



Initial Study/Proposed Mitigated Negative Declaration Bethel Island Drainage and Flooding Remediation Mitigation Project

Prepared by:



Consulting
Engineers and
Scientists

Prepared for:

Bethel Island Municipal Improvement District

August 2021

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**Initial Study/Proposed Mitigated Negative
Declaration**

**Bethel Island Drainage and Flooding Remediation
Mitigation Project
(FEMA Hazard Mitigation Grant Program
Disaster/Subaward #4308-303-35R)**

Prepared for:

Bethel Island Municipal Improvement District
3085 Stone Road
Bethel Island, CA 94511

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August 27, 2021

GEI Project No. 2004317

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DATE: August 27, 2021

SUBJECT: **NOTICE OF INTENT TO ADOPT THE PROPOSED MITIGATED NEGATIVE DECLARATION**

PROJECT: **Bethel Island Drainage and Flooding Remediation Mitigation Project**

Bethel Island Municipal Improvement District (BIMID) has completed preparation of an Initial Study/proposed Mitigated Negative Declaration (IS/MND) for the Bethel Island Drainage and Flooding Remediation Mitigation Project (Project) and intends to adopt the MND as part of project review.

The IS/MND are now available for a 30-day public review and comment period. **The comment period is from August 27, 2021, to September 27, 2021.**

You may obtain a copy of the IS/MND at 3085 Stone Road, Bethel Island, CA 94511, between 9:00 AM and 3:30 PM (except holidays). The IS/MND may also be reviewed at: <https://bimid.com/>

The project is located on Bethel Island which is within the western Sacramento-San Joaquin Delta in Contra Costa County. The project area covers the Taylor Road Drainage system that connect the main pump station at the intersection of Taylor and Canal Road with a secondary pump station near the intersection of Taylor Road with Bethel Island Road.

The proposed project would conduct maintenance and rehabilitation on the existing Taylor Road ditch system and secondary pump station including debris and vegetation removal within the ditch, repair and rehabilitation to existing culverts, upgrades to the secondary pump station, and clearing blocked inlets along the drainage alignment. These actions would alleviate known deficiencies within the drainage system that have reduced the capacity of the ditch system to convey stormwater to the pump stations. Flooding experienced along the Taylor Road Drainage represents a potential hazard to public health and safety. BIMID is seeking to address this potential health and safety hazard by rehabilitating the drainage ditch and pump station as part of the proposed project.

All comments regarding the IS/MND should be received **NO LATER THAN 3:30 p.m., on September 27, 2021**, when the public counter closes. Written comments should be submitted to:

Regina Espinoza, District Manager
Bethel Island Municipal Improvement District
3085 Stone Road
Bethel Island, CA, 94511
Tel: (925) 684-2210

Comments may also be sent via e-mail to bimid@bimid.com. When e-mailing comments, please include the project title in the subject line, attach comments in MS Word or PDF format, and include the commenter's name and U.S. Postal Service mailing address.

The BIMID Board of Directors intends to consider adoption of the MND at its regularly scheduled board meeting on October 14, 2021, after 6:30 p.m., to be held at BIMID's main headquarters building located at 3085 Stone Road, Bethel Island, CA. This meeting will be open to the public.

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PROPOSED MITIGATED NEGATIVE DECLARATION

Project:	Bethel Island Drainage and Flooding Remediation Mitigation Project
Lead Agency:	Bethel Island Municipal Improvement District

PROJECT DESCRIPTION

The drainage study identified actions to alleviate the existing deficiencies including:

- debris and vegetation removal,
- repair and rehabilitation to existing culverts,
- upgrades to the secondary pump station, and
- clearing blocked inlets along the drainage alignment

FINDINGS

An Initial Study (IS) has been prepared to assess the project's potential effects on the environment and the significance of those effects. Based on the IS, it has been determined that the proposed project would not have any significant adverse effects on the physical environment after implementation of mitigation measures. This conclusion is supported by the following findings:

- 1) The proposed project would have no impacts on land use and planning, population and housing, public services and recreation, transportation, and wildfire.
- 2) The proposed project would have less-than-significant impacts on aesthetics, agriculture and forestry resources, energy, greenhouse gas emissions, mineral resources, noise, and utilities and service systems.
- 3) The proposed project would have potentially significant impacts on air quality, biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, and tribal cultural resources but mitigation measures are proposed to avoid or reduce these effects to less-than-significant levels.

Following are the mitigation measures that would be implemented by BIMID to avoid or minimize environmental impacts. Implementation of these mitigation measures would reduce the environmental impacts of the proposed project to a less-than-significant level.

Mitigation Measure AQ-1: B.A.A.Q.M.D. Basic Construction Mitigation

B.A.A.Q.M.D. recommends all projects implement the following Basic Construction Mitigation Measures. The District shall implement or require its contractor to implement all the following measures as identified by B.A.A.Q.M.D.

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

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

All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.

All vehicle speeds on unpaved roads shall be limited to 15 mph.

All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.

Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.

All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.

Post a publicly visible sign with the telephone number and person to contact at 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.

Timing: During construction.

Responsibility: BIMID

Mitigation Measure BIO-1: Monitor Construction and Provide Worker Environmental Awareness Training.

A qualified biologist(s) shall monitor construction activities that could potentially cause significant impacts to sensitive biological resources. In addition, BIMID shall retain a qualified biologist to conduct mandatory contractor/worker awareness training for construction personnel. The awareness training would be provided to all construction personnel to brief them on the identified location of sensitive biological resources, including how to identify species (visual and auditory) most likely to be present, the need to avoid impacts to biological resources (e.g., plants, wildlife, and jurisdictional waters), and the penalties for not complying with biological mitigation requirements. All construction personnel will also receive training on relevant special-status species. If new construction personnel are added to the project, the contractor shall ensure that they receive the mandatory training before starting work.

Timing: Before and during construction.

Responsibility: BIMID

Mitigation Measure BIO-2: Conduct Focused Surveys for Special-Status Plants and Provide Compensatory Mitigation.

Prior to any construction activities, focused surveys shall be conducted to determine if special-status plants occur within the project footprint and/or temporary construction zone. Surveys shall be conducted in accordance with CDFW (2009) *Protocols for Surveying and Evaluating Impacts to Special-Status Native Plant Populations and Natural Communities*. These guidelines require rare plant surveys to be conducted at the proper time of year when rare or endangered species are both “evident” and identifiable. Surveys shall be scheduled to coincide with known blooming periods, and/or during periods of physiological development that are necessary to identify the plant species of concern.

If no state- or federally listed or CNPS List 1 or CNPS List 2 plant species (special-status plant species) are found in or adjacent to (within 100 feet) proposed construction areas, no further mitigation is required. If any special-status plant species are found in or adjacent to (within 100 feet) proposed impact areas during the surveys, these plant species shall be avoided to the greatest extent possible. Any special-status plant species that are identified adjacent to the Project site, but not proposed to be disturbed by the Project, shall be protected by barrier fencing to ensure that construction activities and material stockpiles do not impact any special-status plant species. These avoidance areas shall be identified on Project plans.

If Project-related impacts would result in the loss of greater than 10 percent of occupied habitat for a special-status plant species, compensatory mitigation shall be required for all impacts that exceed the 10 percent threshold. For example, if 18 percent of occupied habitat would be impacted, compensatory mitigation shall only be required for the 8 percent that exceeds the 10 percent threshold. Compensatory mitigation for permanent impacts to special-status plant species shall include the preservation of occupied habitat at a 1:1 ratio (i.e., 1 acre preserved for each acre impacted). Compensation for temporary impacts shall include the preservation of occupied habitat at a 0.5:1 ratio. Preservation areas may include undisturbed areas of the site that would be preserved and managed in perpetuity, off-site mitigation lands, or a combination of both. The preserved habitat shall be of equal or greater habitat quality to the areas impacted in terms of soil features, extent of disturbance, and vegetation structure, and contain extant populations of the same or greater size as the area impacted.

A report of special-status plants observed during focused surveys, as well as avoidance, minimization, and mitigation measures to be implemented, shall be prepared, and submitted to BIMID, CDFW, and USFWS (as appropriate).

Timing: Before construction.

Responsibility: BIMID

Mitigation Measure BIO-3: Conduct Pre-construction Surveys for Western Pond Turtle and Implement Avoidance and Minimization Measures.

A preconstruction survey for western pond turtle shall be conducted by a qualified biologist within 24 hours prior to the onset of construction activities. The survey area shall include a 100-foot buffer of the area to be affected. If a western pond turtle is found within the survey area, a qualified biologist, under consultation with the CDFW, shall move the individual 500 feet downstream to suitable habitat. If a turtle nest is found within the survey area, construction activities should not take place within 100 feet buffer of the nest until the egg have hatched and young have emerged and moved out of the Project area. The 100-foot buffer would be marked with stakes and flagging.

In the event a turtle is found during construction activities, construction activities shall stop within 100 feet of the turtle until the turtle leaves the immediate construction area on its own or a qualified biologist, under consultation with the CDFW, relocates the turtle to a suitable aquatic site 500 feet away and downstream from Project activities.

Timing: During construction.

Responsibility: BIMID

Mitigation Measure BIO-4: Conduct Surveys for Giant Garter Snake and Implement Avoidance and Minimization Measures.

A survey shall be conducted by a qualified biologist for the giant garter snake within the Project area 24 hours prior to the onset of levee improvements and any time activities are halted for more than two weeks thereafter.

During Project development, the work area shall be reduced to the smallest footprint feasible in sensitive habitat areas.

Work shall coincide with the giant garter snake's active season (May 1– October 1).

If work in the flowing portion of the affected water body is unavoidable, a qualified biologist shall survey the Project area for the giant garter snake every morning prior to construction activities that occur in the flowing portion of the water body.

Prior to initiation of construction activities within jurisdictional features, BMPs shall be employed on-site to prevent degradation to on-site and off-site waters of the United States. Methods shall include the use of appropriate measures to intercept and capture sediment prior to entering jurisdictional features, as well as erosion control measures along the perimeter of all work areas to prevent the displacement of fill material. All BMPs shall be in place prior to initiation of any construction activities and shall remain until construction activities are completed. All erosion control methods shall be maintained until all on-site soils are stabilized.

All exposed/disturbed areas and access points left barren of vegetation as a result of construction activities shall be restored using locally native grass seeds, locally native

grass plugs, and/or a mix of quick-growing sterile non- native grass with locally native grass seeds. Seeded areas shall be covered with broadcast straw.

Tightly woven erosion control matting (mesh size less than 0.25 inch) or similar material shall be used for erosion control and other purposes at the Project site to ensure that giant garter snakes do not become trapped or entangled by the erosion control material. The edge of the material shall be buried in the ground to prevent giant garter snakes from crawling underneath the material. The use of plastic, monofilament, jute, or similar erosion control netting with mesh sizes larger than 0.25 inch that could entangle snakes at the Project site shall be prohibited.

During all phases of construction, snake exclusionary fencing shall be installed near the temporary construction zone boundary. The exclusionary fencing shall be maintained by the construction contractor during all phases of construction. Any breaches in the fencing shall be fixed within a 24-hour period.

If a giant garter snake is encountered in the Project work area, all construction activities shall cease until appropriate corrective measures have been completed and the snake moves out of the construction area on its own. Any giant garter snake observed shall be immediately reported to the USFWS and the CDFW.

Vehicles driven on or near the levees in the Project area shall maintain a 15 mile per hour speed limit, and drivers shall be informed to watch for snakes and avoid running them over.

Timing: During construction.

Responsibility: BIMID

Mitigation Measure BIO-5: Conduct Pre-Construction Surveys for Burrowing Owl and Implement Avoidance and Minimization Measures.

For any clearing and construction activities that occur during the nesting period for burrowing owls (February 1–August 31), BIMID shall retain a qualified biologist to conduct preconstruction surveys in accordance with the current CDFW guidance (2012) Staff Report on Burrowing Owl Mitigation. Surveys shall be conducted within 14 days prior to ground-breaking activities and shall be repeated if Project activities are suspended or delayed for more than 14 days during nesting season.

If no burrowing owls are detected, no further mitigation is required. If active burrowing owl nest sites are detected, BIMID shall implement the avoidance, minimization, and mitigation methodologies outlined in the CDFW's Staff Report on Burrowing Owl Mitigation prior to initiating Project-related activities that may impact burrowing owls.

Timing: Prior to ground-breaking activities.

Responsibility: BIMID

Mitigation Measure BIO-6: Conduct Pre-construction Surveys for Active Raptor and Migratory Bird Nests and Implement Avoidance and Minimization Measures.

For any clearing and/or construction activities that occur during the nesting season (February 15–August 15), surveys to identify active raptor and migratory bird nests, including ground-nesting birds, shall be conducted by a qualified biologist within 14 days of construction initiation.

If active migratory bird nest sites are identified within 200 feet of Project activities, BIMID shall impose an exclusionary buffer for all active nest sites prior to commencement of any Project construction activities to avoid construction- or access-related disturbances to migratory bird nesting activities. An exclusionary buffer constitutes an area where Project-related activities (i.e., vegetation removal, earth moving, construction, Project staging) would not occur and would be imposed within 100 feet of any active nest sites until the nest is deemed inactive by a qualified biologist. Activities permitted within and the size (i.e., 100 feet) of the exclusionary buffer may be adjusted through consultation with the CDFW.

If active raptor nests are identified within 1,320 feet of Project activities, a 1,320-foot initial temporary nest disturbance buffer shall be established. If project-related activities within the temporary raptor nest disturbance buffer are determined to be necessary during the nesting season, an on-site biologist/monitor experienced with raptor behavior shall be retained by the BIMID to monitor the nest, and BIMID shall consult with the CDFW to determine the best course of action necessary to avoid nest abandonment or take of individuals. Work may only be allowed to proceed within the temporary nest disturbance buffer if raptors are not exhibiting agitated behavior such as defensive flights at intruders, getting up from a brooding position, or flying off the nest, and only with the agreement of the CDFW. Based on the behavior observed, the buffer may be reduced if the birds are tolerant of construction activities. The designated on-site biologist/monitor shall be on-site daily while construction-related activities are taking place within the above quarter-mile buffer and shall have the authority to stop work if raptors are exhibiting agitated behavior.

Timing: Before construction.

Responsibility: BIMID

Mitigation Measure BIO-7: Compensate for Loss of Riparian Habitats and Sensitive Habitat Communities.

For every acre of riparian habitat and sensitive habitat communities permanently affected by the proposed Project, BIMID shall replace the affected acreage at a minimum 2:1 ratio, or another approved ratio as determined by CDFW. Mitigation would be achieved through on-site creation or enhancement. Mitigation as required in regulatory permits issued through the CDFW may be applied to satisfy this measure.

Timing: Before construction.

Responsibility: BIMID

Mitigation Measure BIO-8: Compensate for Loss of Federally Protected Wetlands and Waters.

For every acre of federally protected waters permanently affected by the proposed Project, BIMID shall replace the affected acreage at a minimum 2:1 ratio, or another approved ratio as determined by the USACE. Mitigation would be achieved through on-site creation or enhancement. Mitigation as required in regulatory permits issued through the USACE or the Central Valley Regional Water Quality Control Board may be applied to satisfy this measure.

Timing: Before construction.

Responsibility: BIMID

Mitigation Measure CR-1: Address Previously Undiscovered Historic Properties, Archaeological Resources, and Tribal Cultural Resources.

If cultural resources are identified during Project-related ground-disturbing activities, all potentially destructive work in the immediate vicinity of the find should cease immediately and the District should be notified. In the event of an inadvertent discovery, additional CEQA review might be necessary to determine a properties' eligibility for listing in the CRHR and any actions that would be necessary to avoid adverse effects. A qualified archaeologist should assess the significance of the find, make a preliminary determination, and if appropriate, provide recommendations for treatment. Any treatment plan should be reviewed by the District prior to implementation. Ground-disturbing activities should not resume near the find until treatment, if any is recommended, is complete or if the qualified archaeologist determines the find is not significant.

Timing: Before construction.

Responsibility: BIMID

Mitigation Measure CR-2: Avoid Potential Effects on Undiscovered Burials.

If human remains are found, the contractor will notify BIMID immediately. The California Health and Safety Code requires that excavation be halted in the immediate area and that the county coroner be notified to determine the nature of the remains. The county coroner is required to examine all discoveries of human remains within 48 hours of receiving notice of a discovery on private or state lands (Health and Safety Code, Section 7050.5[b]). If the county coroner determines that the remains are those of a Native American, the county coroner must contact the Native American Heritage Commission (NAHC) by telephone within 24 hours of making that determination (Health and Safety Code, Section 7050.5[c]).

Once notified by the county coroner, the NAHC shall identify the person determined to be the Most Likely Descendant (MLD) of the Native American remains. With permission of the legal landowner(s), the MLD may visit the site and make recommendations regarding the treatment and disposition of the human remains and any associated grave goods. This visit should be conducted within 24 hours of the MLD's notification by the NAHC (Public

Resources Code [PRC], Section 5097.98[a]). If a satisfactory agreement for treatment of the remains cannot be reached, any of the parties may request mediation by the NAHC (PRC, Section 5097.94[k]). Should mediation fail, the landowner or the landowner's representative must reinter the remains and associated items with appropriate dignity on the property in a location not subject to further subsurface disturbance (PRC, Section 5097.98[b]).

Timing: Before construction.

Responsibility: BIMID

Mitigation Measure GEO-1: Implement a Stormwater Pollution Prevention Plan and Associated BMPs.

BIMID shall prepare and implement the appropriate Stormwater Pollution Prevention Plan (SWPPP), or Stormwater Management Plan (SWMP), as needed, to prevent and control pollution and to minimize and control runoff and erosion in compliance with State and local laws. The SWPPP or SWMP shall identify the activities that may cause pollutant discharge (including sediment) during storms or strong wind events, techniques to control pollutant discharge, and an erosion control plan. Regardless of the need for a SWPPP or SWMP, construction techniques and Best Management Practices (BMPs) will be identified and implemented, as appropriate to reduce the potential for runoff and exposure to hazardous materials.

Construction techniques will include minimizing site disturbance, controlling water flow over the construction site, stabilizing bare soil, and ensuring proper site cleanup. BMPs that specify erosion and sedimentation control measures to be implemented may include use of a turbidity and sedimentation control device (i.e., turbidity curtain or other similar device), silt fences, staked straw bales/wattles, silt/sediment basins and traps, geofabric, trench plugs, terraces, water bars, soil stabilizers, re-seeding with native species, and mulching to revegetate disturbed areas. If suitable vegetation cannot reasonably be expected to become established, non-erodible material will be used for such stabilization.

The SWPPP or SWMP shall also include a spill prevention, control, and countermeasure plan, and applicable hazardous materials business plans. The SWPPP or SWMP shall identify the types of materials used for equipment operation (including fuel and hydraulic fluids), measures to prevent hazardous material and waste spills, and materials available to clean up hazardous material and waste spills. The SWPPP or SWMP shall also identify emergency procedures for responding to spills. No refueling, storage, servicing, or maintenance of equipment shall take place on land within 100 feet of the ordinary high-water mark of Sutter Slough.

The SWPPP shall also include dust control practices to prevent wind erosion, sediment tracking, and dust generation by construction equipment, including during gravel processing. The BMPs presented in either document shall be clearly identified and maintained in good working condition throughout the construction process. The

construction contractor shall retain a copy of the approved SWPPP or SWMP on the construction site and modify it as necessary to suit specific site conditions.

The District and all contractors will abide by regulations governing hazardous materials transport included in CCR Title 22, the California Vehicle Code (CCR Title 13), and the State Fire Marshal Regulations (CCR Title 19). Transport of hazardous materials can only be conducted under a registration issued by the California Department of Toxic Substances Control. Construction contractors shall be required to use, store, and transport hazardous materials in compliance with Federal, State, and local regulations.

Timing: Before construction.

Responsibility: BIMID

Mitigation Measure GEO-2: Avoid Potential Effects on Paleontological Resources.

