is directly linked to the residential population in Discovery Bay. The proposed project does not include new residential use and, consequently, would not create a direct demand for parks (California Department of Parks and Recreation). Therefore, no impact is expected.

Item e)

Because the proposed project does not include residential uses, it would not create direct demands for other public services such as libraries and recreational centers. Therefore, no impact is expected.

3.15 Recreation

3.15.1 Environmental Setting

Discovery Bay was originally a waterfront community built on a network of man-made dikes, surrounded by fresh water, except for the southeast quadrant, which comprises the golf course of Discovery Bay Country Club. Road access is via California State Highway 4, which is a county designated scenic highway, the views of which are generally agricultural and industrial in the foreground. Middle and background views are obscured by the levee systems along Old River, and the views of the pump station, treatment facility and associated components are naturally obscured by the natural bend in Old River and the levees. Views of the proposed outfall replacement project would be within the foreground of recreational users of Old River as they travel from Discovery Bay to the south Delta.

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?				<input checked="" type="checkbox"/>
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?				<input checked="" type="checkbox"/>

3.15.2 Discussion

Item a)

The proposed project does not directly involve construction of housing or facilities that could increase the demand for neighborhood or regional parks or other recreational facilities. Therefore, no impact is expected.

Item b)

The outfall replacement project would not include recreational facilities or necessitate the construction of new, or expansion of existing, recreational facilities. Therefore, no impact is expected.

3.16 Transportation/Traffic

3.16.1 Environmental Setting

The proposed outfall replacement project is located in the southeast quadrant of the Town of Discovery Bay, and unincorporated area of Contra Costa County. The site is located south of State Highway 4, adjacent to Old River, on the west side of the levee, connecting Old River and RD-800 Main Ditch. Direct access to the site is from State Highway 4 on an easement road to the wastewater treatment plant, the staging area and the outfall facilities.

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the importance of the circulatory system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulatory system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths and mass transit?				<input checked="" type="checkbox"/>
b) Conflict with an applicable congestion management program, including but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?				<input checked="" type="checkbox"/>

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?				<input checked="" type="checkbox"/>
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?				<input checked="" type="checkbox"/>
e) Result in inadequate emergency access?			<input checked="" type="checkbox"/>	
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle or pedestrian facilities?				<input checked="" type="checkbox"/>

3.16.2 Discussion

Item a)

During the construction phase of the project, additional vehicle movement and need for parking related to the project would be limited to transportation of workers, equipment and material to and from the project site. It is anticipated that four to six people per day would need to be on the site under ordinary conditions. All personal vehicles, excavation and construction equipment would be left in the designated parking and staging areas near or adjacent to the site, well off State Highway 4 and the main thoroughfares in the area. Even if a larger crew were needed at any time during the construction of the proposed project, there is adequate parking space on the site for extra vehicles.

Excavation and construction equipment would be driven onto the project site and would remain there until the tasks are completed, thus eliminating the need to move the equipment on and off the site frequently, or even more than once.

During the testing and inspection phases of the proposed project there may be several daily trips to and from the site by the engineering team and Town staff. It is anticipated that equipment would need to be moved on and off the site occasionally. Truck traffic generated by the construction requirements is estimated to be 1 to 2 additional truck deliveries and hauling during the 2 to 3-week construction schedule. None of these situations would add a statistically significant amount of traffic to State Highway 4. Therefore, the proposed project would have no significant effect on traffic load or street capacity in the vicinity of the site or in the region.

Item b)

See Section 3.16.2a), above.

Item c)

The proposed project is not near any air travel facility. The project does not include the construction of above-ground facilities that would be high enough to interfere with air travel. Therefore, the proposed project would have no effect on air traffic patterns.

Item d)

The proposed project would not alter any publicly traveled roads, and therefore, would have no potential for increasing transportation design hazards.

Item e)

Construction of the proposed project could slow vehicle travel of State Highway 4 temporarily when large equipment is moved on and off the site but would not affect emergency access because contractor personnel would be at the scene to direct traffic past the site until the equipment move was completed. Once construction of the project was completed, State Highway 4 would operate as it did prior to project construction. Therefore, the proposed project would have a less-than-significant impact on emergency access.

Item f)

See Section 3.16.2a), above.

Item g)

The proposed project would not conflict with alternative transportation policies because the project does not involve any permanent surface level alteration that would interfere with any mode of transportation. Therefore, the proposed project would have no impact on alternative transportation policies.