If a paleontological resource is uncovered during Project implementation, all ground-disturbing work within 165 feet (50 meters) of the discovery shall be halted. A qualified paleontologist shall inspect the discovery and determine whether further investigation is required. If the discovery can be avoided and no further impacts will occur, no further effort shall be required. If the resource cannot be avoided and may be subject to further impact, a qualified paleontologist shall evaluate the resource and determine whether it is “unique” under CEQA, Appendix G, part VII. The determination and associated plan for protection of the resource shall be provided to the District for review and approval. If the resource is determined not to be unique, work may commence in the area. If the resource is determined to be a unique paleontological resource, work shall remain halted, and the paleontologist shall consult with the District staff regarding methods to ensure that no substantial adverse change would occur to the significance of the resource pursuant to CEQA. Preservation in place (i.e., avoidance) is the preferred method of mitigation for impacts to paleontological resources and shall be required unless there are other equally effective methods. Other methods may be used but must ensure that the fossils are recovered, prepared, identified, catalogued, and analyzed according to current professional standards under the direction of a qualified paleontologist. All recovered fossils shall be curated at an accredited and permanent scientific institution according to Society of Vertebrate Paleontology standard guidelines; typically, the Natural History Museum of Los Angeles County and University of California, Berkeley accept paleontological collections at no cost to the donor. Work may commence upon completion of treatment, as approved by the District.

Timing: During construction.

Responsibility: BIMID

Mitigation Measures NOI-1: Implement Measures to Reduce Construction-Related Noise Effects during Construction.

BIMID shall require the construction contractor to implement the following measures to reduce impacts related to noise generation during construction activities within 100 feet of noise sensitive receptors:

The construction contractor shall ensure that all internal combustion engine-driven equipment are equipped with mufflers that are in good condition and appropriate for the equipment.

The construction contractor shall locate stationary noise-generating equipment as far as feasible from sensitive receptors when sensitive receptors adjoin or are near a construction disturbance area. In addition, the Project contractor shall place such stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest the Project Site.

The construction contractor shall prohibit unnecessary idling of internal combustion engines.

An on-site complaint and enforcement manager shall be available to respond to and track complaints. The manager will be responsible for responding to any complaints regarding construction noise and or dust and for coordinating with the adjacent land uses. The manager will determine the cause of any complaints and coordinate with the construction team to implement effective measures (considered technically and economically feasible) warranted for correcting the problem. Such measures could include but would not be limited to relocating stationary equipment, the use of sound blankets, the placement of temporary sound barriers around construction staging areas and/or continued coordination with the complainant regarding timing and duration of noise. The telephone number of the coordinator shall be posted at the construction site and provided to neighbors in a notification letter. The manager will be trained to use a sound level meter and should be available during all construction hours to respond to complaints.

Timing: During construction.

Responsibility: BIMID

Mitigation Measure TN-1: Implement a Traffic Safety Plan and Coordinate with Local Emergency Service Providers.

The construction contractor(s) will develop a traffic safety and management plan consistent with the California Manual on Uniform Traffic Control Devices (Part 6 Temporary Traffic Control). At a minimum the plan shall call for the following elements:

- posting warnings about the potential presence of slow-moving vehicles.
- using traffic control personnel when appropriate; and

The contractor(s) will train construction personnel in appropriate safety measures as described in the traffic safety and management plan and will implement the plan during construction activity. The plan will include the prescribed locations for staging equipment and parking trucks and vehicles. Provisions will be made for overnight parking of haul trucks to avoid causing traffic or circulation congestion.

Before project construction begins, BIMID and/or its construction contractor(s) will provide notification of project construction and potential delays along Taylor Road to all appropriate emergency service providers serving Bethel Island and will coordinate with providers throughout the construction period to maintain emergency access through construction areas to the extent possible.

Timing: Before and during construction.

Responsibility: BIMID

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Abbreviations and Acronyms

BAAQMD	Bay Area Air Quality Management District
BMP	best management practices
CalRecycle	Department of Resources, Recycling and Recovery
Caltrans	California Department of Transportation
CARB	California Air Resource Boards
CAAQS	California Ambient Air Quality Standards
CCR	California Code of Regulations
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CGS	California Geologic Survey
CDFW	California Department of Fish and Wildlife
CNDDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CO	carbon monoxide
dBA	A-weighted decibels
District or BIMID	Bethel Island Municipal Improvement District
DOC	Department of Conservation
DOF	Department of Finance
DTSC	California Department of Toxic Substances Control
DWR	California Department of Water Resources
EIR	Environmental Impact Report
EPA	Environmental Protection Agency
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
GEI	GEI Consultants, Inc.
GHG	greenhouse gas
GPS	Geographic Positioning System
HCP	Habitat Conservation Plans
IS/MND	Initial Study/Mitigated Negative Declaration
Leq	equivalent continuous sound level in decibels
Lmax	maximum instantaneous sound level
LRA	Local Responsible Area
MA	Masters of Art
MLD	Most Likely Descendant
MLRA	Major Land Resource Area
NAAQS	National Ambient Air Quality Standards

NAHC	Native American Heritage Commission
NCCP	Natural Community Conservation Plans
NMFS	National Marine Fisheries Service
NOI	Notice of Intent
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
O ₃	ozone
OHP	Office of Historic Preservation
PG&E	Pacific Gas and Electric
PM	particulate matter
PM ₁₀	particulate matter less than 10 microns in diameter
PM _{2.5}	particulate matter less than 2.5 microns in diameter
proposed	
Project/Project	Bethel Island Drainage and Flooding Remediation Mitigation Project
RWQCB	Regional Water Quality Control Board
SFBAB	San Francisco Bay Air Basin
SO ₂	sulfur dioxide
SMARA	Surface Mining and Reclamation Act of 1975
SWMP	Stormwater Management Plan
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resource Control Board
UBC	California Uniform Building Code
URBEMIS	Urban Land Use Emissions Model
USACE	United States Army Corps of Engineers
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey

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1.0 Introduction

1.1 Overview

This document is an Initial Study/Mitigated Negative Declaration (IS/MND) prepared in accordance with CEQA (California Public Resources Code, Section 21000 et seq.) and the State CEQA Guidelines (Title 14, Section 15000 et seq. of the California Code of Regulations [CCR]). Bethel Island Municipal Improvement District (BIMID) has prepared this IS/MND to evaluate the potential environmental impacts of the proposed Bethel Island Multi-Benefit and Integrated Stormwater Project in Contra Costa County.

This document includes:

- A completed Initial Study (IS) checklist.
- A proposed MND form.
- A Notice of Availability and intent to adopt an IS/MND for the proposed project.

At the close of the required review period the BIMID Board of Directors would consider the proposed mitigated negative declaration together with any comments received during the public review process and take action to approve, deny, or modify the project.

1.1.1 *Environmental Review Process*

State and local government agencies must consider the environmental impacts of projects over which they have discretionary authority before implementing or approving those projects. The purpose of CEQA is to inform governmental decision makers and the public about the potential, significant¹ environmental effects of proposed activities, identify the ways that environmental damage can be avoided or significantly reduced, and disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose if significant environmental effects are involved.

The public agency with principal responsibility for carrying out or approving a proposed project is the lead agency for CEQA compliance. For the proposed Bethel Island Multi-Benefit and Integrated Stormwater Project (Project) BIMID has principal responsibility for carrying out the proposed project and is therefore the CEQA lead agency for this IS/MND.

¹ Defined as a direct physical change in the environment which may be caused by the project and reasonably foreseeable indirect physical changes in the environment.

1.1.2 Purpose of the Initial Study

CEQA relies on a multi-step process that begins once the lead agency accepts an application as complete and determines that the project is subject to CEQA. If the project is exempt, the process does not proceed any farther. If the project is subject to CEQA, the Lead Agency conducts screening level analysis in the form of an Initial Study.

The IS checklist is a tool used by the lead agency to;

- 1) Provide the Lead Agency with information to support a decision on whether to prepare an EIR or a Negative Declaration;
- 2) Enable an applicant or Lead Agency to modify a project, mitigating adverse impacts before an EIR is prepared;
- 3) Assist in the preparation of an EIR, if one is required;
- 4) Facilitate environmental assessment early in the design of a project;
- 5) Eliminate unnecessary EIRs, and;
- 6) Determine whether a previously prepared EIR could be used with the project.

When preparing the IS checklist responses, the lead agency must provide reasoned analysis based on substantial evidence in the record. Substantial evidence includes facts, reasonable assumptions predicated upon facts, and expert opinion based on facts.

In cases where no potentially significant impacts are identified, or revisions have been made to the project design that avoid or lessen the impacts, the Lead Agency may issue a Negative Declaration (ND). Where potentially significant impacts are identified, the Lead Agency may determine that mitigation measures applied in the Initial Study would adequately reduce these impacts to less than significant levels and issue a Mitigated Negative Declaration (MND). Once the preliminary determination has been made the lead agency would provide a public notice of intent (NOI) to adopt a ND or MND and send the notice along with the IS out to responsible and trustee agencies, stakeholders, interested parties and others that previously requested notification to begin a 30-day review period.

At the close of the review period the lead agency decisionmakers would consider the proposed ND or MND together with any comments received during the public review process and take action to approve, deny, or modify the project. If the Lead Agency determines that individual or cumulative effects are potentially significant and further research and analysis is required to identify potential mitigation measures or alternatives that may reduce impacts below a level of significance, then the Lead Agency would require preparation of an Environmental Impact Report (EIR). In that case, the Lead Agency would issue a Notice of Preparation (NOP) to prepare an EIR.

1.1.3 Summary of Findings

Chapter 3 of this document contains the analysis and discussion of potential environmental impacts of the proposed Project. Based on the issues evaluated in that chapter, it was determined that:

The proposed Project would result in no impacts on the following issue areas:

- Land Use and Planning
- Population and Housing
- Public Services

- Recreation
- Wildfire

The proposed Project would result in less-than-significant impacts on the following issue areas:

- Aesthetics
- Agriculture and Forestry Resources
- Energy
- Greenhouse Gas Emissions
- Mineral Resources
- Utilities and Service System

The proposed Project would result in less-than-significant impacts *after* mitigation implementation on the following issue areas:

- Air Quality
- Biological Resources
- Cultural Resources
- Geology and Soils
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Noise
- Tribal Cultural Resources
- Transportation

1.1.4 Document Organization

This entire document is divided into the following three key sections required under CEQA:

Proposed Mitigated Negative Declaration. The MND, which precedes the presentation of the IS analysis in this document, briefly summarizes the proposed Project, summarizes the environmental conclusions, and identifies mitigation measures that would be implemented in conjunction with the proposed Project.

Initial Study. The IS constitutes the remaining portion of this document and provides an introduction, Project description, environmental checklist, references cited, report preparers, and distribution list, as briefly summarized below:

Chapter 1, Introduction. This chapter describes the purpose of the IS/MND, summarizes findings, and describes the organization of this IS/MND.

Chapter 2, Project Description. This chapter describes the Project location and background, Project need and objectives, Project characteristics, construction activities, Project operations, and discretionary actions and approvals that may be required.

Chapter 3, Environmental Checklist. This chapter presents an analysis of environmental issues identified in the CEQA environmental checklist and determines whether Project

implementation would result in a beneficial impact, no impact, less-than-significant impact, less-than-significant impact with mitigation incorporated, potentially significant impact, or significant impact on the physical environment in each topic area. Should any impacts be determined to be potentially significant or significant, an EIR would be required. For this proposed Project, however, mitigation measures have been incorporated as needed to reduce all potentially significant and significant impacts to a less-than-significant level.

Chapter 4, References. This chapter lists the references used to prepare this IS/MND.

Chapter 5, Report Preparers. This chapter identifies report preparers who contributed to the preparation of this document.

2.0 Project Description

2.1 Project Location

The project is located on Bethel Island which is within the western Sacramento-San Joaquin Delta in Contra Costa County. (**Figure 2-1**). Adjacent to Bethel Island are Jersey Island to the west (Reclamation District 830), Hotchkiss Tract to the south (Reclamation District 799), Holland Tract to the southeast (Reclamation District 2025), Franks Tract to the northeast, and Little Franks Tract to the north.

The Project site includes the entire alignment of the Taylor Road ditch between the main pump station at Canal Road south to the secondary pump station near the intersection of Taylor Road with Bethel Island Road (**Figure 2-2**). Included within the project boundary are ten drainage culverts and a secondary pump station.

2.2 Project Background

Bethel island contains approximately 3,500 acres of reclaimed lands, the majority of which lie below sea level. The land was reclaimed through the installation of approximately 11.5 miles of levee surrounding the island. Waterways around Bethel Island include Piper Slough to the north, northeast and east, Sand Mound and Dutch Slough to the south and Taylor Slough to the southwest, west, northwest, and north (**Figure 2-3**). The perimeter sloughs bordering Bethel Island are tidal in nature; consequently, the levees provide full-time flood protection from tidal waters.

Flood control protection on Bethel Island consists of a network of levees, pumps, drainage ditches and cross drainage facilities consisting of short span pipes and private driveways. Most of the existing ditch system on Bethel Island are constructed as a trapezoidal channel with earthen bank and bottom. The main drainage ditch conveys excess flows from the east side of the island to the main pumping plant where it is pumped past the protective levees and back into the Delta channels. Several cross-drainage ditches and pipe culverts are used to bring the flows from either side of the island into the main drainage.

BIMID, as a special district, is the agency responsible for maintenance, repair, and improvement of the levees protecting the life and properties and public and private assets on Bethel Island.

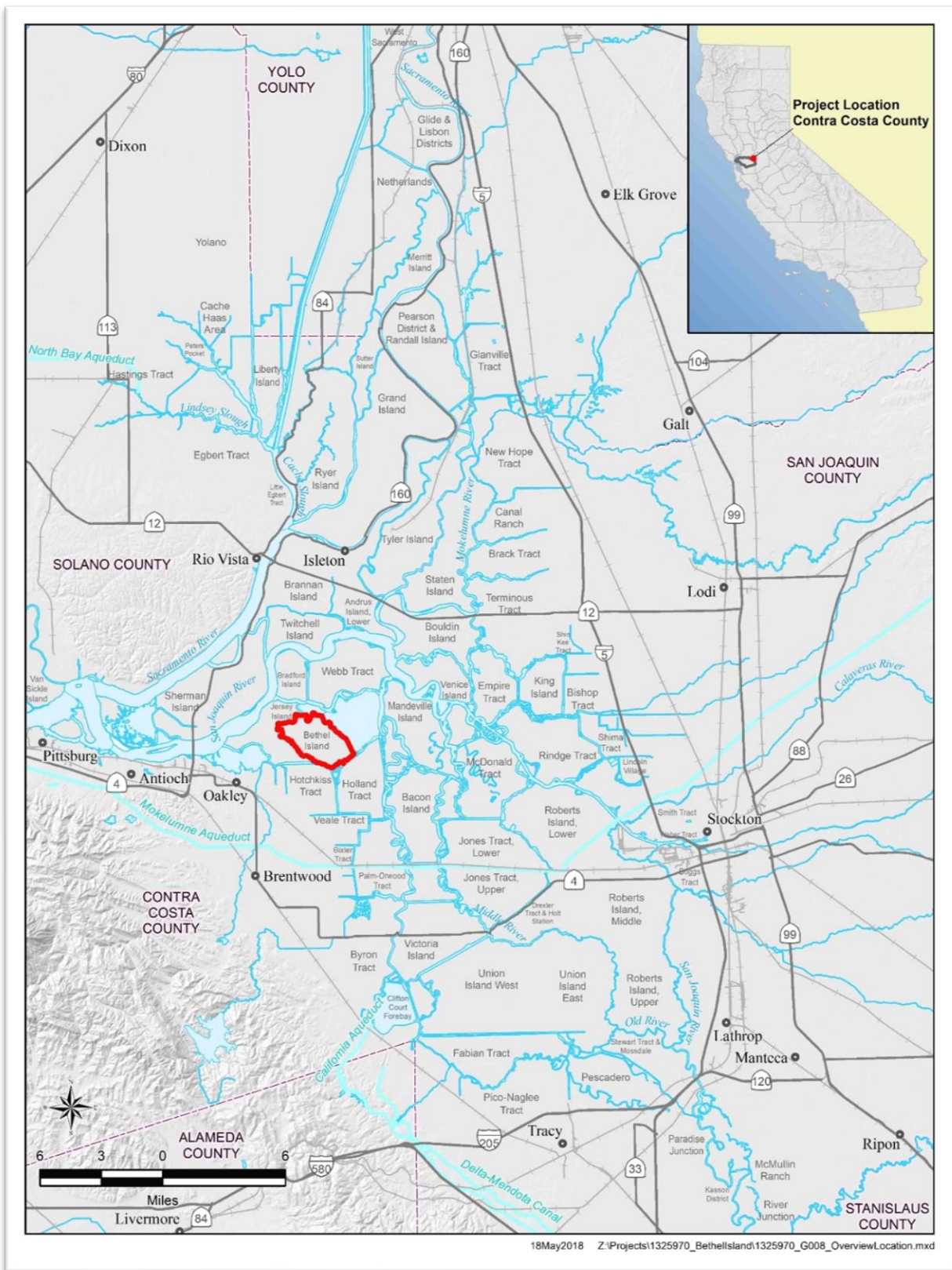


Figure 2-1. Project Location



Figure 2-2. Taylor Road Ditch

Bethel Island is unique in comparison with the other seven western islands in that the island supports agricultural activities together with an on-island residential population of more than 2,300 people and commercial and recreational businesses. The bulk of residential development is concentrated along the perimeter of the island, principally on the southwestern, southern, southeastern, eastern, and northeastern perimeters. Land use along the Taylor Road drainage ditch includes residential dwellings interspersed among vacant land while local-serving retail, restaurants, and a church are found along Bethel Island Road immediately to the south. See Appendix A which contains site photographs depicting conditions along the alignment.

One active land development project (Delta Coves) is located on the southeastern portion of Bethel Island would construct 550 housing units (single family homes and condos) at buildout, potentially increasing the year-round population by 1,265 residents. During the summer months when there is a seasonal influx of visitors and transitory inhabitants, the population of the entire Bethel Island may grow two times resulting in a total of nearly 7,000 residents.

2.3 Project Purpose and Objectives

A drainage study prepared to address systemwide deficiencies identified land near the intersection of Taylor Road with Canal Road floods under all modeled storm scenarios, as is land along the intersection of Taylor Road with Bethel Island Road (**Figure 2-4**).² Examination of the terrain shows the flooded areas are low-lying lands which are not served by the drainage system connected to the existing pumping plants. Over time heavy vegetation and debris filled Taylor Road ditch, which has reduced the capacity to convey stormwater to the pump stations. Localized flooding represents a potential hazard to public health and safety. BIMID is seeking to address this potential health and safety hazard by improving the drainage system with the Proposed Project.

² Bethel Island Municipal Improvement District, Drainage and Flooding Remediation Program Drainage Study, GEI Consultants, June 2021.

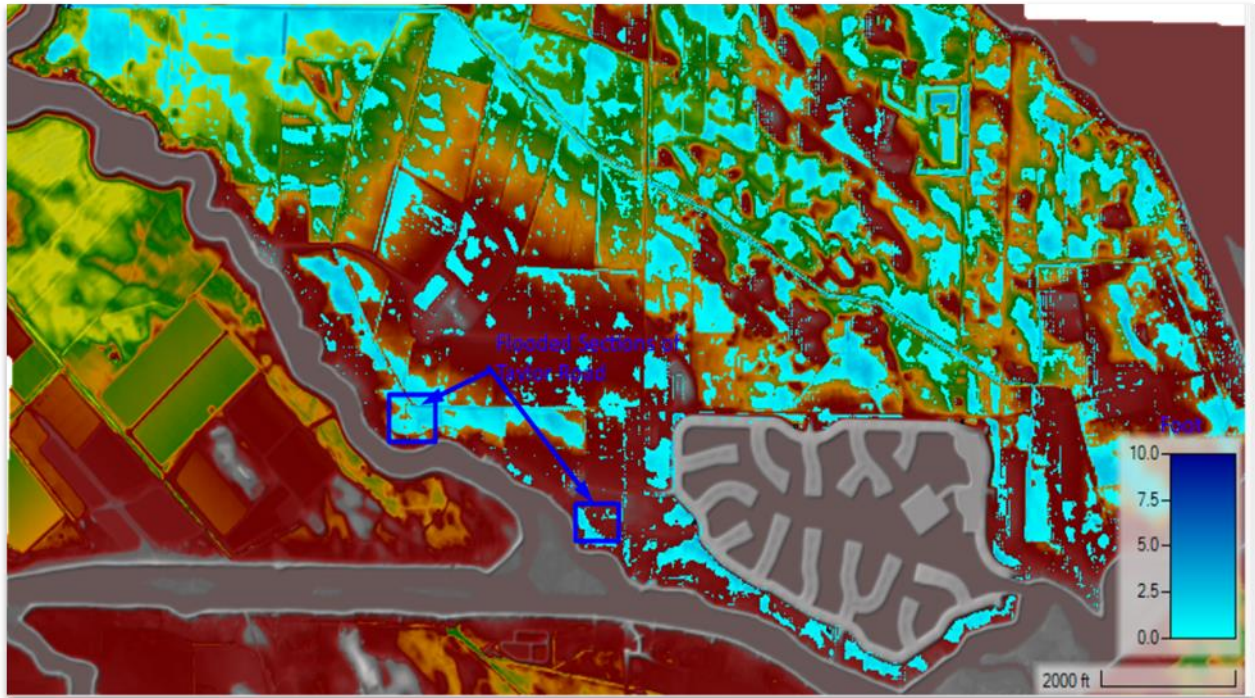


Figure 2-4. Modeled Flooding along Taylor Road Drainage

2.4 Project Features

The rehabilitation and maintenance of the Taylor Road drainage would involve several key components of the flood control system. Each of the flood control facilities to be addressed under the project are identified below.

2.4.1 Taylor Road Ditch

The Taylor Road ditch is a trapezoidal drain constructed from earth with a design profile measuring 10 feet wide by 3 feet deep. The ditch consists of two segments oriented in a north to south alignment carrying stormwater from land at higher elevations to low points along the island coast. Runoff reaches the ditch by sheet flow over land and by culverts serving homes located along Taylor Road.

Taylor Road ditch north begins at a high point near the 1900 block of Taylor Road and follows the Taylor Road alignment north approximately 4,300 feet where it intersects a cross channel and is carried west into a culvert under Taylor Road. The runoff is discharged from the culvert into an earthen ditch and carried to the primary pump.

Taylor Road Ditch south begins in an agricultural field approximately 600 feet to the east of the terminus of Taylor Road North. The alignment extends approximately 2,400 feet to the south then travels to the east for 1,300 feet before heading west where runoff is intercepted by a culvert and carried south under Taylor Road for 1,600 feet. The culvert discharges into an earthen ditch on the south side of Taylor Road and conveyed to the secondary pump station.

2.4.2 Culverts and Inlets

Taylor Road ditch accepts runoff from ten (10) culverts that convey runoff to the ditch from residential properties fronting Taylor Road. **Figure 2-6** depicts the location of the culverts while **Table 1-1** identifies the location, type and anticipated actions of the project.

Table 2-1. Culverts Discharging into Taylor Road Ditch

Location	Size and Type*	Comment
BIMID Main Pump Station	48 " CMP	Rehabilitate or Replace
1330 Taylor Road	18" CMP	Rehabilitate or Replace
1540 Taylor Road	20 " CMP	Rehabilitate or Replace
1900 Taylor Road	24" Aluminum	Rehabilitate or Replace
1928 Taylor Road	19" HDPE	Rehabilitate or Replace
1970 Taylor Road	24" CMP	Rehabilitate or Replace
2010 Taylor Road	18" CMP	Rehabilitate or Replace
2146 Taylor Road	24" HDPE	Rehabilitate or Replace
2462 Taylor Road	18" CMP	Rehabilitate or Replace
2850 Taylor Road	18" CMP	Rehabilitate or Replace

Source: GEI 2021

2.4.3 Pump Stations

Outflows from the Taylor Road ditch are managed by two pump stations. The main pump station is located near the intersection of Canal Road & Taylor Road. This station operates three pump units that discharge stormwater and flood flows into Taylor Slough. The secondary pump station is located near the intersection of Bethel Island and Taylor roads. This pump station contains one pump that discharges into the Dutch Slough at a point near the Bethel Island Bridge.

2.5 Proposed Rehabilitation and Maintenance Activities

The project implements the recommendations of a drainage study to alleviate existing deficiencies along the Taylor Road ditch including:

- debris and vegetation removal
- repair and rehabilitation to existing culverts
- upgrades to the secondary pump station
- clearing blocked inlets

Each proposed action is described below while **Figure 2-6** depicts the location along the Taylor Road ditch alignment.

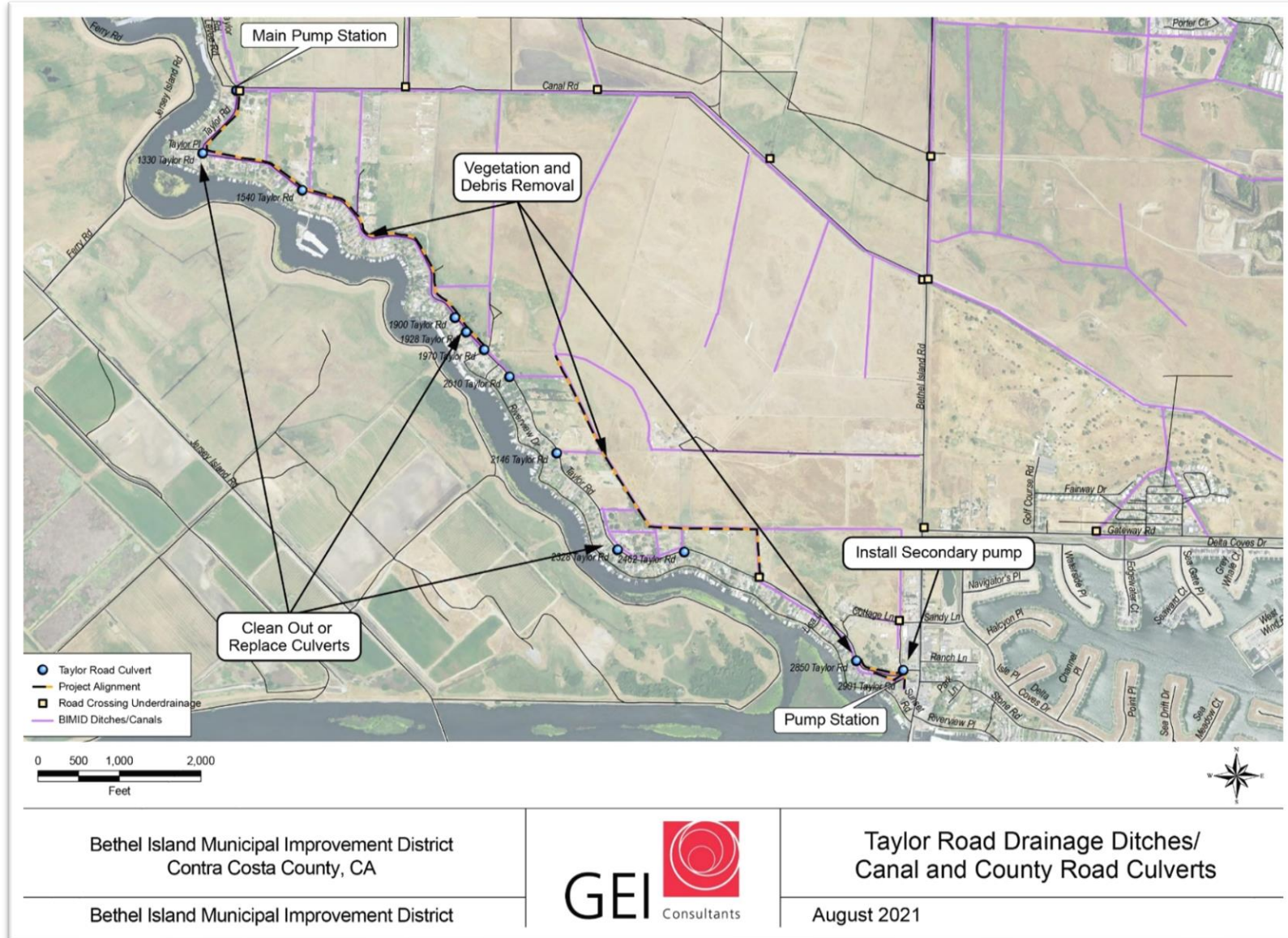


Figure 2-6. Proposed Rehabilitation and Maintenance Activities

2.5.1 *Vegetation Removal*

Clearing or trimming of vegetation would be conducted along the entire alignment of the Taylor Road ditch. The method of removal would vary depending on the type and amount of vegetation growing in and active work zone. All vegetation within a 10-foot-wide area of land along the ditch alignment must be completely removed so adequate capacity is available to carry the design year flows to the pump stations. All removal would occur consistent with methods contained in the District's Maintenance Program.³

Taylor Road Ditch North

Taylor Road Ditch North is heavily vegetated with mature trees and plants forming habitat characterized as riparian mixed hardwood, riparian mixed shrub, cattail, and annual grass. A pedestrian survey of the alignment identified 66 trees growing within or adjacent to the soft bottom and banks of the ditch. Many would require removal as part of the project. Trees to be removed would be identified in consultation with the project engineer and biologist before construction activity begins. Removals would be limited to those trees growing in the bottom and bank of ditch which must be taken to restore normal channel flows. Trees located adjacent to the ditch and outside the work zone would remain but any branches that overhang the ditch would be pruned. Crews would use mechanical equipment such as excavators, small bobcat and powered saws to cut scrap, uproot, and cut trees. Powered hand tools including chain saws or pole saws would be used by crews preparing the debris for loading onto heavy trucks while heavy duty mowers, weed whackers, and hand tools such as pruning shears, rakes and pitchforks would be used to clear and dispose of shrubs, bushes, and grasses.

Taylor Road Ditch South

The southern segment of Taylor Road ditch contains riparian mixed hardwood habitat with scattered trees growing along the bank and bottom of ditch. Annual grasses and Forbes are found in along the portion of ditch crossing through agricultural land. This segment would require less intensive removal banks of the ditch would be uprooted or cut down while trees outside of the 10-foot-wide work zone would remain in place and pruned to remove low hanging limbs. Equipment used along these segments would be similar to that described under Segment 1.

2.5.2 *Sediment and Debris Removal*

The project proposes excavation of the bottom one foot of soil along the entire ditch and recontouring the shape to meet design specifications calling for a channel that is 10 feet wide and 3 foot deep. The volume of sediment to be excavated is approximately 2,572 cubic yards (**Table 2-2**). Sediment within the channel would be cleared by workers using equipment such as an excavator operated from the ground level. A walk-behind mini track loader (e.g., Bobcat MT-52 or similar) may operate in the ditch when the water level is low. The loader would be used to

³ Contra Costa County, Contra Costa County Routine Maintenance Program Regional General Permit, October 18, 2019

contour the ditch and side walls piling the dirt where the excavator can lift it out for stockpiling. Crews will install soil stabilization measures after clearing the ditch. These measures may include actions such as installation of revetment fencing, erosion protection blankets, straw wattles, and tarping. The clearing and debris removal would take approximately 13 working days.

Table 2-2. Earthwork Estimate

Alignment	Distance (ft)	Excavation (SF)	Soil CY	Truck Trip	Time (Days)
Main Pump and Service Ditch	620	5.0	143	18	1
Taylor Road Ditch North	634	5.0	147	18	1
Taylor Road Ditch North	4314	5.0	999	125	5
Taylor Road Ditch South and Secondary Pump	5543	5.0	1,283	160	6
Total			22,572	321	13

Source: GEI 2021

Trash or other debris waste would be collected by hand and removed from the site via truck for disposal at a solid waste landfill. Hazardous waste (such as paint and oil) found along the work zone would be sealed in protective containers and disposed at an appropriate hazardous waste facility. A haul truck (standard 10 cubic yard) would be stationed to receive debris from the channel. Work crews would conduct vegetation and debris removal along an active work zone of approximately 900 lineal feet of ditch per workday with the entire segment cleared in 13 working days.

2.5.3 Culvert Repair and Replacement

There are ten (10) culverts crossing under Taylor Road that collect runoff from the residential property to the south and convey the stormwater into the Taylor Road ditch (**Figure 2-6**). These culverts range from 18- to 24-inch in diameter and are constructed of Corrugated Metal Pipe (CMP). Actions proposed for the culverts are identified below.

Culvert Maintenance - All culverts would be manually cleared and then flushed with water to remove debris/sediment and ensure proper drainage functioning. Erosion and sediment control measures such as silt fences or floating silt curtains would be installed downstream of the work area prior to flushing debris consistent with regulatory permit requirements.

Culvert replacement – At locations where the culverts are damaged, replacement is proposed. Site preparation would include mobilizing equipment to the work site and installing a silt curtain downstream of the active work area. An excavator would be used to remove the pavement or topsoil, lift out the degraded culvert section, place crushed rock or gravel to create a new culvert bed, and then lower the new pipe section in place. Once the replacement culvert is installed, the trench would be backfilled, compacted, and restored to match surrounding surfaces. The

replacement culverts would be constructed within the same footprint as the original culvert, so no additional channel hardening would be required.

For purpose of the analysis, it is assumed that replacement of one culvert takes one day to complete. Temporary lane closures would take place along Taylor Road at locations where a culvert must be replaced. In that circumstance, the construction contractor would implement temporary traffic control measures as discussed below in **Section 2.5 Construction Activity**.

2.5.4 Clearance of Drainage Inlets

Drainage inlets into the Taylor Road ditch system will be inspected, and any observed blockages removed prior to system reconstruction. Inlet clearance would involve use of chainsaws to break up tangled branches and vegetation masses and/or pitchforks and load nets to clear and load debris into dump trucks for disposal. This work is predominantly focused on the southside of Taylor Road.

Once the blockages are cleared, the existing inlets would be reconstructed to form an interconnected drain that can collect and carry flows from the south of Taylor Road to the Taylor Road ditch for conveyance to the secondary pump station.

2.5.5 Ditch Reconstruction

Approximately 200 feet of the transitional ditch leading from the culvert under Taylor Road to the secondary pump station must be rebuilt to achieve the desired cross section dimensions of 10 feet wide by 6 feet deep. Alternatively, BMID may replace this segment of the ditch with an 18-inch buried pipe if sufficient funds are available. Maintenance activity required to rehabilitate the transitional ditch and return it to the desired cross section dimensions would occur in similar fashion to the ditch clean out described above under **Section 2.4.1 Vegetation and Debris Removal**.

In the event of new pipe installation at this location, the construction activity involves mobilizing equipment to the work area and installing a silt curtain around the culvert. An excavator operating along the drainage easement would remove the pavement or soil cover and stockpile the material within the temporary construction alignment for reuse. The new segment of pipe would be attached to the equipment and lowered into the open trench where it is placed. Once the pipe is installed, the trench would be backfilled, compacted, and restored to match surrounding surfaces.

2.5.6 Improve Drainage on the Southside of Taylor Road

Approximately 650 feet of the Taylor Road Ditch South alignment located on the waterside of Taylor Road would be rebuilt to achieve the desired cross section dimensions of 10 feet wide by 3 feet deep. Alternatively, BMID may replace 425 feet of the ditch with an 18-inch pipe and the remaining 225 feet with a 30-inch buried CMP or HDPE pipe. Maintenance activity required to rehabilitate the ditch and return it to the desired cross section dimensions would occur in similar fashion to the ditch clean out described above under **Section 2.4.1 Vegetation and Debris Removal**. In the event of new pipe installation at this location, the construction activity would be

conducted like activities described above in **Section 2.4.2 Culvert Replacement**. Soil needed to fill the trench if a pipe is selected would be taken from elsewhere on the island including the soil excavated from the Taylor Road ditch.

2.5.7 Upgrade Secondary Pump Station

The project plans call for installation of a backup pump unit at the secondary pump station located near the intersection of Bethel Island and Taylor Roads. The pump to be installed would meet the district's standard and would be similar to the existing 15 HP pump. Rehabilitation of the pump station would begin by raising the existing platform to the 100-year flood elevation. Once the platform is established, the work crew will prepare the new pump column. The pump unit would be hoisted over the pump stand using the arm of the crane truck where the work crew would mount the pump unit to the platform. The pipe, wiring, and other mechanical connections would be made to the pump and a test performed to ensure the new pump starts, operates, and shuts-down safely.

2.6 Construction Activity

Construction equipment would depend on the selected contractor's planned operations. Typical equipment that may be needed to construct the proposed project, along with an approximation of the duration of each activity, is shown in **Table 2-2**.

Table 2-3. Project Construction Equipment

Construction Activity (based on sequencing discussion)	Equipment Type	Number of Units	Estimated Duration of Use (Workdays)
Rehabilitate and Modify Ditches			
Vegetation Clearing	Pole Saw	1	5
	Chain Saw	1	
	Pick-Up Truck	1	
Debris and Sediment Removal	Excavator	1	5
	Mini Front Loader	1	
	Pick-up Truck	1	
Culverts and Ditch Reconstruction	Excavator	1	2
	Pick-up Truck	1	
Pump Station Improvements			
Pump Installation	Flatbed Truck	1	1
	Crane Truck	1	
	Pick-up Truck	1	

Source: Data compiled by GEI Consultants in 2021

Work would begin with crews commuting to the site in private vehicles while heavy trucks would transport construction equipment and materials to the work zone. Approximately 321 truck trips

would be required to transport equipment and remove debris generated by the project over the 13-day construction period. It is district policy to retain soil on the island in support of goals to limit soil erosion on the island. The material would be stockpiled along the temporary construction alignment to dry before being reapplied along the alignment and hauled elsewhere on the island for farming use as needed.

The active segment of the work area would be accessed from Taylor Road. Crews would store equipment and access the drainage ditch using existing road right of way and a temporary construction easement established to allow equipment access segments on private land. In the event temporary lane closures are necessary on Taylor Road to allow culvert replacement the construction contractor would implement temporary traffic control measures consistent with the California Manual on Uniform Traffic Control Devices (Part 6 Temporary Traffic Control) to maintain safe efficient circulation during the construction period. These control measures may include barricades, warning signs, speed control devices, and use of flaggers to direct traffic flow.

2.7 Project Schedule

Construction of the proposed project would occur over a 3-week period. Work activities would take place Monday through Friday during the hours of 7:30 am to 5:30 pm during the work week. The project is scheduled to take place between April 2022 and September 2022 after the construction funding is secured and when water levels are low.

2.8 Best Management Practices

Project construction activities would incorporate standard best management practices (BMPs) from the Contra Costa County Waste Discharge Requirements Order R5-2010-0102 NPDES Permit No. CAS083313, to avoid and minimize adverse water quality effects. BMPs that may be implemented to avoid or minimize adverse effects of maintenance activities include minimizing the work site to the minimum area necessary; providing staff training on sensitive biological resources, proper handling of hazardous materials, etc.; dust management; protocols for hazardous spills; and many others. These measures are implemented pre-construction, during construction, and post-construction, as specified.

2.9 Regulatory Requirements, Permits, and Approvals

As the lead agency under CEQA, BIMID has the principal responsibility for approving and carrying out the proposed project and for ensuring that CEQA requirements and all other applicable regulations are met. Other agencies that may have permitting approval or review authority over portions of the proposed project are listed below.

- **U.S. Army Corps of Engineers**—Clean Water Act Section 404 Permit for discharge of fill to Waters of the U.S.

- **Central Valley Regional Water Quality Control Board**—Clean Water Act Section 401 Water Quality Certification; and Clean Water Act Section 402 National Pollutant Discharge Elimination System stormwater permit for general construction.
- **U.S. Fish and Wildlife Service**—Endangered Species Act (ESA) compliance; Section 7 consultation.
- **National Marine Fisheries Services**—Endangered Species Act (ESA) compliance; Section 7 consultation.
- **California Department of Fish and Wildlife**—California Fish and Game Code Section 1602 streambed alteration agreement; and California Endangered Species Act compliance.
- **California Coastal Commission:** Work within the coastal zone requires the applicant to obtain a Consistency Certification that indicates the activity conforms with the state’s coastal zone management program.
- **Delta Stewardship Council** Work in the Delta requires the applicant to obtain a certificate of consistency with the policies of the Delta Plan if the proposed plan, program, or project is a covered action under the Delta Plan.