AVOIDANCE, MINIMIZATION, MITIGATION MEASURES – TRANSPORTATION/TRAFFIC (TR)
TR 1: Construction equipment and employee parking will be confined to the construction staging area identified in Figure 1 so as not to traffic and to maintain site control.

3.17 Utilities and Service Systems

3.17.1 Environmental Setting

There are no public services in the immediate vicinity of the project area. The existing waste water treatment plant has the infrastructure installed already to provide the necessary services for the existing facility as well as this proposed outfall replacement.

Construction waste from the demolition of the existing outfall will be negligible.

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?				<input checked="" type="checkbox"/>
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?				<input checked="" type="checkbox"/>
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?				<input checked="" type="checkbox"/>
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?				<input checked="" type="checkbox"/>
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?				<input checked="" type="checkbox"/>
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?				<input checked="" type="checkbox"/>
g) Comply with federal, state, and local statutes and regulations related to solid waste?				<input checked="" type="checkbox"/>

3.17.2 Discussion

Item a)

The project will not exceed wastewater treatment restrictions or standards of the RWQCB.

Item b)

The project is an alteration to an existing facility with existing infrastructure and does not involve the construction of new water or wastewater treatment facilities or expansion of existing facilities.

Item c)

The project is an alteration to an existing facility with existing infrastructure and does not involve the construction of new storm water drainage facilities or expansion of existing facilities.

Item d)

The project is an alteration to an existing facility with existing infrastructure and would not cause the expansion or construction of additional drainage facilities off-site. Therefore, impacts to storm water facilities are not expected.

Item e)

The project is an alteration to an existing facility with existing infrastructure and would not cause the demand of significant amounts of water in excess of current uses. Therefore, no impact is expected.

Item f)

The proposed project would not produce any solid waste in excess of what is currently being disposed of by the facility because the completion of the facilities would not change the treatment capacity. Therefore, impacts to solid waste disposal would not be significant.

4 Mandatory Findings of Significance

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

4.1 Discussion

Item a)

As discussed in Section 3.3 Agricultural Resources, the project site is almost completely in fallow agricultural use, providing minimal habitat for species of concern. Section 3.5 Biological Resources, also indicates the potential for sensitive species (western pond turtle) to occur on the project site and directs the discussion of mitigation measures for potential loss of species to a less-than-significant level. Otherwise, minimal habitats of sensitive species occur on or in the vicinity of the proposed project area, or the construction period avoids the period of use by such species (e.g., longfin smelt). Section 3.6 Cultural Resources, indicates there are no known cultural resources on the site and directs the discussion to mitigation measures to be implemented in the event such resources are discovered at the site, during excavation activity. Section 3.12 Noise indicates no nearby sensitive receptors and directs to the discussion of mitigation measures for noise effects during the construction period.

Based on the findings of this Initial Study, the proposed project would not degrade the quality of the environment, reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, or reduce the number or restrict the range of a rare or endangered plant or animal. No examples of California history or prehistory are known to exist at the project site. As a result of the analysis in the present Initial Study and available project data, the proposed project would have a less-than-significant impact on these resources. No important examples of California history or prehistory will be eliminated as a result of the project.

Item b)

The proposed outfall replacement project is consistent with the discussion of cumulative impacts in the Discovery Bay West EIR, and with the mitigation measure put forward in the 1998 Treatment Plan Expansion and Sewer Conveyance Master Plan Initial Study and Mitigated Negative Declaration (Contra Costa County Sanitation District 1998). Additionally, mitigation measures recommended in the present Initial Study, and incorporated in the proposed project, would extend the previous measures throughout the project site.

Consequently, the anticipated cumulative effects of completing the project were envisioned in the Discovery Bay West EIR and found to be a small component of that community's potential cumulative effects in the Treatment Plant Expansion and Sewer Conveyance Master Plan Mitigated Negative Declaration. Mitigation measures identified in the present Initial Study would reduce cumulative impacts related to completion of this proposed project to a less-than-significant level.

Item c)

See Sections 3.4 Air Quality; 3.6 Cultural Resources; 3.7 Geology and Soils; 3.8 Hazards and Hazardous Materials; 3.9 Hydrology and Water Quality; and 3.12 Noise, above, which indicate that potential risks to humans would be regulated by existing regional programs and policies, and by proposed mitigation measures established by the Town of Discovery Bay, or in this Initial Study, based upon Best Management Practices.