3.0

Environmental Checklist

Project Information

#1. Project title:	Bethel Island Drainage and Flooding Remediation Mitigation Project
#2. Lead agency name and address:	Bethel Island Municipal District 3085 Stone Road Bethel Island, CA 94511
#3. Contact person and phone number:	Regina Espinoza 925-684-2210
#4. Project location:	The project is located on Bethel Island within the western Sacramento-San Joaquin Delta in Contra Costa County. The project is located along the Taylor Road drainage.
#5. Project sponsor's name and address:	See #2, above
#6. General plan designation:	Single Family Residential High (SH), Single Family Residential Low (SL), Agricultural Lands (AL), and Commercial (CO).
#7. Zoning:	General Agriculture (A-2) and Water Recreation (F-1) with a Flood Hazard Combining District (FH) overlay.
#8. Description of Project: (Describe the whole action involved, including but not limited to later phases of the Project, and any secondary, support, or off-site features necessary for its implementation. Attach additional sheets if necessary.)	The proposed Project including debris and vegetation removal to ensure the desired dimensions of the drainage is maintained, upgrades to the secondary pump station, and clearing blocked inlets along the drainage alignment. Additionally, the Project may include replacing 200 feet of the transitional ditch leading from the culvert under Taylor Road to the secondary pump station with a new 18-inch buried pipe if sufficient funds are available.
#9. Surrounding land uses and setting: Briefly describe the Project's surroundings:	Agriculture, Single Family Residential, Open Space, Commercial, and Water.
#10. Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement.)	BAAQMD, CDFW, RWQCB, USACE, USFWS, NMFS, Contra Costa County.
#11. Have California Native American tribes traditionally and culturally affiliated with the Project area requested consultation pursuant to Public Resources Code (PRC) Section 21080.3.1? If so, is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.?	In compliance with Assembly Bill (AB) 52 (Public Resources Code Section 21080.3.1), a project notification letter was distributed to the Lone Band of Miwok Indians on July 30, 2021. No response was received prior to release of the initial study for public review.

Note: Conducting consultation early in the California Environmental Quality Act (CEQA) process allows tribal governments, lead agencies, and Project proponents to discuss the level of environmental review, identify and address potential adverse impacts to tribal cultural resources, and reduce the potential for delay and conflict in the environmental review process. (See PRC Section 21080.3.2.) Information may also be available from the California Native American Heritage Commission's Sacred Lands File per PRC Section 5097.96 and the California Historical Resources Information System administered by the California Office of Historic Preservation. **Please also note** that PRC Section 21082.3(c) contains provisions specific to confidentiality.

Environmental Factors Potentially Affected

No environmental resources were found to have “potentially significant impacts”. The environmental factors listed as “Yes” in the table below would be potentially affected by this Project, involving at least one impact that has “Less-than-Significant Impacts with Mitigation Incorporated” as indicated by the checklist on the following pages.

Table 3-1. Environmental Resources with Potentially Significant Impacts Prior to Mitigation.⁴

Environmental Resources	Yes, or No?
Aesthetics	No
Agriculture and Forestry Resources	No
Air Quality	Yes
Biological Resources	Yes
Cultural Resources	Yes
Energy	No
Geology/Soils	Yes
Greenhouse Gas Emissions	No
Hazards and Hazardous Materials	No
Hydrology/Water Quality	Yes
Land Use/Planning	No
Mineral Resources	No
Noise	Yes
Population/Housing	No
Public Services	No
Recreation	No
Transportation	Yes
Tribal Cultural Resources	No
Utilities/Service Systems	No
Wildfire	No
Mandatory Findings of Significance	No

⁴ Impacts to all resources are reduced to less-than-significant with the incorporation of mitigation measures.

Determination (To be completed by the Lead Agency)

On the basis of this initial evaluation:

Yes, or No?

I find that the proposed Project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared. No

I find that although the proposed Project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the Project have been made by or agreed to by the Project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared. Yes

I find that the proposed Project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required. No

I find that the proposed Project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed. No

I find that although the proposed Project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier Environmental Impact Report (EIR) or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed Project, nothing further is required. No


Signature

8/23/21
Date

Regina Espinosa
Print Name

District Manager
Title

Bethel Island Municipal Improvement District
Agency

3.1 Aesthetics

#1. **AESTHETICS.** Except as provided in PRC Section 21099, **would the Project:**

#1 -a. Have a substantial adverse effect on a scenic vista?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? <u>Yes.</u>	Have Beneficial Impact? No.
#1 -b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? <u>Yes.</u>	Have Beneficial Impact? No.
#1 -c. In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point.) If the Project is in an urbanized area, would the Project conflict with applicable zoning and other regulations governing scenic quality?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? <u>Yes.</u>	Have No Impact? No.	Have Beneficial Impact? No.
#1 -d. Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? <u>Yes.</u>	Have Beneficial Impact? No.

3.1.1 Environmental Setting

The Project alignment is zoned as General Agriculture (A-2) and Water Recreation (F-1) with a Flood Hazard Combining District (FH) overlay (Contra Costa County 2017). The landscape is relatively flat, with views of residential properties and the Taylor Slough to the west and open agricultural fields and orchards to the east (see Appendix A for photos of the Project area). Elements of the built environment (structures, pumping facilities, roads, and other man-made improvements) are present. There are no designated scenic vistas located in the vicinity of the proposed Project. Additionally, there are no State or County-designated scenic highways in the Project vicinity (Caltrans 2019a, Caltrans 2019b). The nearest designated scenic highway is Route 160 near Antioch, located approximately 6 miles west of the Project site.

3.1.2 Discussion

#1 -a and b. Have a substantial adverse effect on a scenic vista? Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway?

There are no designated scenic vistas or scenic highways located in the vicinity of the proposed Project (Caltrans 2019a, Caltrans 2019b). Additionally, vegetation removal would not occur within an area that is considered a scenic vista, nor can it be seen from a scenic highway. There would be **no impact**.

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

The Project site is in a non-urbanized area surrounded by residential properties and open land zoned for agriculture. During construction, vehicles and equipment would be temporarily present on the Project site. However, Taylor Road routinely carries heavy trucks and equipment, and this would not substantially differ from normal conditions. Construction equipment would be visible while crews are working and at staging locations during off hours; however, views of equipment would be short-term and temporary, and would not degrade the existing visual character or quality of views from these lands. Following the completion of construction activities all construction-related equipment would be removed.

The Project may result in replacement of 200 feet of the Taylor Road South ditch with an 18-inch buried pipe. This segment of ditch carries flows discharging from a culvert outlet on the water side of Taylor Road to the sump at the secondary pump station. However, this change would not substantially alter the visual character or quality in this area, which is characterized by a mix of developed and rural lands including roadways, residences, and undeveloped agricultural lands.

The southernmost segment of the Taylor Road Ditch south is covered with dense patches of trees. Nine California black walnuts are within or adjacent to the work zone and may maybe be trimmed or removed as part of the rehabilitation of the ditch. Removal of trees would be limited to specific locations where the project engineer has determined the tree impedes stormwater flows. Trees to be lost would typically be found in the channel bottom and banks. Most of the trees would remain in place so this activity would not substantially degrade the existing visual character or quality of public views because the existing view would stay like current conditions. See Section 3.4 “Biological Resources” for a full discussion on impacts related to tree removal. The Project would result in a **less-than-significant** impact.

#1 -d. Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

The Project would not introduce new reflective materials or objects which would cause glare, nor would it create new sources of light. There would be **no impact**.

3.2 Agriculture and Forestry Resources

#2. AGRICULTURE AND FORESTRY RESOURCES. In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997, as updated) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the State's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. **Would the Project:**

#2 -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?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? <u>Yes.</u>	Have Beneficial Impact? No.
#2 -b. Conflict with existing zoning for agricultural use, or a Williamson Act contract?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? <u>Yes.</u>	Have Beneficial Impact? No.
#2 -c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in PRC Section 12220(g)), timberland (as defined by PRC Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? <u>Yes.</u>	Have Beneficial Impact? No.
#2 -d. Result in the loss of forest land or conversion of forest land to non-forest use?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? <u>Yes.</u>	Have Beneficial Impact? No.
#2 -e. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? <u>Yes.</u>	Have No Impact? No.	Have Beneficial Impact? No.

3.2.1 *Environmental Setting*

A portion of the Project site is located on land designated as General Agriculture (A-2) with a Flood Hazard Combination District (F-H) overlay (Contra Costa County 2017). Additional agricultural zoned parcels are located adjacent to the Project site.

3.2.2 *Discussion*

#2 -a and b. 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? Conflict with existing zoning for agricultural use, or a Williamson Act contract?

Based on review of the California Department of Conservation's (DOC) map of Contra Costa County Important Farmland (DOC 2016), land along the project alignment is designated as Urban and Built-Up Land and Farmland of Local Importance. Therefore, the project would have no impact on Prime Farmland, Farmland of Statewide Importance, or Unique Farmland. The project would have **no impact**.

#2 -c and d. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by PRC Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))? Result in the loss of forest land or conversion of forest land to non-forest use?

The Project alignment is not zoned as forest land, timberland, or timberland zoned as timberland production, therefore, no loss or conversion of forest land to non-forest land would result from the proposed Project. There would be **no impact**.

#2 -e. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?

The proposed Project would not impact farmland or forestland. A portion of the Project alignment is located on land zoned as General Agriculture (A-2) however, the land is not currently being used for agricultural production, and although the area would be temporarily affected during construction, the site would continue to be usable for agricultural production after construction and rehabilitation of the drainage ditch is complete. The rest of the proposed Project would be implemented along the northern and southern side of Taylor Road and all disturbance would remain within the road ROW and at the existing pump station at the eastern extent of Taylor Road. The project represents the rehabilitation and maintenance of an existing drainage system to alleviate existing deficiencies in the drainage system of the island. The project would not reduce the amount of farmland available for production nor induce growth that could result in the conversion of farmland. Therefore, the impact would be **less than significant**.

3.3 Air Quality

#3. AIR QUALITY. Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied on to make the following determinations. **Would the Project:**

#3 -a. Conflict with or obstruct implementation of the applicable air quality plan?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? <u>Yes.</u>	Have Less-than-Significant Impact? No.	Have No Impact? No.	Have Beneficial Impact? No.
#3 -b. Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable Federal or State ambient air quality standard?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? <u>Yes.</u>	Have Less-than-Significant Impact? No.	Have No Impact? No.	Have Beneficial Impact? No.
#3 -c. Expose sensitive receptors to substantial pollutant concentrations?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? <u>Yes.</u>	Have Less-than-Significant Impact? No.	Have No Impact? No.	Have Beneficial Impact? No.
#3 -d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? <u>Yes.</u>	Have No Impact? No.	Have Beneficial Impact? No.

3.3.1 Environmental Setting

The proposed Project is in the San Francisco Bay Air Basin (SFBAB) within Contra Costa County. The Bay Area Air Quality Management District (BAAQMD) is responsible for obtaining and maintaining air quality conditions in the County.

The Federal Clean Air Act and California Clean Air Act required the U.S. Environmental Protection Agency (EPA) and California Air Resource Boards (CARB) to establish health-based air quality standards at the federal and state levels. National Ambient Air Quality Standards (N.A.A.Q.S.) and California Ambient Air Quality Standards (CAAQS) were established for the following criteria pollutants: carbon monoxide (CO), ozone (O₃), sulfur dioxide (SO₂), nitrogen dioxide (NO₂), particulate matter less than 10 microns in diameter (PM₁₀), particulate matter less than 2.5 microns in diameter (PM_{2.5}), and lead. Areas of the state are designated as attainment,

nonattainment, maintenance, or unclassified for the various pollutant standards according to the Federal Clean Air Act and California Clean Air Act.

An “attainment” designation for an area signifies that pollutant concentrations did not violate the NAAQS or CAAQS 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 identified in the criteria. A “maintenance” designation indicated that the area previously categorized as nonattainment is currently categorized as attainment for the applicable pollutant; though the area must demonstrate continued attainment for a specific number of years before it can be re-designated as an attainment area. An “unclassified” designation signifies that data does not support either an attainment or a nonattainment status. The EPA established NAAQS in 1971 for six air pollution constituents. States have the option to add other pollutants, to require more stringent compliance, or to include different exposure periods. CAAQS and NAAQS are listed in Table 3-2.

Table 3-2. Federal and California Ambient Air Quality Standards and Attainment Status.

Pollutant	Averaging Time	California Standards Concentration	Federal Primary Standards Concentration
Ozone (O ₃)	8-hour	0.070 parts per million. (137 micrograms per cubic meter).	0.070 parts per million (137 micrograms per cubic meter.) (See Note #1.)
	1-hour	0.09 parts per million. (180 micrograms per cubic meter).	(None; see Note #2.)
Respirable Particulate Matter (PM ₁₀)	24-hour	50 micrograms per cubic meter.	150 micrograms per cubic meter.
	Annual Arithmetic Mean	20 micrograms per cubic meter.	(None.)
Fine Particulate Matter (PM _{2.5})	24-hour	(None.)	35 micrograms per cubic meter.
	Annual Average	12 micrograms per cubic meters.	12 micrograms per cubic meter.
Carbon Monoxide	8-hour	9 parts per million. (10 milligrams per cubic meter.)	9 parts per million. (10 milligrams per cubic meter).
	1-hour	20 parts per million. (23 milligrams per cubic meter).	35 parts per million. (40 micrograms per cubic meter).
Nitrogen Dioxide	Annual Average	0.03 parts per million. (57 micrograms per cubic meters.)	0.053 parts per million. (100 micrograms per cubic meters.)
	1-hour	0.18 parts per million. (339 micrograms per cubic meters.)	0.100 parts per million. (188 micrograms per cubic meters.)
Lead	30-day Average	1.5 micrograms per cubic meters.	(None.)
	Rolling 3-Month Average	(None.)	0.15 micrograms per cubic meter.

	Quarterly Average	(None.)	1.5 micrograms per cubic meter.
	24-hour	0.04 parts per million. (105 micrograms per cubic meter.)	0.14 parts per million (for certain areas)
Sulfur Dioxide	3-hour	(None.)	(None.)
	1-hour	0.25 parts per million. (655 micrograms per cubic meter.)	0.075 parts per million. (196 micrograms per cubic meter.)
Sulfates	24-hour	25 micrograms per cubic meter.	No Federal Standard.
Hydrogen Sulfide	1-hour	0.03 parts per million. (42 micrograms per cubic meter.)	No Federal Standard.
Vinyl Chloride	24-hour	0.01 parts per million. (26 micrograms per cubic meter.)	No Federal Standard.

Notes:

#1. On October 1, 2015, the national 8-hour ozone (O₃) primary and secondary standards were lowered from 0.075 to 0.070 ppm.
#2. 1-Hour ozone standard revoked effective June 15, 2005, although some areas have continuing obligations under that standard.
Source: C.A.R.B. 2016

Under the NAAQS, the County is designated as nonattainment for 8-hour ozone, and attainment/unclassified for PM_{2.5}, PM₁₀, CO, NO₂, SO₂, lead, and sulfates (CARB 2018). Under CAAQS, the County is designated as nonattainment for 8-hour ozone, PM_{2.5}, PM₁₀ (CARB 2018).

The area's air quality monitoring network provides information on ambient concentrations of air pollutants in the SFBAB BAAQMD operates several monitoring stations in Contra Costa County, air quality data was obtained from the Bethel Island Road monitoring station. Table 3-3 compares a 5-year summary of the highest annual criteria air pollutant emissions collected at this station with applicable CAAQS, which are more stringent than the corresponding NAAQS. Due to the regional nature of these pollutants, O₃, PM_{2.5}, and PM₁₀ are expected to be representative of the Project site.

As indicated in Table 3-3, 8-hour O₃, PM_{2.5}, and PM₁₀ standards have been exceeded over the past 5 years.

Table 3-3. Ambient Air Quality Monitoring Data Measured at the Bethel Island Road Monitoring Station.

Pollutant Standards, 1-Hour Ozone	2015	2016	2017	2018	2019
Maximum 1-hour concentration (ppm)	0.080	0.089	0.090	0.093	0.082
Days Exceedinga CAAQS 1-hour (>0.09 parts per million)	0	0	0	0	0
Pollutant Standards, 8-Hour Ozone	2015	2016	2017	2018	2019
National maximum 8-hour concentration (parts per million).	0.072	0.080	0.071	0.078	0.072
State max. 8-hour concentration (parts per million).	0.072	0.081	0.071	0.078	0.072
Days Exceeding NAAQS 8-hour. (>0.075 parts per million.) (See note #1.)	0	1	0	1	0
Days Exceeding CAAQS 8-hour. (>0.070 parts per million.) (See note #1.)	2	2	2	1	1
Pollutant Standards, Particulate Matter (PM10)	2015	2016	2017	2018	2019
National max. 24-hour concentration (micrograms per cubic meter).	31.1	25.5	52.1	142.9	54.7
State max. 24-hour concentration (micrograms per cubic meter).	33.0	26.0	52.0	151.0	57.0
State max. 3-year average concentration (micrograms per cubic meter).	17	17	-	-	16
State annual average concentration (micrograms per cubic meter).	-	-	-	-	15.7
Days Exceeding NAAQS 24-hour (>150 micrograms per cubic meter).	0	0	-	-	0
Days Exceeding CAAQS 24-hour (>50 micrograms per cubic meter).	-	-	-	-	26.2
Pollutant Standards, Particulate Matter (PM2.5)	2015	2016	2017	2018	2019
National max. 24-hour concentration (micrograms per cubic meter). ¹	31.0	20.7	89.4*	180.0*	28.2
State max. 24-hour concentration (micrograms per cubic meter). ¹	31.0	20.7	89.4*	159.2*	28.2
State annual average concentration (micrograms per cubic meter). ¹	-	-	12.0	-	6.8
Days Exceeding NAAQS 24-hour (>35 micrograms per cubic meter). ¹	0	0	6.0	14.2	0

Notes:

¹ The 2975 Treat Boulevard in Concord, CA, was used because there was no data collected at the Bethel Island Road monitoring station.

* = Values in excess of applicable standard.

- =There was insufficient (or no) data available to determine the value.

2018 is the latest year of data available as of preparation of this Chapter.

#1. An exceedance is not necessarily a violation. Sources: CARB 2019.

3.3.2 Discussion

#3 -a and b. Conflict with or obstruct implementation of the applicable air quality plan? Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable Federal or State ambient air quality standard?

The proposed Project would temporarily generate criteria pollutants from the use of diesel-powered vehicles and equipment during reconstruction of the drainage ditch. The Project would require approximately 320 truck trips to over a 13-day period. An additional seven vehicle trips, or 14 trips per day, would be required for workers commuting to the Project site during construction. All activity would cease once the work is completed after 13 days.

The BAAQMD Air Quality Guidelines presents screening criteria for construction-related impacts that provides lead agencies with a conservative indication of whether a proposed project would result in the generation of construction-related criteria air pollutants and/or precursors that exceed the established thresholds of significance for the SFBAB (BAAQMD 2017). If all the following screening criteria are met, and the project incorporates all best management construction practices listed by the district, the construction of the proposed project would result in a less-than-significant impact from criteria air pollutant and precursor emissions. The screening criteria include:

- 1) The project is below the applicable screening level size; and
- 2) All Basic Construction Mitigation Measures would be included in the project design and implemented during construction; and
- 3) Construction-related activities would not include any of the following:
 - a) Demolition
 - b) Simultaneous occurrence of more than two construction phases (e.g., paving and building construction would occur simultaneously);
 - c) Simultaneous construction of more than one land use type (e.g., project would develop residential and commercial uses on the same site) (not applicable to high density infill development);
 - d) Extensive site preparation (i.e., greater than default assumptions used by the Urban Land Use Emissions Model [URBEMIS] for grading, cut/fill, or earth movement); or
 - e) Extensive material transport (e.g., greater than 10,000 cubic yards of soil import/export) requiring a considerable amount of haul truck activity.

The proposed project would fall under the screening criteria for construction related activity because it would disturb less than 10,000 cubic yards of soil, does not involve construction of multiple phases simultaneously, and does not involve demolition of structures. Because the proposed project would not result in construction-related or operational emissions of criteria air pollutants in excess of BAAQMD's screening criteria, conflicts with or obstruction of

implementation of the applicable regional air quality plans would not occur. Without the implementation of BAAQMD Basic Construction Mitigation, the project would have a **potentially significant** impact due to construction-related activities generating a significant amount of particulate matter (PM). However, the proposed Project would comply with the BAAQMD Air Quality Guidelines which states that all projects are required to implement BAAQMD Basic Construction Mitigation. The following mitigation measure has been identified to address this impact.

Mitigation Measure AQ-1: B.A.A.Q.M.D. Basic Construction Mitigation

BAAQMD recommends all projects implement the following Basic Construction Mitigation Measures. The District shall implement or require its contractor to implement all the following measures as identified by BAAQMD.

1. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
2. All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
3. 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.
4. All vehicle speeds on unpaved roads shall be limited to 15 mph.
5. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
6. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.
7. All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.
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.

Timing: During construction.

Responsibility: BIMID

Implementation of Mitigation Measure AQ-1 would reduce this impact to less-than-significant by reducing the generation of criteria pollutants during construction activities, specifically the generation of particulate matter (PM), by implementing best management practices such as watering all exposed surfaces and limiting vehicle speed to keep. Therefore, the proposed Project would result in a **less-than-significant impact with mitigation incorporated**.

#3 -c. Expose sensitive receptors to substantial pollutant concentrations?

Some members of the population are especially sensitive to emissions of air pollutants and should be given special consideration during the evaluation of the Project air quality impacts. These people include children, senior citizens, and persons with pre-existing respiratory or cardiovascular illnesses, and athletes and other who engage in frequent exercise, especially outdoors. Sensitive receptors include schools, residences, playgrounds, childcare centers, athletic facilities, long-term health care facilities, rehabilitation centers, convalescent centers, and retirement homes.

The Project site is in close proximity to residential properties found along Taylor Road. During excavation of debris within the drainage ditch particulate matter (PM) would be released in the form of fugitive dust. PM emissions are also generated in the form of equipment exhaust and re-entrained road dust from vehicle travel. Impacts from PM emissions would be short term and temporary in nature and would cease after completing the construction phase. While a short duration exposure to PM would not result in substantial long term health effects to healthy individuals, the project could aggravate health conditions for people with pre-existing conditions. Therefore, this impact is **potentially significant**. The following mitigation measure has been identified to address this impact.

Mitigation Measure AQ-1: BAAQMD Basic Construction Mitigation

Please refer to Mitigation Measure AQ-1 in Question “a and b” for the full text of this mitigation measure.

Implementation of Mitigation Measure AQ-1 would reduce this impact to less-than-significant by reducing the generation of fugitive dust during construction activities. Impacts from PM emissions would be temporary and would cease after the work is completed. Given the short-term emissions and incorporation of Mitigation Measure AQ-1, impacts would be **less-than-significant with mitigation incorporated**.

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

Human response to odors is subjective, and sensitivity to odor varies from person to person. Typically, odors are considered an annoyance rather than a health hazard. However, a person’s response to odor can range from psychological (e.g., irritation, anger, anxiety) to physiological (e.g., circulatory and respiration reaction, nausea, headaches, etc.). The project does not include activities or components that would be a source of odor. During construction, the Project would generate odor from the use of diesel fuels, though this would be short-term and exposure to the odors would not last for the duration of the activity. Rather, exposure would change as the

construction activity moved along the alignment. No single receptor would be exposed to continuous construction activity. No odors would be generated by the operation of the secondary pump. Potential odor effects would be **less-than-significant**.

3.4 Biological Resources

#4. BIOLOGICAL RESOURCES. Would the Project:

#4 -a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? <u>Yes.</u>	Have Less-than-Significant Impact? No.	Have No Impact? No.	Have Beneficial Impact? No.
#4 -b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? <u>Yes.</u>	Have Less-than-Significant Impact? No.	Have No Impact? No.	Have Beneficial Impact? No.
#4 -c. Have a substantial adverse effect on State or Federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	Have Potentially Significant Impact? No..	Have Less-than-Significant Impact with Mitigation Incorporated? <u>Yes.</u>	Have Less-than-Significant Impact? No.	Have No Impact? No.	Have Beneficial Impact? No.
#4 -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?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? <u>Yes.</u>	Have No Impact? No.	Have Beneficial Impact? No.
#4 -e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? <u>Yes.</u>	Have No Impact? No.	Have Beneficial Impact? No.
#4 -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?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? <u>Yes.</u>	Have Beneficial Impact? No.

3.4.1 *Environmental Setting*

Information presented in this environmental setting is based on observations made during a biological field survey for the proposed project, review of existing biological survey, and publicly available biological resource databases and documents on species distribution and habitat requirements.

Background Review

Before conducting biological field surveys, GEI, Consultants, Inc. (GEI) reviewed the California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB) (CDFW 2021a) and the California Native Plant Society (CNPS) online Inventory of Rare and Endangered Vascular Plants of California (CNPS 2021). These reviews included the Birds Landing, Rio Vista, Isleton, Antioch North, Jersey Island, Bouldin Island, Sutter Causeway, Nicolaus, Terminous, and Holt USGS 7.5-minute quadrangles. A resources list of species and habitats of Federal conservation concern that could occur in the Project area was obtained from the U.S. Fish and Wildlife Service (USFWS) Information for Planning and Conservation website (USFWS 2021a); the USFWS online map of critical habitat for Federally threatened and endangered species (USFWS 2021b) also was reviewed.

A pedestrian tree/vegetation survey was conducted by GEI Biologist Nick Jakubek along both sides of Taylor Road on Bethel Island on July 8, 9, and 15, 2021. A general field survey of the locations where improvements would occur was conducted by GEI Biologist Nick Jakubek on May 4, 2021 to assess the potential for special-status species to occur on or adjacent to the Project sites and for special-status species and sensitive habitats to be affected by construction activities.

Existing Conditions

The Project site is predominantly located within the existing drainage easement along Taylor Road; the majority of this ditch is dry. The banks of both the Taylor Road Ditch North and Taylor Road Ditch South are mostly vegetated with nonnative annual grassland; however, shrubs and trees, including some cottonwood, willows, and blackberry occur in that segment of Taylor Road Ditch North between Anchor Marina and Caliente Harbor. South and west of Taylor Road consists of residential housing, which includes mowed grass and ornamental vegetation. The two service ditches that outfall into the sumps at the pumping stations are wetted and include emergent vegetation, such as tules and cattails. Land east of the proposed alignment is zoned as agriculture; however, it is not currently in agriculture production, and is either open space or grazing pasture. Residential properties are located along both sides of the Project site. Topography is general flat, with an average elevation of -3 to 12 feet above mean sea level.

Refer to **Figures 3.4-1 through 3.4-4** which depict vegetation types within the work zone and study area (work zone plus a 200-ft buffer). The study area has been identified to show vegetation types adjacent to the Work Zone that could be impacted by project-generated dust and noise.

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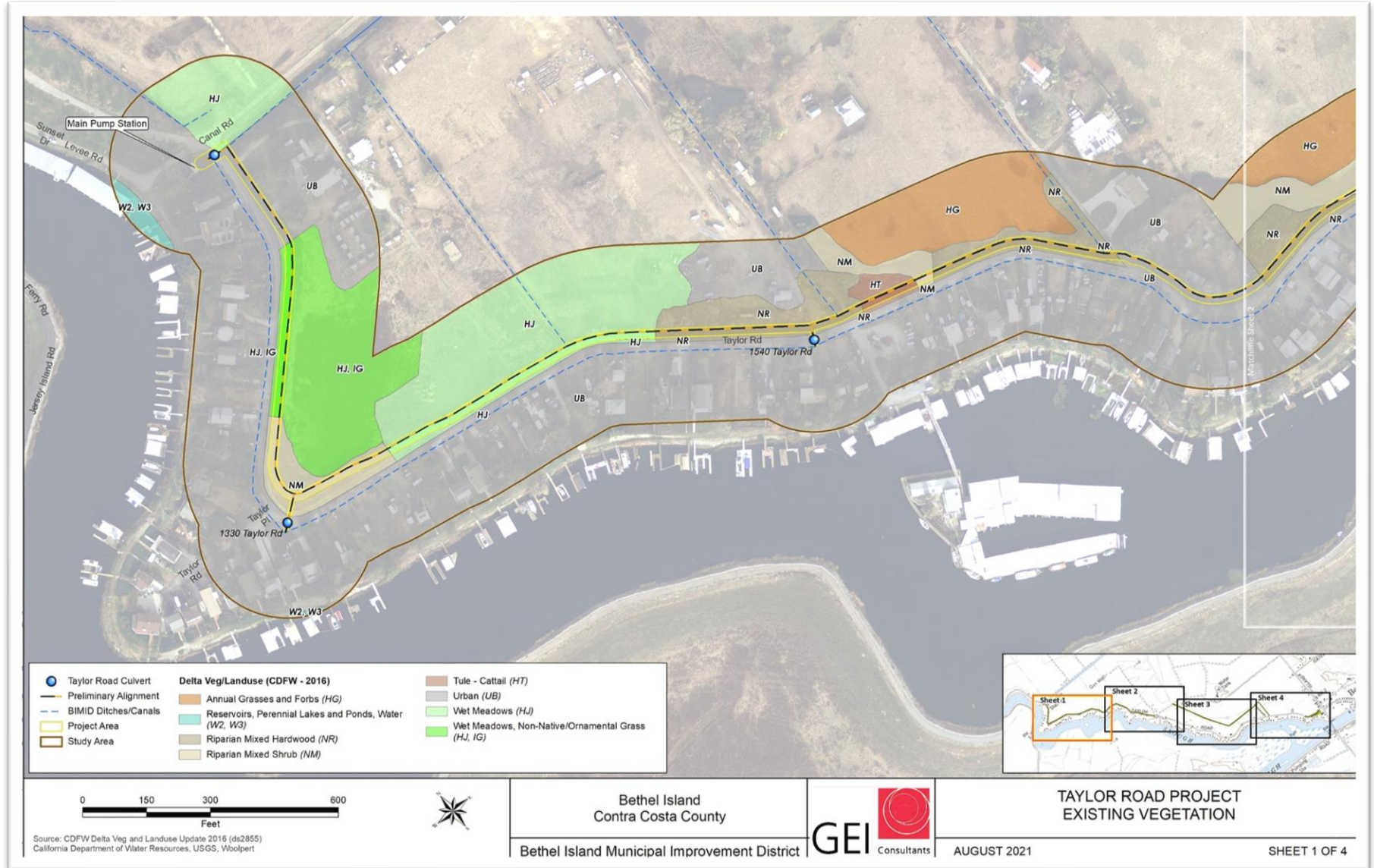


Figure 3.4-1. Habitat Coverage in the Project Area

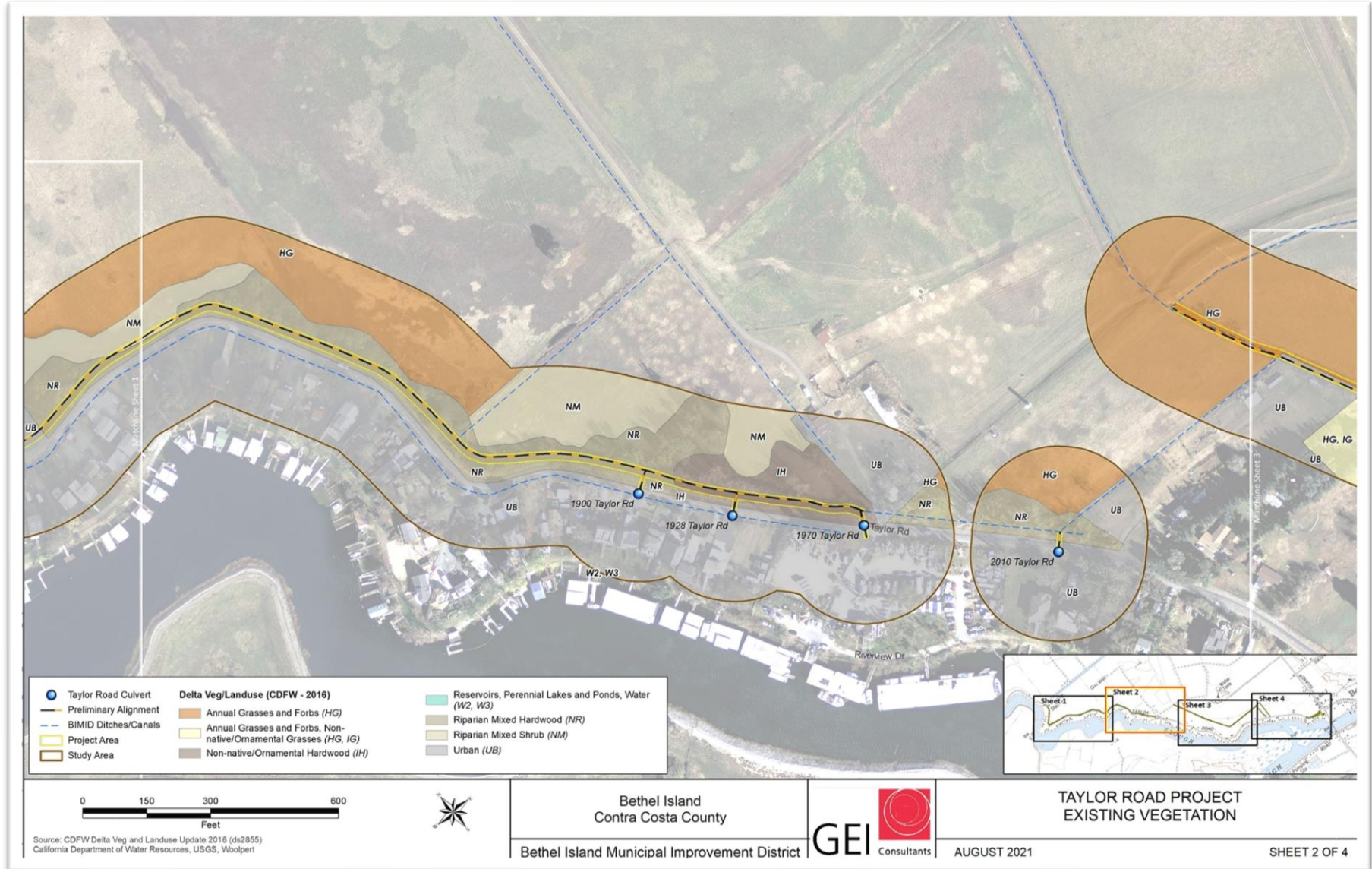


Figure 3.4-2. Habitat Coverage in the Project Area

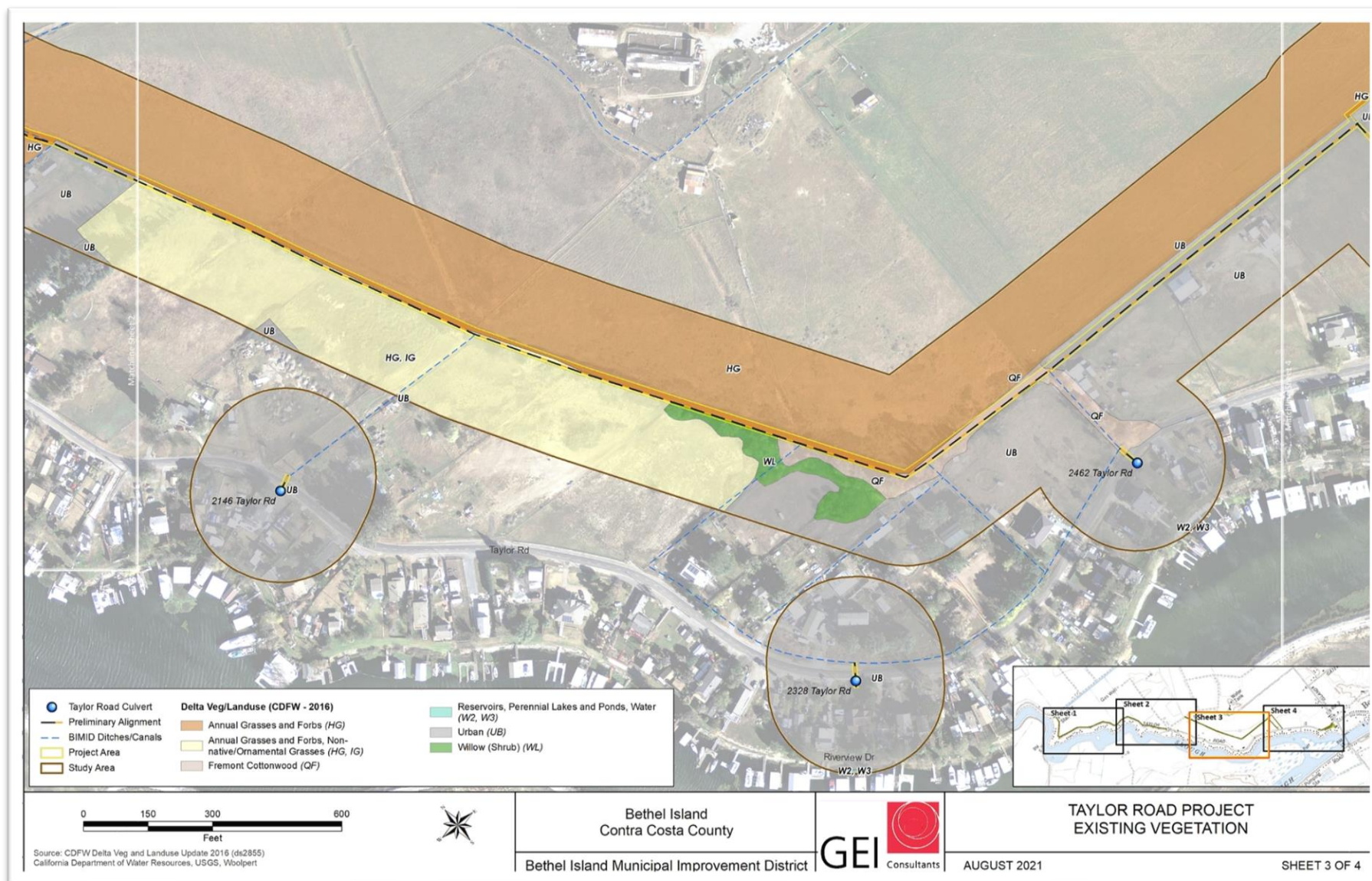


Figure 3.4-3. Habitat Coverage in the Project Area

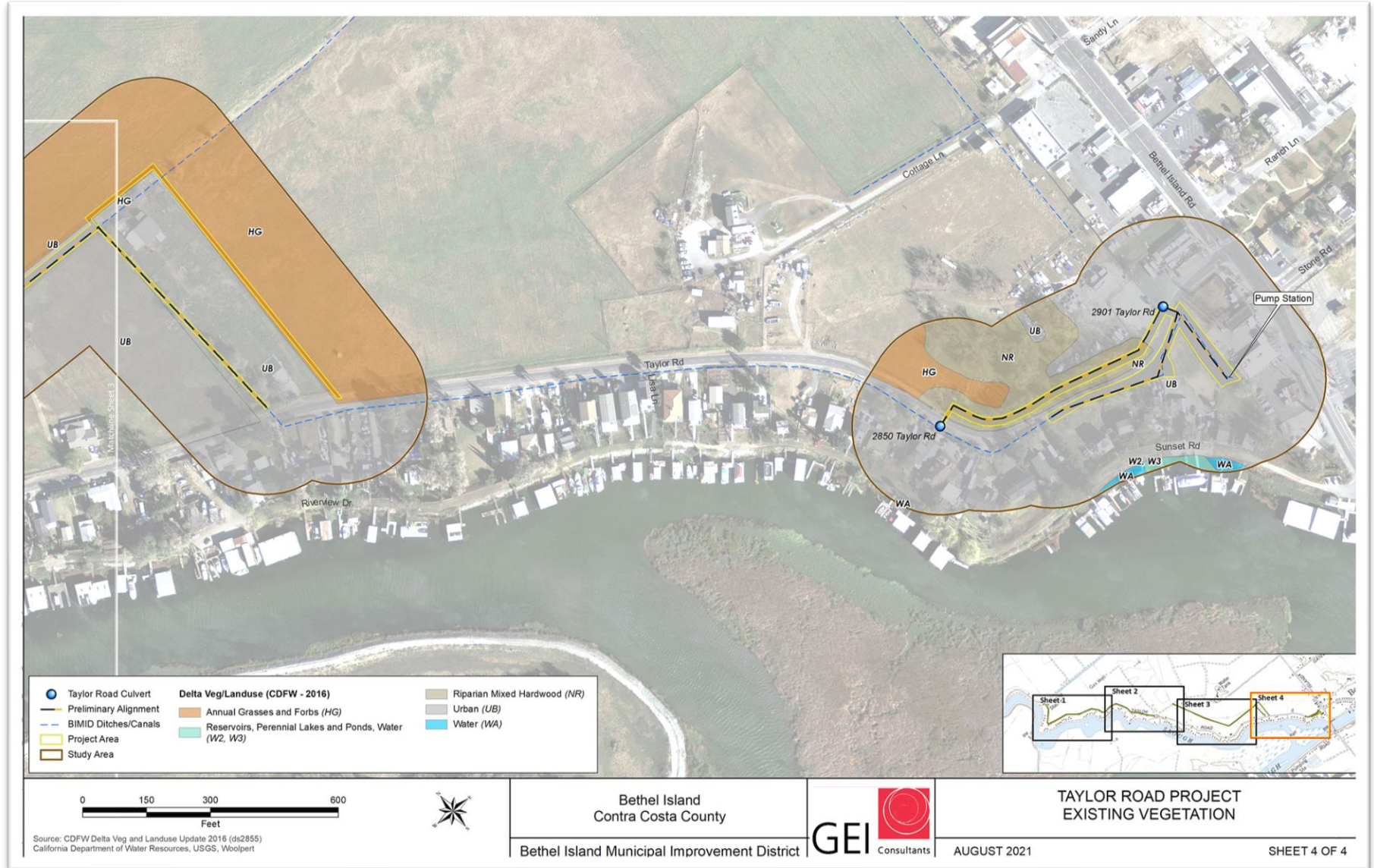


Figure 3.4-4. Habitat Coverage in the Project Area

3.4.2 Discussion

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

For the purposes of this document, “special-status” has been defined to include those species that meet the definitions of rare or endangered plants or animals under CEQA, including species that are:

- Listed as Threatened or Endangered by USFWS or National Marine Fisheries Service (NMFS), pursuant to the federal Endangered Species Act (50 CFR Section 17.11 and Section 17.12)
- Listed as Rare, Threatened, or Endangered by CDFW pursuant to the California Endangered Species Act (California Fish and Game Code Section 2050, et seq.)
- Designated as Fully Protected under Sections 3511 (birds), 4700 (mammals), 5050 (reptiles and amphibians), and 5515 (fish) of the California Fish and Game Code
- Designated by CDFW as California Species of Concern
- Listed as Category 1A, 1B, and 2 by CNPS
- Not currently protected by statute or regulation but considered rare, threatened, or endangered under CEQA

Results of the biological resource database searches (see Appendix B) yielded several special-status plants and animals. (Note: Not all species tracked in the CNDDDB and included in the search results in Appendix B meet the special-status definition described above.) Habitat requirements for each special-status species were assessed and compared to the habitats occurring within the vicinity of the project area (**Table 3.4-1**).

Based on the results of database searches and historic records, as well as known regional occurrences and the habitat assessments, several special-status plant and wildlife species have the potential to occur on the project sites. These species are identified in bold in **Table 3.4-1**.

Based on the review of existing documentation, habitat requirements of each species, and habitat evaluations made during field survey, most of the species have no potential to occur on or adjacent to the Project sites. The project would not require any in-water work or propose any alterations to aquatic habitats. Additionally, the project site does not support habitat for any special-status mammals. There would be **no impact** on special-status fish or mammals.

Portions of the Project site support natural vegetation, such as the open land to the east of the project site. However, the project site is primarily located within a “Residential” land cover type where no special-status species occur, therefore, suitable habitat for most of the species considered is absent. No special-status plant or wildlife species were observed during the field surveys.

Table 3-4-1. Potentially Occurring Special Status Species

Species ¹	Fed/ State/ CRPR Status ²	General Habitat	Potential to Occur in the Project Area ³	Type of Suitable Habitat within the Project Area
Plants				
<i>Amsinckia grandiflora</i> large-flowered fiddleneck	FE/SE/1B.1	Cismontane woodland, and valley and foothill grassland. Elevation: 902-1,804 feet (275-550 meters). Blooms: (Mar) Apr-May (CNPS 2018).	No potential to occur. Suitable habitat is not present in the project area vicinity. Project area outside of typical elevation.	N/A; No DCH within project area
<i>Arctostaphylos auriculata</i> Mt. Diablo manzanita	--/--/1B.3	Chaparral. Elevation: 445 - 2135 feet (135 – 650 meters). Blooms: Jan – March (CNPS 2021)	No potential to occur. Suitable habitat is not present in the project area vicinity. Project area outside of typical elevation.	N/A
<i>Arctostaphylos manzanita</i> ssp. <i>laevigata</i> Contra Costa manzanita	--/--/1B.2	Rocky chaparral. Elevation: 1,640-3,680 feet (500-1,100 meters). Blooms: Jan-Apr (CNPS 2018).	No potential to occur. Suitable habitat is not present in the project area vicinity. Project area outside of typical elevation.	N/A
<i>Astragalus tener</i> var. <i>tener</i> alkali milk-vetch	--/--/1B.2	Alkaline soils in playas, valley & foothill grassland (adobe clay), and vernal pools. Elevation: 3-197 feet (1-60 meters). Blooms: Mar-June (CNPS 2018).	No potential to occur. Suitable habitat and appropriate soils are not present in the project area vicinity.	N/A
<i>Atriplex cordulata</i> var. <i>cordulata</i> heartscale	--/--/1B.2	Saline or alkaline areas in chenopod scrub, meadows, seeps, and valley and foothill grassland. Elevation: 0-1,837 feet (0-560 meters). Blooms: Apr-Oct (CNPS 2018).	No potential to occur. Suitable habitat and appropriate soils are not present in the project area vicinity.	N/A
<i>Atriplex depressa</i> brittlescale	--/--/1B.2	Alkaline and clay areas in chenopod scrub, meadows, seeps, playas, vernal pools, and valley and foothill grasslands. Elevation: 3-1,049 feet (1-320 meters). Blooms: Apr-Oct (CNPS 2018).	No potential to occur. Suitable habitat and appropriate soils are not present in the project area vicinity.	N/A
<i>Blepharizonia plumosa</i> big tarplant	--/--/1B.1	Usually clay in valley and foothill grasslands. Elevation: 98-1,656 feet (30-505 meters). Blooms: July-Oct (CNPS 2018).	No potential to occur. Suitable habitat is not present in the project area vicinity. Project area outside of typical elevation.	N/A

Table 3-4-1. Potentially Occurring Special Status Species

Species ¹	Fed/ State/ CRPR Status ²	General Habitat	Potential to Occur in the Project Area ³	Type of Suitable Habitat within the Project Area
<i>Calochortus pulchellus</i> Mt. Diablo fairy-lantern	--/--/1B.2	Chaparral, cismontane woodland, riparian woodland, and valley and foothill grassland. Elevation: 98-2,756 feet (30-840 meters). Blooms: Apr-June (CNPS 2021).	No potential to occur. Suitable habitat is not present in the project area vicinity. Project area outside of typical elevation.	N/A
<i>Carex comosa</i> bristly sedge	--/--/2B.1	Coastal prairies, valley and foothill grasslands, as well as marshes, swamps, and lake margins. Elevation: 0-2,051 feet (0-625 meters). Blooms: May-Sept (CNPS 2021).	Could occur. Suitable habitat is present within the project area. Wetlands, including drainage inlets, provide suitable habitat for this species. An occurrence of this species is within 5 miles of the project sites (CDFW 2021a).	Ditch
<i>Centromadia parryi</i> ssp. <i>congdonii</i> Congdon's tarplant	--/--/1B.1	Alkaline valley and foothill grasslands. Elevation: 0-755 feet (0-230 meters). Blooms: May-Nov (CNPS 2021).	No potential to occur. Suitable habitat and appropriate soils are not present in the project area vicinity.	N/A
<i>Centromadia parryi</i> ssp. <i>parryi</i> pappose tarplant	--/--/1B.2	Often in alkaline areas in chaparral, coastal prairie, meadows and seeps, coastal salt marshes and swamps, and vernal mesic valley and foothill grasslands. Elevation: 0-1,378 feet (0-420 meters). Blooms: May-Nov (CNPS 2021).	No potential to occur. Suitable habitat and appropriate soils are not present in the project area vicinity.	N/A
<i>Chloropyron molle</i> ssp. <i>molle</i> (= <i>Cordylanthus mollis</i> ssp. <i>mollis</i>) soft salty bird's-beak	FE/SR/1B.2	Coastal salt marshes and swamps. Elevation: 0-10 feet (0-3 meters). Blooms: (June) July-Nov (CNPS 2021).	No potential to occur. Suitable habitat is not present in the project area vicinity.	N/A; No DCH within project area

Table 3-4-1. Potentially Occurring Special Status Species

Species ¹	Fed/ State/ CRPR Status ²	General Habitat	Potential to Occur in the Project Area ³	Type of Suitable Habitat within the Project Area
<i>Cicuta maculata</i> <i>var. bolanderi</i> Bolander's water- hemlock	--/--/2B.1	Coastal, fresh, or brackish marshes and swamps. Elevation: 0-656 feet (0- 200 meters). Blooms: July- Sept (CNPS 2021).	Could occur. Suitable habitat is present within the project area. Wetlands, including drainage inlets, provide suitable habitat for this species. A CNDDB occurrence is within 2 miles of the project site (CDFW 2021a).	Ditch
<i>Cryptantha</i> <i>hooveri</i> Hoover's cryptantha	--/--/1A	Inland dunes. Valley and foothill grassland (sandy). Elevation: 30 – 490 feet (9 – 150 meters). Blooms: April - May	No potential to occur. Suitable habitat and appropriate soils are not present in the project area vicinity.	N/A
<i>Downingia pusilla</i> dwarf downingia	--/--/2B.2	Vernal pools and mesic valley and foothill grasslands. Elevation: 3- 1,459 feet (1-445 meters). Blooms: Mar-May (CNPS 2021).	No potential to occur. Suitable habitat and appropriate soils are not present in the project area vicinity.	N/A
<i>Eriogonum</i> <i>nudum var.</i> <i>psychicola</i> Antioch Dunes buckwheat	--/--/1B.1	Inland dunes. Elevation: 0- 66 feet (0-20 meters). Blooms: July-Oct (CNPS 2021).	No potential to occur. Suitable habitat and appropriate soils are not present in the project area vicinity.	N/A
<i>Eriogonum</i> <i>truncatum</i> Mt. Diablo buckwheat	--/--/1B.1	Sandy areas in chaparral, coastal scrub, and valley and foothill grasslands. Elevation: 10-1,148 feet (3- 350 meters). Blooms: Apr- Dec (CNPS 2021).	No potential to occur. Suitable habitat and appropriate soils are not present in the project area vicinity.	N/A
<i>Eryngium jepsonii</i> Jepson's coyote- thistle	--/--/1B.2	Vernal pools and mesic valley and foothill grasslands. Elevation: 0- 984 feet (3-300 meters). Blooms: Apr-Aug (CNPS 2021).	No potential to occur. Suitable habitat and appropriate soils are not present in the project area vicinity.	N/A
<i>Eryngium</i> <i>racemosum</i> delta button- celery	--/SE/1B.1	Vernally mesic clay depressions in riparian scrub. Elevation: 10-98 feet (3-30 meters). Blooms: June-Oct (CNPS 2021).	No potential to occur. Suitable habitat and appropriate soils are not present in the project area vicinity.	N/A

Table 3-4-1. Potentially Occurring Special Status Species

Species ¹	Fed/ State/ CRPR Status ²	General Habitat	Potential to Occur in the Project Area ³	Type of Suitable Habitat within the Project Area
<i>Erysimum capitatum</i> var. <i>angustatum</i> Contra Costa wallflower	FE/SE/1B.1	Inland dunes. Elevation: 10-66 feet (3-20 meters). Blooms: Mar- July (CNPS 2021).	No potential to occur. Suitable habitat and appropriate soils are not present in the project area vicinity.	N/A; No DCH within project area
<i>Eschscholzia rhombipetala</i> diamond-petaled California poppy	--/--/1B.1	Alkaline and clay valley and foothill grasslands. Elevation: 0-3,199 feet (0-975 meters). Blooms: Mar-Apr (CNPS 2021).	No potential to occur. Suitable habitat and appropriate soils are not present in the project area vicinity.	N/A
<i>Extriplex joaquinana</i> San Joaquin spearscale	--/--/1B.2	Alkaline chenopod scrub, meadows, seeps, playas, and valley and foothill grasslands. Elevation: 3-2,739 feet (1-835 meters). Blooms: Apr-Oct (CNPS 2021).	No potential to occur. Suitable habitat and appropriate soils are not present in the project area vicinity.	N/A
<i>Fritillaria liliacea</i> fragrant fritillary	--/--/1B.2	Serpentine soils in cismontane woodland, coastal prairie, coastal scrub, valley & foothill grassland. Elevation: 10-1,345 feet (3-410 meters). Blooms: Feb-Apr (CNPS 2021).	No potential to occur. Suitable habitat and appropriate soils are not present in the project area vicinity.	N/A
<i>Helianthella castanea</i> Diablo helianthella	--/--/1B.2	Chaparral, cismontane woodland, coastal scrub, riparian woodland, broad-leaved upland forest, and valley and foothill grasslands. Elevation: 197-4,265 feet (60-1,300 meters). Blooms: Mar-June (CNPS 2021).	No potential to occur. Suitable habitat and appropriate soils are not present in the project area vicinity.	N/A
<i>Hesperolinon breweri</i> Brewer's western flax	--/--/1B.2	Usually serpentine, in chaparral, cismontane woodland, and valley and foothill grasslands. Elevation: 98-2,953 feet (30-900 meters). Blooms: May-July (CNPS 2021).	No potential to occur. Suitable habitat and appropriate soils are not present in the project area vicinity.	N/A

Table 3-4-1. Potentially Occurring Special Status Species

Species ¹	Fed/ State/ CRPR Status ²	General Habitat	Potential to Occur in the Project Area ³	Type of Suitable Habitat within the Project Area
<i>Hibiscus lasiocarpus</i> var. <i>occidentalis</i> woolly rose-mallow	--/--/1B.2	Freshwater marshes and swamps. Elevation: 0-394 feet (0- 120 meters). Blooms: June-Sept (CNPS 2021).	Could occur. Suitable habitat is present within the project area. Wetlands, including drainage inlets, provide suitable habitat for this species. Several occurrences of this species are within 1 mile of the project sites (CDFW 2021a).	Ditch
<i>Isocoma arguta</i> Carquinez goldenbush	--/--/1B.1	Alkaline valley and foothill grassland. Elevation: 3-66 feet (1-20 meters). Blooms: Aug-Dec (CNPS 2021).	No potential to occur. Suitable habitat and appropriate soils are not present in the project area vicinity.	N/A
<i>Juglans hindsii</i> Northern California black walnut	--/--/1B.1	Riparian forest/ woodland. Elevation: 0-1,444 feet (0-440 meters). Blooms: Apr-May (CNPS 2021).	No potential to occur. Suitable habitat and appropriate soils are not present in the project area vicinity.	N/A
<i>Lasthenia conjugens</i> Contra Costa goldfields	FE/--/1B.1	Mesic areas in vernal pools, cismontane woodland, alkaline playas, and valley and foothill grasslands. Elevation: 0-1,542 feet (0-470 meters). Blooms: Mar-June (CNPS 2021).	No potential to occur. Suitable habitat and appropriate soils are not present in the project area vicinity.	N/A; No DCH within project area
<i>Lathyrus jepsonii</i> var. <i>jepsonii</i> Delta tule pea	--/--/1B.1	Freshwater and brackish marshes and swamps. Elevation: 0-13 feet (0-4 meters). Blooms: May-Sept (CNPS 2021).	Could occur. Suitable habitat is present within the project area. Wetlands, including drainage inlets, provide suitable habitat for this species. Several occurrences of this species are within 1 mile of the project sites (CDFW 2021a).	Ditch

Table 3-4-1. Potentially Occurring Special Status Species

Species ¹	Fed/ State/ CRPR Status ²	General Habitat	Potential to Occur in the Project Area ³	Type of Suitable Habitat within the Project Area
<i>Lilaeopsis masonii</i> Mason's lilaeopsis	--/SR/1B.1	Riparian scrub, and brackish or freshwater marshes and swamps. Elevation: 3-33 feet (0-10 meters). Blooms: Apr-Nov (CNPS 2021).	Could occur. Suitable habitat is present within the project area. Wetlands, including drainage inlets, provide suitable habitat for this species. Several occurrences of this species are within 1 mile of the project sites (CDFW 2021a).	Ditch
<i>Limosella australis</i> Delta mudwort	--/--/2B.1	Usually mud banks in riparian scrub, and freshwater or brackish marshes and swamps. Elevation: 0-10 feet (0-3 meters). Blooms: May-Aug (CNPS 2021).	Could occur. Suitable habitat is present within the project area. Wetlands, including drainage inlets, provide suitable habitat for this species. Several occurrences of this species are within 1 mile of the project sites (CDFW 2021a).	Ditch
<i>Madia radiata</i> showy golden madia	--/--/1B.1	Cismontane woodland, and valley and foothill grasslands. Elevation: 82-3,986 feet (25-1,215 meters). Blooms: Mar-May (CNPS 2021).	No potential to occur. Suitable habitat is not present in the project area vicinity. Project area outside of typical elevation.	N/A
<i>Malacothamnus hallii</i> Hall's bush-mallow	--/--/1B.2	Chaparral and coastal scrub. Elevation: 33-2,493 feet (10- 760 meters). Blooms: (Apr) May-Oct (CNPS 2021).	No potential to occur. Suitable habitat is not present in the project area vicinity. Project area outside of typical elevation.	N/A
<i>Navarretia leucocephala ssp. bakeri</i> Baker's navarretia	--/--/1B.1	Mesic areas in cismontane woodland, lower montane coniferous forest, meadows and seeps, valley and foothill grassland, and vernal pools. Elevation: 16-5,709 feet (5-1,740 meters). Blooms: Apr-July (CNPS 2021).	No potential to occur. Suitable habitat is not present in the project area vicinity. Project area outside of typical elevation.	N/A

Table 3-4-1. Potentially Occurring Special Status Species

Species ¹	Fed/ State/ CRPR Status ²	General Habitat	Potential to Occur in the Project Area ³	Type of Suitable Habitat within the Project Area
<i>Navarretia nigelliformis</i> ssp. <i>radians</i> shining navarretia	--/--/1B.2	Sometimes clay in cismontane woodland, vernal pools, and valley and foothill grassland. Elevation: 249- 3,281 feet (76-1,000 meters). Blooms: (Mar) Apr-July (CNPS 2021).	No potential to occur. Suitable habitat is not present in the project area vicinity. Project area outside of typical elevation.	N/A
<i>Neostapfia colusana</i> Colusa grass	FT/SE/1B.1	Large, adobe vernal pools. Elevation: 16-656 feet (5- 200 meters). Blooms: May- Aug (CNPS 2021).	No potential to occur. Suitable habitat and appropriate soils are not present in the project area vicinity.	N/A; No DCH within project area
<i>Oenothera deltoides</i> ssp. <i>howellii</i> Antioch Dunes evening-primrose	FE/SE/1B.1	Inland dunes. Elevation: 0- 98 feet (0-30 meters). Blooms: Mar- Sept (CNPS 2021).	No potential to occur. Suitable habitat is not present in the project area vicinity.	N/A; No DCH within project area
<i>Plagiobothrys hystriculus</i> bearded popcornflower	--/--/1B.1	Often in vernal swales in vernal pool margins and mesic valley and foothill grasslands. Elevation: 0- 899 feet (0-274 meters). Blooms: Apr-May (CNPS 2021).	No potential to occur. Suitable habitat is not present in the project area vicinity.	N/A
<i>Potamogeton zosteriformis</i> eel-grass pondweed	--/--/2B.2	Assorted freshwater marshes and swamps. Elevation: 0- 6,102 feet (0- 1,860 meters). Blooms: June-July (CNPS 2021).	Could occur. Suitable habitat is present within the project area. Wetlands, including drainage inlets, provide suitable habitat for this species. An occurrence of this species is within 1 mile of the project sites (CDFW 2021a).	Ditch
<i>Sagittaria sanfordii</i> Sanford's arrowhead	--/--/1B.2	Assorted shallow freshwater marshes and swamps. Elevation: 0-2,133 feet (0-650 meters). Blooms: May-Oct (CNPS 2021).	Could occur. Suitable habitat is present within the project area. Wetlands, including drainage inlets, provide suitable habitat for this species.	Ditch