5 Summary of Mitigation Measures

Mitigation measures that were designated to reduce project effects to less than significant levels by minimizing effects or by avoiding effects altogether are summarized in the following for each environmental component of the assessment.

AVOIDANCE, MINIMIZATION, MITIGATION MEASURES	
AESTHETICS	
No mitigation required	
AGRICULTURAL RESOURCES	
No mitigation required	
AIR QUALITY (AQ)	
AQ BMP-1: Standard construction protocols for dust control during construction and demolition shall be implemented. These protocols shall be included within the Storm Water Plan. The State's Representative and/or State Natural Resources Specialist will periodically inspect the work area to ensure that construction-related activities do not generate excessive amounts of dust or cause other related air quality disturbances.	
AQ BMP-2: Idling of vehicles shall be minimized to the maximum extent practicable.	
AQ BMP-3: All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.	
AQ BMP-4: All haul trucks transporting soil, sand, or other loose material off-site shall be covered.	
AQ BMP-5: 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.	
AQ BMP-6: All vehicle speeds on unpaved roads shall be limited to 15 mph.	
AQ BMP-7: 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.	
AQ BMP-8: Post a publicly visible sign with the telephone number and person to contact at the lead agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.	

AVOIDANCE, MINIMIZATION, MITIGATION MEASURES

BIOLOGICAL RESOURCES (BIO)

BIO 1: Birds: To reduce the potential for the project to negatively affect sensitive bird species, the following mitigation measures shall be implemented as part of the project:

Burrowing Owls – Burrowing owls have occurred in the southwestern part of the project site (Notification of Lake or Streambed Alteration for the Town of Discovery Bay 2004). Thus, the potential for burrowing owls to occur near the site remains. However, maintenance operations to control weeds through disking and mowing have reduced the potential for burrows to occur on the project site, and this species has not recently been observed by treatment-plant maintenance personnel (Sadler 2019). If burrowing owls are not observed within 150 meters of the construction area, no mitigation measures are required. Conversely, if owls are observed within this area, the following measures, as specified by the CDFW (2012), shall be followed:

- All occupied burrows should be avoided, and disturbance should not occur within 50 meters (160 feet) during the non-breeding season (September 1 through January 31) or within 200 meters (655 feet) during the breeding season (February 1 through August 31).

Horned Lark – Maintenance activities, including disking and mowing, that have reduced vegetation stature on the site, reduce the potential for horned larks to nest in the vicinity of the proposed project site. Moreover, if no vegetation removal would occur as part of the project, and especially during the nesting period (February 1 through August 31), then no effects would be anticipated.

BIO 2: Western Pond Turtle – No appreciable changes in water levels from the discharge of treated water into Old River are anticipated and no effects would be expected to western pond turtle use of the area and no mitigation measures are required. Pond turtles would be more likely to use slowly moving water at the river's edge and areas on the banks for basking. Turtles could wander into construction areas, which could place them at risk. Mitigation measures to reduce potential impacts from construction include:

- Open trenches shall be inspected prior to the start of work each day to ensure that no turtles have entered into the construction zone. Any turtles in such areas, including trenches, shall be removed and placed in the closest body of water.
- Prior to the start of work each day at the diffuser structure, the rip-rap shall be inspected to ensure that no turtles are present. Any turtles occurring in this area shall be relocated 100 feet downstream of the construction area.

BIO 3: Fish – Construction of the proposed project has potential to cause direct impacts to Delta smelt, longfin smelt, and Sacramento splittail. Work to remove the old diffuser pipe and install a new diffuser could affect Delta smelt and Sacramento splittail as they move through the area, and the longfin smelt spawning in areas of rip-rap along the banks. Delta smelt spawning habitats also occur in the area of the proposed project, but this species has not been reported for the area (Moore 2003).

AVOIDANCE, MINIMIZATION, MITIGATION MEASURES

Mitigation measures to reduce impacts to these three-fish species to less-than-significant include restricting construction work to June to reduce the potential for sedimentation to affect fish movements and especially longfin smelt spawning that may occur while removing the old diffuser and in the vicinity of trenching to place the new diffuser. Construction outside of this time period could be considered a significant impact but constricting the trenching work to the shortest period possible (e.g., two weeks) in any case, would help reduce the potential for sediment to negatively affect spawning, including egg maturation and juvenile survival.

CULTURAL RESOURCES (CR)

CR-1: Cease Construction Work Upon the Discovery of Historic or Archaeological Resources: Evaluate Resources Before Continuing Construction

If potential historic or archaeological resources are discovered during construction, all work should be suspended in the immediate vicinity (within approximately 50 feet) with the objective to avoid altering the material and their context pending a site investigation by a qualified archaeological or cultural resources consultant who should be retained by the project sponsor. Construction work shall not commence again until an opportunity is provided to examine the findings, assess their significance and provide proposals for any additional exploratory measures deemed necessary for further evaluation of and/or mitigation of adverse impacts to any potential historical resources or unique archaeological resources that have been encountered.

If the finding is determined to be an historic or unique archaeological resource, and if avoidance would not be feasible, the archaeological or cultural resources consultant shall prepare a plan for the methodical excavation of the site and resources that would be adversely affected. The plan shall be designed to result in the extraction of sufficient volumes of non-redundant archaeological data to address important regional research considerations. The work shall be performed by the archaeological or cultural resources consultant and shall result in detailed technical reports. Such reports will be submitted to Contra Costa County, the Town of Discovery Bay, and the California Historic Resources Regional Information Center. Construction in the vicinity of the find shall be accomplished in accordance with current professional standards. The project sponsor shall assure that project personnel are informed that law prohibits collecting significant historic or unique archaeological resources discovered during development of the project. Prehistoric or Native American resources can include chert or obsidian flakes, projectile points, mortars, and pestles; and dark friable soils containing shell and bone dietary debris, heat-affected rock, or human burials. Historic resources can include nails, bottles, or other items occurring in refuse deposits.

CR-2: Cease Work upon the Discovery of Human Remains: Evaluate Remains before Continuing Construction.

In the event of discovery or recognition of any human remains on the project site, the contractor shall contact Contra Costa County Coroner, pursuant to Section 7050.5(b) of the California Health and Safety

AVOIDANCE, MINIMIZATION, MITIGATION MEASURES

Code. In this event, there shall be no further excavation or disturbance of the site or any nearby areas reasonably suspected to overlie adjacent remains until the coroner determines the origin of such remains. The coroner, upon recognizing the remains as being of Native American origin, shall contact the Native American Commission within 24 hours of the coroner being notified. No further disturbance of the site may occur except as authorized by the coroner. The Commission has various powers and duties to provide for the ultimate disposition of any Native American remains, including the designation of a Native American Most Likely Descendant. Sections 5097.98 and 5097.99 of the Public Resources Code also call for the protection of Native American human remains and skeletal remains from vandalism and inadvertent destruction. To achieve this goal, construction personnel on the project shall be instructed as to both potential for discovery of cultural or human remains, and the need for proper and timely reporting of such finds, and the consequences of failure to do so.

GEOLOGY & SOILS (GEO)

GEO 1: Erosion Control

- A. Prior to the start of construction, Contractor will prepare a Storm Water Plan for DB approval that identifies the BMPs to be used in all construction areas to reduce or eliminate the discharge of soil, surface water runoff, and pollutants during all excavation, grading, or trenching.

BMPs must be in place at all times including covering (tarping) any stockpiled materials or soils and by constructing silt fences, straw bale barriers, fiber rolls, or other structures around stockpiles and disturbed areas.

HAZARDS/HAZARDOUS MATERIALS (HAZ)

HAZ 1: Hazardous Material Spills

- A. Prior to the start of construction, the contractor shall clean all equipment before entering the project site. Equipment shall be cleaned and repaired (other than emergency repairs) outside the project site boundaries. All contaminated water, sludge, spill residue, or other hazardous compounds shall be contained and disposed of outside the boundaries of the site, at a lawfully permitted or authorized destination.
- B. Prior to the start of construction, the contractor shall inspect all equipment for leaks and regularly inspect thereafter until equipment is removed from the project site.
- C. Prior to the start of construction, the designated contractor shall prepare a Spill Prevention and Response Plan (SPRP) to provide protection to on-site workers, the public, and the environment from accidental leaks or spills of vehicle fluids or other potential contaminants. This plan shall include (but not be limited to):

AVOIDANCE, MINIMIZATION, MITIGATION MEASURES

1. A map with both primary and secondary containment areas with a listing of BMPs to be used to prevent the accidental release of fluid materials, including concrete.
2. A map that delineates construction staging areas, where refueling, lubrication, and maintenance of equipment will occur.