Table 3-4-1. Potentially Occurring Special Status Species

Species ¹	Fed/ State/ CRPR Status ²	General Habitat	Potential to Occur in the Project Area ³	Type of Suitable Habitat within the Project Area
<i>Scutellaria galericulata</i> marsh skullcap	--/--/2B.2	Marshes, swamps, mesic meadows, and seeps. Elevation: 0-1,640 feet (0-500 meters). Blooms: (June) July-Sept (CNPS 2021).	Could occur. Suitable habitat is present within the project area. Wetlands, including drainage inlets, provide suitable habitat for this species. An occurrence of this species is within 2 miles of the project sites (CDFW 2021a).	Ditch
<i>Scutellaria lateriflora</i> side-flowering skullcap	--/--/2B.2	Brackish and freshwater marshes and swamps. Elevation: 0-10 feet (0-3 meters). Blooms: (May) Jul-Nov (CNPS 2021).	Could occur. Suitable habitat is present within the project area. Wetlands, including drainage inlets, provide suitable habitat for this species. Several occurrences of this species are within 1 mile of the project sites (CDFW 2021a).	Ditch
<i>Senecio aphanactis</i> chaparral ragwort	--/--/2B.2	Sometimes alkaline in chaparral, cismontane woodland, and coastal scrub. Elevation: 49-2,625 feet (15-800 meters). Blooms: Jan-Apr (May) (CNPS 2021).	No potential to occur. Suitable habitat is not present in the project area vicinity. Project area outside of typical elevation.	N/A
<i>Sidalcea keckii</i> Keck's checkerbloom	FE/--/1B.1	Serpentine and clay soils in cismontane woodland and valley and foothill grasslands. Elevation: 246-2,133 feet (75-650 meters). Blooms: Apr-June (CNPS 2021).	No potential to occur. Suitable habitat is not present in the project area vicinity. Project area outside of typical elevation.	N/A; No DCH within project area

Table 3-4-1. Potentially Occurring Special Status Species

Species ¹	Fed/ State/ CRPR Status ²	General Habitat	Potential to Occur in the Project Area ³	Type of Suitable Habitat within the Project Area
<i>Symphyotrichum lentum</i> Suisun Marsh aster	--/--/1B.2	Brackish and freshwater marshes and swamps. Elevation: 0-10 feet (0-3 meters). Blooms: (Apr) May-Nov (CNPS 2021).	Could occur. Suitable habitat is present within the project area. Wetlands, including drainage inlets, provide suitable habitat for this species.. Several occurrences of this species are within 1 mile of the project sites (CDFW 2021a).	Ditch
<i>Tropidocarpum capparideum</i> caper-fruited tropolocarpum	--/--/1B.1	Alkaline hills in valley and foothill grassland. Elevation: 3-1,493 feet (1- 455 meters). Blooms: Mar- Apr (CNPS 2021).	No potential to occur. Suitable habitat is not present in the project area vicinity.	N/A
<i>Viburnum ellipticum</i> Oval-leaved viburnum	--/--/2B.3	Found in chaparral, cismontane woodland, lower montane coniferous forest. Elevation: 705 – 4595 feet (215 – 1400 meters). Blooms: May- June.	No potential to occur. Suitable habitat is not present in the project area vicinity.	N/A
Invertebrates				
<i>Apodemia mormo langei</i> Lange's metalmark butterfly	FE/--/--	Limited to dense to moderately dense patches of food plant, wild buckwheat, in stabilized sand dunes.	Unlikely to occur in the project area. Historically restricted to sand dunes along the south bank of the Sacramento and San Joaquin rivers and is currently found only at the Antioch Dunes in Contra Costa County.	N/A; No DCH within project area
<i>Bombus crotchii</i> Crotch bumble bee	--/SC/--	Select food plant genera: <i>Antirrhinum</i> , <i>Phacelia</i> , <i>Clarkia</i> , <i>Dendromecon</i> , <i>Eschscholzia</i> , <i>Eriogonum</i> . Exclusive to coastal California east towards the Sierra-Cascade Crest; less common in western Nevada	No potential to occur. Suitable habitat is not present in the project area vicinity.	N/A

Table 3-4-1. Potentially Occurring Special Status Species

Species ¹	Fed/ State/ CRPR Status ²	General Habitat	Potential to Occur in the Project Area ³	Type of Suitable Habitat within the Project Area
<i>Bombus occidentalis</i> Western bumble bee	--/SC/--	Select food plant genera: <i>Melilotus</i> , <i>Cirsium</i> , <i>Trifolium</i> , <i>Centaurea</i> , <i>Chrysothamnus</i> , <i>Eriogonum</i> . Historically from the Pacific coast to the Colorado Rocky Mountains; severe population decline west of the Sierra Cascade Crest, but populations are known from the Great Basin, the Rocky Mountains and Alaska	No potential to occur. Suitable habitat is not present in the project area vicinity.	N/A
<i>Branchinecta conservatio</i> conservancy fairy shrimp	FE/--/--	Found in ephemeral freshwater habitats, including alkaline pools, clay flats, vernal pools, vernal lakes, vernal swales, and other types of seasonal wetlands.	No potential to occur in the project area. Suitable habitat is not present in the project area vicinity.	N/A; No DCH within project area.
<i>Branchinecta lynchi</i> vernal pool fairy shrimp	FT/--/--	Found in ephemeral freshwater habitats, including alkaline pools, clay flats, vernal pools, vernal lakes, vernal swales, and other types of seasonal wetlands.	No potential to occur in the project area. Suitable habitat is not present in the project area vicinity.	N/A; No DCH within project area.
<i>Callophrys mossii bayensis</i> San Bruno elfin butterfly	FE/--/--	Inhabits rocky outcrops and cliffs in coastal scrub on the San Francisco peninsula.	No potential to occur in the project area. Suitable habitat is not present in the project area vicinity.	N/A; No DCH within project area.
<i>Desmocerus californicus dimorphus</i> valley elderberry longhorn beetle	FT/--/--	Breeds and forages exclusively on elderberry shrubs (<i>Sambucus</i> sp.) with stems at least 1 inch in diameter at ground level, typically associated with riparian forests, riparian woodlands, elderberry savannas, and other Central Valley habitats. Occurs only in the Central Valley and adjacent foothills of California.	No potential to occur in the project area. Habitat for this species (elderberry shrubs) is not present within the project area or within 165 feet of the project footprints.	N/A; No DCH within project area.

Table 3-4-1. Potentially Occurring Special Status Species

Species ¹	Fed/ State/ CRPR Status ²	General Habitat	Potential to Occur in the Project Area ³	Type of Suitable Habitat within the Project Area
<i>Elaphrus viridis</i> Delta green ground beetle	FT/--/--	Prefers the sandy mud substrate where it slopes gently into the water, with low-growing vegetation, 25-100% cover. Sparsely vegetated edges of vernal lakes and pools; occurs up to 250 feet from pools.	No potential to occur in the project area. No occurrences in project area. Suitable habitat is not present in the project area vicinity. Restricted to Olcott Lake and other vernal pools at Jepson Prairie Preserve, Solano County.	N/A; No DCH within project area.
<i>Lepidurus packardii</i> vernal pool tadpole shrimp	FE/--/--	Found in ephemeral freshwater habitats, including alkaline pools, clay flats, vernal pools, vernal lakes, vernal swales, and other types of seasonal wetlands, which range in size from small, clear, well-vegetated vernal pools to highly turbid, alkali scald pools to large winter lakes.	No potential to occur in the project area. Suitable habitat is not present in the project area vicinity.	N/A; No DCH within project area.
Amphibians				
<i>Ambystoma californiense</i> California tiger salamander (central population)	FT/ST/--	Annual grassland and grassy understory of valley-foothill hardwood habitats in central and northern California. Needs underground refuges and vernal pools or other seasonal water sources.	Unlikely to occur in the project area. Species not known to occur on delta islands. Project does not align with species range.	N/A; No DCH within project area.
<i>Rana draytonii</i> California red- legged frog	FT/SSC/--	Breeds in slow moving streams, ponds, and marshes with emergent vegetation; forages in nearby uplands within about 200 feet. Extant records in the Sierra Nevada range are over 800 feet. Below this elevation, aquatic habitat supports stronger populations of non-native predators associated with warm water habitats such as bullfrogs and Centrarchid fish. Believed extirpated from the floor of the Central Valley prior to the 1960s.	Unlikely to occur in the project area. The project area occurs outside of the known extant geographic range for this species.	N/A; No DCH within project area.

Table 3-4-1. Potentially Occurring Special Status Species

Species ¹	Fed/ State/ CRPR Status ²	General Habitat	Potential to Occur in the Project Area ³	Type of Suitable Habitat within the Project Area
<i>Spea hammondi</i> western spadefoot	--/SSC/--	Lowlands to foothills, grasslands, open chaparral, pine-oak woodlands. It prefers shortgrass plains, sandy or gravelly soil (e.g., alkali flats, washes, alluvial fans). It is fossorial and breeds in temporary rain pools and slow-moving streams (e.g., areas flooded by intermittent streams).	Unlikely to occur in the project area. The project area occurs outside of the known extant geographic range for this species.	N/A; No DCH within project area.
Reptiles				
<i>Actinemys marmorata</i> western pond turtle	--/SSC/--	Ponds, marshes, rivers, streams, and irrigation ditches with aquatic vegetation. Requires basking sites and suitable upland habitat for egg-laying. Nest sites most often characterized as having gentle slopes (<15%) with little vegetation or sandy banks.	Likely to occur in the project area. Suitable habitat is present throughout the project area, except for the active agricultural fields. Several occurrences of this species are within 1 mile of the project sites (CDFW 2021a).	Ditch Nonnative annual grassland
<i>Anniella pulchra</i> northern California legless lizard	--/SCC/--	Occurs in moist warm loose soil with plant cover within sparsely vegetated areas of beach dunes, chaparral, pine-oak woodlands, desert scrub, sandy washes, and shaded stream terraces. Occurs from the southern edge of the San Joaquin River in northern Contra Costa County south to the Ventura County.	No potential to occur in the project area. Suitable habitat is not present in the project area vicinity.	N/A
<i>Arizona elegans occidentalis</i> California glossy snake	--/SCC/--	Inhabits arid scrub, rocky washes, grasslands, chaparral, preferring open areas and areas with soil loose enough for easy burrowing. Occurs from the eastern part of the San Francisco Bay Area south to northwestern Baja California.	No potential to occur in the project area. Suitable habitat is not present in the project area vicinity.	N/A

Table 3-4-1. Potentially Occurring Special Status Species

Species ¹	Fed/ State/ CRPR Status ²	General Habitat	Potential to Occur in the Project Area ³	Type of Suitable Habitat within the Project Area
<i>Thamnophis gigas</i> giant garter snake	FT/ST/--	Found primarily in marshes, sloughs, drainage canals, and irrigation ditches, especially around rice fields and occasionally in slow-moving creeks in California's interior.	Likely to occur in the project area. Suitable habitat is present within the project area. An occurrence of this species is within 5 miles of the project sites (CDFW 2021a).	Ditch Nonnative annual grassland
Fish				
<i>Hypomesus transpacificus</i> Delta smelt	FTSE/--	Semi-anadromous. Typically restricted to the Delta and the lower Sacramento River downstream of Isleton; juveniles move downstream with the currents (USFWS 1996; Sommer et al. 2001; Moyle 2002). In September or October, Delta smelt begin a migration back into freshwater areas where spawning is thought to occur; spawning is believed to occur from late January–late June or early July.	No potential to occur in the project area. Suitable habitat is not present in the project area vicinity.	N/A; No DCH within the project area.
<i>Spirinchus thaleichthys</i> Longfin smelt	FC/ST/--	Anadromous. Live primarily in bays, estuaries, and nearshore coastal areas. Habitat includes waterways upstream from Rio Vista and downstream through Suisun Bay and Suisun Marsh. Adult migration to upstream spawning areas occurs January–March. Waters in the proposed project area have the potential to be used by this species during migration and spawning.	No potential to occur in the project area. Suitable habitat is not present in the project area vicinity.	N/A

Table 3-4-1. Potentially Occurring Special Status Species

Species ¹	Fed/ State/ CRPR Status ²	General Habitat	Potential to Occur in the Project Area ³	Type of Suitable Habitat within the Project Area
<i>Oncorhynchus mykiss</i> Central Valley steelhead DPS	FT/--/--	Anadromous. Requires cold freshwater streams with suitable gravel for spawning; rears seasonally in inundated floodplains, rivers, tributaries, and the Delta. Adult migration to upstream spawning areas occurs July–March (Hallock 1987). After spending 1–3 years in fresh water, smolt outmigration occurs in December–August (McEwan 2001). The waters adjacent to the proposed project area, provide potential migration routes through the Delta, but do not provide quality spawning habitat because they lack the needed fresh, flowing, shallow water habitat and gravel necessary to support spawning.	No potential to occur in the project area. Suitable habitat is not present in the project area vicinity.	N/A; No DCH within project area.
<i>Oncorhynchus tshawytscha</i> Central Valley spring-run Chinook salmon ESU ⁴	FT/--/--	Anadromous. Requires cold freshwater streams with suitable gravel for spawning; rears seasonally in inundated floodplains, rivers, tributaries, and the Delta. Historically spawned in the San Joaquin River upstream from the town of Friant from late August–October (Clark 1943). Adults migrate upstream in March–September (Yoshiyama et al. 1998). Smolt outmigration occurs following the onset of the winter storm season through March (CDFG 1998; Fisher 1994; S. P. Cramer and Associates 1995; Hill and Webber 1999).	No potential to occur in the project area. Suitable habitat is not present in the project area vicinity.	N/A; No DCH within project area.

Table 3-4-1. Potentially Occurring Special Status Species

Species ¹	Fed/ State/ CRPR Status ²	General Habitat	Potential to Occur in the Project Area ³	Type of Suitable Habitat within the Project Area
<i>Pogonichthys acrolepidotus</i> Sacramento splittail	--/SSC/--	Endemic to the Sacramento and San Joaquin Rivers, Delta, and San Francisco Bay (SJRRP 2011). Adults move upstream in late November–late January, foraging in flooded areas along the main rivers, bypasses, and tidal freshwater marsh areas before spawning (Moyle et al. 2004). Juveniles move downstream in response to flow pulses into shallow, productive bay and estuarine waters from April–August (Meng and Moyle 1995, Moyle 2002).	No potential to occur in the project area. Suitable habitat is not present in the project area vicinity.	N/A
<i>Archoplites interruptus</i> Sacramento perch	--/SSC/--	Inhabits sluggish rivers, sloughs, and lakes with beds of submerged and emergent vegetation. Spawning is triggered when water temperatures reach 18-28 degrees Celsius, generally from the end of March–October.	No potential to occur in the project area. Suitable habitat is not present in the project area vicinity.	N/A
Birds				
<i>Agelaius tricolor</i> tricolored blackbird	--/SC/--	Largely endemic to California, most numerous in the Central Valley and nearby vicinity. Typically requires open water, protected nesting substrate, and foraging grounds within vicinity of the nesting colony. Nests in dense thickets of cattails, tules, willow, blackberry, wild rose, and other tall herbs near fresh water. Also nests in agricultural crops (e.g., silage), where colonies are threatened during harvest.	Could occur in the project area. Some suitable foraging is within the project area, and additional suitable foraging and nesting habitat are adjacent to the project area.	Nonnative annual grassland Active agriculture
<i>Athene cunicularia</i> burrowing owl	--/SSC/--	Found in open grasslands with low vegetation, golf courses, and disturbed/ruderal habitat in urban areas.	Likely to occur in the project area. Suitable habitat is present within the project area.	Nonnative annual grassland

Table 3-4-1. Potentially Occurring Special Status Species

Species ¹	Fed/ State/ CRPR Status ²	General Habitat	Potential to Occur in the Project Area ³	Type of Suitable Habitat within the Project Area
<i>Buteo swainsonii</i> Swainson's hawk	--/ST/--	Forages in open and agricultural fields and nests in mature trees usually in riparian corridors.	Likely to occur in the project area. Suitable habitat is present within the project area. Several occurrences of this species are within 1 mile of the project sites (CDFW 2021a).	Foraging: Nonnative annual grassland Active agriculture Nesting: Mature trees in the vicinity of aquatic waterways
<i>Charadrius montanus</i> mountain plover	--/SSC/--	Frequents open plains with low, herbaceous, or scattered shrub vegetation below 3,200 feet (1,000 meters) (CDFW 2021b).	Unlikely to occur in the project area. Suitable habitat is not present within the project area.	N/A
<i>Coccyzus americanus occidentalis</i> Western yellow-billed cuckoo	FT/SE/--	Uses a variety of riparian habitat. Cottonwood and willow trees are an important foraging habitat. Require large blocks of riparian habitat for nesting.	Unlikely to occur in the project area. Suitable habitat is not present within the project area.	N/A
<i>Elanus leucurus</i> white-tailed kite	--/SFP/--	Forages in open grasslands and agricultural fields and marshes. Nests in scattered mature trees within foraging habitat.	Likely to occur in the project area. Suitable habitat is present within the project area. An occurrence of this species is within 5 miles of the project sites (CDFW 2021a).	Foraging: Nonnative annual grassland Active agriculture Nesting: Mature trees near aquatic waterways
<i>Falco peregrinus anatum</i> American peregrine falcon	FDL/SDL; SFP/--	Breeds mostly in woodland, forest, and coastal habitats, near wetlands, lakes, rivers or other water on high cliffs, banks, dunes, or mounds. Will nest of human-made structures, tree or snag cavities, or old nests of other raptors (CDFW 2021b).	Unlikely to occur in the project area. Suitable habitat is not present within the project area.	N/A

Table 3-4-1. Potentially Occurring Special Status Species

Species ¹	Fed/ State/ CRPR Status ²	General Habitat	Potential to Occur in the Project Area ³	Type of Suitable Habitat within the Project Area
<i>Geothlypis trichas sinuosa</i> saltmarsh common yellowthroat	--/SSC/--	Breeds and winters in wet meadow, fresh emergent wetland, and saline emergent wetland habitats. Also breeds in valley foothill riparian, occasionally in desert riparian, annual grassland, and perennial grassland habitats.	Unlikely to occur in the project area. Project area is outside of species breeding range (Shuford and Gardali 2008).	N/A
<i>Laterallus jamaicensis coturniculus</i> California black rail	--/ST; SFP/--	Yearlong resident of saline, brackish, and fresh emergent wetlands (CDFW 2021b).	Could occur. Small patches of emergent vegetation occur along ditch edges and several occurrences of this species are within 1 mile of the project sites (CDFW 2021a).	Ditch
<i>Melospiza melodia</i> song sparrow ("Modesto" population)	--/SCC/--	Breeds and winters in riparian, fresh or saline emergent wetland, and wet meadows. Breeds in riparian thickets of willows, other shrubs, vines, tall herbs, and fresh or saline emergent vegetation (CDFW 2021b).	Unlikely to occur. Although several occurrences of this species are within 1 mile of the project sites (CDFW 2021a), suitable habitat is not present in the project area.	N/A
<i>Melospiza melodia maxillaris</i> Suisun song sparrow	--/SCC/--	Occurs year-round in tidal salt and brackish marshes from the Suisun Bay to Antioch. Requires medium density vegetation for nesting, perching, and protection. Exposed open ground is needed for foraging (Shuford and Gardali 2008).	Unlikely to occur. Suitable habitat not present. Small patches of emergent vegetation occur along slough edges, however, not large enough to support species.	N/A
<i>Rallus longirostris obsoletus</i> California clapper rail	FE/SE; SFP/--	Occur almost exclusively in tidal and brackish marshes with unrestricted daily tidal flows, well developed tidal channel networks, and suitable nesting and escape cover providing refugia during extreme high tides (USFWS 2013).	Unlikely to occur in the project area. Suitable habitat is not present within the project area.	N/A; No DCH within project area.