A list of items required in a spill kit on-site that will be maintained throughout the life of the project.

HAZ 2: Fire Safety

- A. Prior to the start of construction, the Project Contractor shall develop an approved Fire Safety Plan. The plan will include the emergency calling procedures for the Local Fire Department.
- B. Spark arrestors or turbo chargers (which eliminate sparks in exhaust) and fire extinguishers will be required for all heavy equipment.

Cutting of vegetation within the staging area and the use a ground barrier covered with leveling fill will keep construction vehicles away from flammable material, such as dry grass or brush.

HYDROLOGY/WATER QUALITY (WQ)

WQ 1: Prior to the start of work, the contractor shall develop a Storm Water Plan that identifies BMPs to be used in all construction areas to reduce or eliminate the discharge of soil, surface water runoff, and pollutants during all ground disturbing activities.

WQ 2: The project shall comply with all applicable water quality standards as specified in the Central Valley RWQCB Water Quality Control Plan (Valley Plan).

WQ 3: For construction activities that extend into the rainy season or if an unseasonal storm is anticipated, the contractor shall cover (i.e., tarp) any stockpiled materials or soil and install silt fences, straw bale barriers, fiber rolls, or other structures around stockpiles and areas of ground disturbance as may be required.

WQ 4: Signage related to the presence of a potential inundation zone will be installed pursuant to the County of Contra Costa and Town of Discovery Bay Signage Policy, including an applicable Tsunami Evacuation Route. Such measures are intended to reduce the potential impacts resulting from a mudflow or tsunami event.

LAND USE AND PLANNING

No mitigation required

AVOIDANCE, MINIMIZATION, MITIGATION MEASURES

MINERAL RESOURCES

No mitigation required

NOISE (NO)

NO 1: All work will be performed between the hours of 7a.m. and 7p.m. Monday through Saturday. Additional implementation of BMPs will include the following procedures, to be incorporated in to the construction documents and to be implemented by the project contractor:

- Comply with noise and vibration control measures identified in the Contra Costa County Special Plan
- Maximize the physical separation between noise generators and noise receptors.
- Select quiet construction equipment whenever possible, particularly air compressors.
- Prohibit unnecessary idling of internal combustion engines for near sensitive receptors.
- Select routes for movement of construction-related vehicles and equipment in conjunction with Contra Costa County such that noise-sensitive areas, including residences, hotels and outdoor recreation areas are avoided as much as possible.
- Transportation of heavy equipment and trucks shall be limited to weekdays between the hours of 7a.m. and 7p.m.

Designate a noise coordinator who will be responsible for responding to complaints about noise during construction. Post the telephone number as well as the construction schedule in a conspicuous place at the construction site.

NO 2: Construction activities shall be limited to daylight hours, Monday through Friday between 7:00a.m. and 7:00p.m. Weekend or holiday work could be implemented to address emergencies or unforeseen circumstances impacting construction.

NO 3: Internal combustion engines used for any purpose at the job site shall be equipped with a muffler of a type recommended by the manufacturer. Equipment and trucks used for construction shall utilize noise control techniques (e.g., engine enclosures, acoustically attenuating shields, or shrouds, intake silencers, ducts, etc.).

NO 4: Noise monitoring will be conducted, and sound-absorbing barriers will be installed local to the loader as needed (for an estimated additional 5 dBA attenuation).

NO 5: Noise generated from demolition or construction activities shall be limited to avoid seasons of peak visitation, and time periods when sensitive wildlife species may be significantly impacted.

AVOIDANCE, MINIMIZATION, MITIGATION MEASURES	
POPULATION AND HOUSING	
No mitigation required	
PUBLIC SERVICES	
No mitigation required	
RECREATION	
No mitigation required	
TRANSPORTATION/TRAFFIC (TR)	
TR 1: Construction equipment and employee parking will be confined to the construction staging area identified in Figure 3 so as not to traffic and to maintain site control.	
UTILITIES AND SERVICE SYSTEMS	
No mitigation required	

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7 Report Preparation

We trust this report satisfies your current requirements and provides suitable documentation for your records. If you have any questions or require further details, please contact the undersigned.

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8 Public and Agency Comment

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