Table 3-4-1. Potentially Occurring Special Status Species

Species ¹	Fed/ State/ CRPR Status ²	General Habitat	Potential to Occur in the Project Area ³	Type of Suitable Habitat within the Project Area
<i>Riparia riparia</i> bank swallow	--/ST/--	Riparian areas with sandy, vertical bluffs or riverbanks. Also nest in earthen banks and bluffs, as well as sand and gravel pits (CDFW 2021b).	No potential to occur in the project area. Project does not align with species range.	N/A
Mammals				
<i>Lasiurus blossevillei</i> western red bat	--/SCC/--	Roosting habitat includes forests and woodlands, often in edge habitats adjacent to streams or fields (CDFW 2021b).	Unlikely to occur. Suitable habitat is not present.	N/A
<i>Reithrodontomys raviventris</i> salt-marsh harvest mouse	FE/SE; SFP/--	Restricted to saline or subsaline marsh habitats around the San Francisco Bay Area and mixed saline/brackish areas in the Suisun Bay area (USFWS 2013).	Unlikely to occur. Suitable habitat is not present.	N/A; No DCH within project area.

Notes: CNDDB = California Natural Diversity Database; CRPR = California Rare Plant Rank; DCH = designated critical habitat; DPS = distinct population segment; EFH = Essential Fish Habitat; ESU = evolutionary significant unit; N/A = not applicable

1 – Species that are **bolded** may occur (i.e., could occur, are likely to occur, or are known to occur) within the project area.

2 – Legal Status Definitions:

Federal

FC – Species identified as a candidate species for listing as threatened or endangered under the Federal Endangered Species Act.

FDL – Species delisted from the Federal Endangered Species Act.

FE – Species listed as Endangered under the Federal Endangered Species Act.

FT – Species listed as Threatened under the Federal Endangered Species Act.

SSC – Species listed as Species of Special Concern by the National Marine Fisheries Service.

-- – No listing under the Federal Endangered Species Act.

State

SC – Species identified as a candidate species for listing as threatened or endangered under the California Endangered Species Act.

SDL – Species delisted from the California Endangered Species Act.

SE – Species listed as Endangered under the California Endangered Species Act.

SFP – Species listed as Fully Protected under the California Fish and Game Code.

SSC – Species listed as Species of Special Concern by the California Department of Fish and Wildlife.

ST – Species listed as Threatened under the California Endangered Species Act.

-- – No listing under the California Endangered Species Act.

CRPR / California Rare Plant Rank

1B – Plant species considered Rare, Threatened, or Endangered in California and elsewhere.

2B – Plant species considered Rare or Endangered in California but more common elsewhere.

-- – No California Rare Plant Rank listing or not applicable.

California Rare Plant Rank Extensions:

.1 – Seriously threatened in California (greater than 80 percent of occurrences are threatened and/or have a high degree and immediacy of threat).

.2 – Moderately threatened in California (20 to 80 percent of occurrences are threatened and/or have a moderate degree and immediacy of threat).

3 – Potential for Occurrence Definitions:

No potential to occur: Suitable habitat is not present in the project area and/or the project area is not within the historical or current range of the species.

Unlikely to occur: Potential habitat present, but species unlikely to be present in the project area because of current status of the species, a very restricted distribution, and/or essential habitat components are not present.

Could occur: Suitable habitat is available in the project area; however, few or no other indicators show that the species may be present.

Likely to occur: Habitat conditions, behavior of the species, known occurrences in the project area, or other factors indicate a relatively high likelihood that the species would occur in the project area.

Table 3-4-1. Potentially Occurring Special Status Species

Species ¹	Fed/ State/ CRPR Status ²	General Habitat	Potential to Occur in the Project Area ³	Type of Suitable Habitat within the Project Area
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Known to occur: The species, or evidence of its presence, was observed in the project area during reconnaissance-level surveys or was reported by others.

4 – Spring-run Chinook salmon are currently being reintroduced to the San Joaquin River basin as part of the San Joaquin River Restoration Program. The reintroduced population is designated as a 10(j) non-essential experimental population under the Federal Endangered Species Act. As such, the species is not provided additional protections unless within National Parks or Refuges; thus, the experimental population is not provided additional protections within the proposed project area. The reintroduced non-essential experimental population has a higher likelihood of presence than the endangered Central Valley population as the proposed project occurs in the portion of the Delta more closely associated with the San Joaquin River drainage.

Sources: CDFW 2021a, 2021b; CNPS 2021; USFWS 2021a, 2021b; data collected and compiled by GEI Consultants Inc. in 2021

Special-status plants. The proposed project has the potential to adversely affect several special-status plant species (see **Table 3.4-1**). Many of these species could occur in the tidal open waters and sloughs adjacent to the project site and some may also occur within the ditches where project work would occur. Construction activities could result in the removal of plants serving as habitat. Therefore, the proposed project could result in impacts to special-status plant species in upland and aquatic habitats if present within the work zone. While land adjacent to the work zone would be restored to pre-project conditions, project-related activities in the bank and soft bottom of the project site could result in temporary, and potentially permanent, adverse effects through direct loss of individuals and habitat modifications to special-status plant species if present. Therefore, this would be a **potentially significant impact**. The following mitigation measures have been identified to address this impact.

Mitigation Measure BIO-1: Monitor Construction and Provide Worker Environmental Awareness Training.

A qualified biologist(s) shall monitor construction activities that could potentially cause significant impacts to sensitive biological resources. In addition, BIMID shall retain a qualified biologist to conduct mandatory contractor/worker awareness training for construction personnel. The awareness training would be provided to all construction personnel to brief them on the identified location of sensitive biological resources, including how to identify species (visual and auditory) most likely to be present, the need to avoid impacts to biological resources (e.g., plants, wildlife, and jurisdictional waters), and the penalties for not complying with biological mitigation requirements. All construction personnel will also receive training on relevant special-status species. If new construction personnel are added to the project, the contractor shall ensure that they receive the mandatory training before starting work.

Timing: Before and during construction.

Responsibility: BIMID

Mitigation Measure BIO-2: Conduct Focused Surveys for Special-Status Plants and Provide Compensatory Mitigation.

Prior to any construction activities, focused surveys shall be conducted to determine if special-status plants occur within the project footprint and/or temporary construction zone.

Surveys shall be conducted in accordance with CDFW (2009) *Protocols for Surveying and Evaluating Impacts to Special-Status Native Plant Populations and Natural Communities*. These guidelines require rare plant surveys to be conducted at the proper time of year when rare or endangered species are both “evident” and identifiable. Surveys shall be scheduled to coincide with known blooming periods, and/or during periods of physiological development that are necessary to identify the plant species of concern.

If no state- or federally listed or CNPS List 1 or CNPS List 2 plant species (special-status plant species) are found in or adjacent to (within 100 feet) proposed construction areas, no further mitigation is required. If any special-status plant species are found in or adjacent to (within 100 feet) proposed impact areas during the surveys, these plant species shall be avoided to the greatest extent possible. Any special-status plant species that are identified adjacent to the Project site, but not proposed to be disturbed by the Project, shall be protected by barrier fencing to ensure that construction activities and material stockpiles do not impact any special-status plant species. These avoidance areas shall be identified on Project plans.

If Project-related impacts would result in the loss of greater than 10 percent of occupied habitat for a special-status plant species, compensatory mitigation shall be required for all impacts that exceed the 10 percent threshold. For example, if 18 percent of occupied habitat would be impacted, compensatory mitigation shall only be required for the 8 percent that exceeds the 10 percent threshold. Compensatory mitigation for permanent impacts to special-status plant species shall include the preservation of occupied habitat at a 1:1 ratio (i.e., 1 acre preserved for each acre impacted). Compensation for temporary impacts shall include the preservation of occupied habitat at a 0.5:1 ratio. Preservation areas may include undisturbed areas of the site that would be preserved and managed in perpetuity, off-site mitigation lands, or a combination of both. The preserved habitat shall be of equal or greater habitat quality to the areas impacted in terms of soil features, extent of disturbance, and vegetation structure, and contain extant populations of the same or greater size as the area impacted.

A report of special-status plants observed during focused surveys, as well as avoidance, minimization, and mitigation measures to be implemented, shall be prepared, and submitted to BIMID, CDFW, and USFWS (as appropriate).

Timing: Before construction.

Responsibility: BIMID

Implementation of Mitigation Measure BIO-1 and BIO-2 would reduce this impact to **less-than-significant** by providing workers with environmental awareness training to increase awareness about sensitive biological resources and special-status species in the vicinity of the proposed project area and implement compliance monitoring during construction to avoid and minimize impacts on these resources, and conduct focused surveys, identify areas to avoid during construction, and mitigate for unavoidable impacts.

Special-status reptiles. Special-status reptiles with the potential to occur onsite include western pond turtle and giant garter snake. The drainage inlets, in particular, have the potential to provide

suitable aquatic habitat for both western pond turtle and giant garter snake. Giant garter snake has not been observed on Bethel Island; this special-status reptile has been seen on Jersey Island across from Taylor Slough. If present, both species would use adjacent upland habitat for nesting, basking, and cover. Upland habitat for these species, including nonnative annual grassland and fallow agriculture land within 200 feet of aquatic habitat, which is present on the Project site. Therefore, construction activities at the proposed Project site could result in temporary substantial adverse effects, either directly or through habitat modifications, to these special-status reptile species. This would be a **potentially significant impact**. The following mitigation measures have been identified to address this impact.

Mitigation Measure BIO-1: Monitor Construction and Provide Worker Environmental Awareness Training.

Please see above for a full description of Mitigation Measure BIO-1.

Timing: Before and during construction.

Responsibility: BIMID

Mitigation Measure BIO-3: Conduct Pre-construction Surveys for Western Pond Turtle and Implement Avoidance and Minimization Measures.

A preconstruction survey for western pond turtle shall be conducted by a qualified biologist within 24 hours prior to the onset of construction activities. The survey area shall include a 100-foot buffer of the area to be affected. If a western pond turtle is found within the survey area, a qualified biologist, under consultation with the CDFW, shall move the individual 500 feet downstream to suitable habitat. If a turtle nest is found within the survey area, construction activities should not take place within 100 feet buffer of the nest until the egg have hatched and young have emerged and moved out of the Project area. The 100-foot buffer would be marked with stakes and flagging.

In the event a turtle is found during construction activities, construction activities shall stop within 100 feet of the turtle until the turtle leaves the immediate construction area on its own or a qualified biologist, under consultation with the CDFW, relocates the turtle to a suitable aquatic site 500 feet away and downstream from Project activities.

Timing: During construction.

Responsibility: Bethel Island Municipal Improvement District

Mitigation Measure BIO-4: Conduct Surveys for Giant Garter Snake and Implement Avoidance and Minimization Measures.

A survey shall be conducted by a qualified biologist for the giant garter snake within the Project area 24 hours prior to the onset of levee improvements and any time activities are halted for more than two weeks thereafter.

During Project development, the work area shall be reduced to the smallest footprint feasible in sensitive habitat areas.

Work shall coincide with the giant garter snake's active season (May 1– October 1).

If work in the flowing portion of the affected water body is unavoidable, a qualified biologist shall survey the Project area for the giant garter snake every morning prior to construction activities that occur in the flowing portion of the water body.

Prior to initiation of construction activities within jurisdictional features, BMPs shall be employed on-site to prevent degradation to on-site and off-site waters of the United States. Methods shall include the use of appropriate measures to intercept and capture sediment prior to entering jurisdictional features, as well as erosion control measures along the perimeter of all work areas to prevent the displacement of fill material. All BMPs shall be in place prior to initiation of any construction activities and shall remain until construction activities are completed. All erosion control methods shall be maintained until all on-site soils are stabilized.

All exposed/disturbed areas and access points left barren of vegetation as a result of construction activities with exception of ditch itself shall be restored using locally native grass seeds, locally native grass plugs, and/or a mix of quick-growing sterile non- native grass with locally native grass seeds. Seeded areas shall be covered with broadcast straw.

Tightly woven erosion control matting (mesh size less than 0.25 inch) or similar material shall be used for erosion control and other purposes at the Project site to ensure that giant garter snakes do not become trapped or entangled by the erosion control material. The edge of the material shall be buried in the ground to prevent giant garter snakes from crawling underneath the material. The use of plastic, monofilament, jute, or similar erosion control netting with mesh sizes larger than 0.25 inch that could entangle snakes at the Project site shall be prohibited.

During all phases of construction, snake exclusionary fencing shall be installed near the temporary construction zone boundary. The exclusionary fencing shall be maintained by the construction contractor during all phases of construction. Any breaches in the fencing shall be fixed within a 24-hour period.

If a giant garter snake is encountered in the Project work area, all construction activities shall cease until appropriate corrective measures have been completed and the snake moves out of the construction area on its own. Any giant garter snake observed shall be immediately reported to the USFWS and the CDFW.

Vehicles driven on or near the levees in the Project area shall maintain a 15 mile per hour speed limit, and drivers shall be informed to watch for snakes and avoid running them over.

Timing: During construction.

Responsibility: Bethel Island Municipal Improvement District

Implementation of Mitigation Measure BIO-1, BIO-3, and BIO-4 would reduce this impact to **less-than-significant** by providing workers with environmental awareness training to increase awareness about sensitive biological resources and special-status species in the vicinity of the proposed project area and implement compliance monitoring during construction to avoid and minimize impacts on these resources, conducting preconstruction surveys and implement measures to avoid and minimize impacts to this western pond turtle and giant garter snakes.

Special-status birds. Five special-status bird species have potential to occur in the Project vicinity: burrowing owl (*Athene cunicularia*), Swainson's hawk (*Buteo swainsoni*), white-tailed kite (*Elanus leucurus*), tricolored blackbird (*Agelaius tricolor*), and California black rail (*Laterallus jamaicensis*). Suitable foraging habitat, including annual grasslands and agricultural fields, for tricolored blackbird, Swainson's hawk, and white-tailed kite is present along the Project site. Project implementation could result in the temporary disturbance of foraging habitat caused by noise and human activity. Since these effects would be temporary, and relatively small compared to the large amount of adjacent foraging habitat that is of comparable quality, these effects are expected to minimal and, therefore, project impacts would be less-than-significant.

There were no signs of burrowing owls found during reconnaissance-level surveys, however, suitable habitat was present in the form of open, upland areas of fallow agricultural fields supporting ground squirrel populations. Project implementation could result in the loss of this species through destruction of active nesting sites and/or incidental burial of adults, young, and eggs, should they be present. Additionally, habitats on and adjacent to the Project site may provide suitable nesting habitat for special-status birds and raptors, including tricolored blackbird, Swainson's hawk, white-tailed kite, and California black rail (see **Table 3.4-1**). In addition, other raptors and migratory birds protected under the Migratory Bird Treaty Act and Section 3503.5 of the California Fish and Game Code may nest on the project site, however, this is unlikely due to the absence of suitable trees (i.e., not tall enough or occurring in dense patches). However, removal of vegetation and/or trees during construction activities could result in noise, dust, human disturbance, and other direct/indirect impacts to nesting birds on or near the project site, if nesting does occur within the project vicinity. Potential nest abandonment and mortality to individuals would be considered a **potentially significant** impact. The following mitigation measures have been identified to address this impact.

Mitigation Measure BIO-1: Monitor Construction and Provide Worker Environmental Awareness Training.

Please see above for a full description of Mitigation Measure BIO-1.

Timing: Before and during construction.

Responsibility: BIMID

Mitigation Measure BIO-5: Conduct Pre-Construction Surveys for Burrowing Owl and Implement Avoidance and Minimization Measures.

For any clearing and construction activities that occur during the nesting period for burrowing owls (February 1–August 31), BIMID shall retain a qualified biologist to conduct preconstruction surveys in accordance with the current CDFW guidance (2012) Staff Report on Burrowing Owl Mitigation. Surveys shall be conducted within 14 days prior to ground-breaking activities and shall be repeated if Project activities are suspended or delayed for more than 14 days during nesting season.

If no burrowing owls are detected, no further mitigation is required. If active burrowing owl nest sites are detected, BIMID shall implement the avoidance, minimization, and mitigation methodologies outlined in the CDFW’s Staff Report on Burrowing Owl Mitigation prior to initiating Project-related activities that may impact burrowing owls.

Timing: Prior to ground-breaking activities.

Responsibility: Bethel Island Municipal Improvement District

Mitigation Measure BIO-6: Conduct Pre-construction Surveys for Active Raptor and Migratory Bird Nests and Implement Avoidance and Minimization Measures.

For any clearing and/or construction activities that occur during the nesting season (February 15–August 15), surveys to identify active raptor and migratory bird nests, including ground-nesting birds, shall be conducted by a qualified biologist within 14 days of construction initiation.

If active migratory bird nest sites are identified within 200 feet of Project activities, BIMID shall impose an exclusionary buffer for all active nest sites prior to commencement of any Project construction activities to avoid construction- or access-related disturbances to migratory bird nesting activities. An exclusionary buffer constitutes an area where Project-related activities (i.e., vegetation removal, earth moving, construction, Project staging) would not occur and would be imposed within 100 feet of any active nest sites until the nest is deemed inactive by a qualified biologist. Activities permitted within and the size (i.e., 100 feet) of the exclusionary buffer may be adjusted through consultation with the CDFW.

If active raptor nests are identified within 1,320 feet of Project activities, a 1,320-foot initial temporary nest disturbance buffer shall be established. If project-related activities within the temporary raptor nest disturbance buffer are determined to be necessary during the nesting season, an on-site biologist/monitor experienced with raptor behavior shall be retained by the BIMID to monitor the nest, and BIMID shall consult with the CDFW to determine the best course of action necessary to avoid nest abandonment or take of individuals. Work may only be allowed to proceed within the temporary nest disturbance buffer if raptors are not exhibiting agitated behavior such as defensive flights at intruders, getting up from a brooding position, or flying off the nest, and only with the agreement of

the CDFW. Based on the behavior observed, the buffer may be reduced if the birds are tolerant of construction activities. The designated on-site biologist/monitor shall be on-site daily while construction-related activities are taking place within the above quarter-mile buffer and shall have the authority to stop work if raptors are exhibiting agitated behavior.

Timing: Before construction.

Responsibility: Bethel Island Municipal Improvement District

Implementation of Mitigation Measure BIO-1, BIO-5, and BIO-6 would reduce this impact to **less-than-significant** by providing workers with environmental awareness training to increase awareness about sensitive biological resources and special-status species in the vicinity of the proposed project area and implement compliance monitoring during construction to avoid and minimize impacts on these resources, and conducting preconstruction surveys and implement measures to avoid and minimize impacts to this species including burrowing owls and special-status birds.

All impacts to species identified as a candidate, sensitive, or special-status species would be **less-than-significant impact with mitigation incorporated**.

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

Sensitive natural communities include those that are of special concern to resource agencies, such as the CDFW or USFWS, or are afforded specific consideration through CEQA and Section 1602 of the California Fish and Game Code. Sensitive habitats include (a) areas of special concern to resource agencies; (b) areas protected under CEQA; (c) areas designated as sensitive natural communities by the CDFW; (d) areas outlined in Section 1600 of the California Fish and Game Code; and (e) areas protected under local regulations and policies. The following habitat types are considered sensitive natural communities: willow scrub, and coastal and valley freshwater marsh – which may occur along the margins of the ditches. **Table 3.4-2** shows the acreage of different vegetation types identified within the Project Area that could be impacted by the proposed project. The proposed Project is anticipated to result in temporary impacts to willow scrub, and ditch features along the drainage alignment from project-related construction activities. This impact is considered **potentially significant**. The following mitigation measure has been identified to address this impact.

Mitigation Measure BIO-7: Compensate for Loss of Riparian Habitats and Sensitive Habitat Communities.

For every acre of riparian habitat and sensitive habitat communities permanently affected by the proposed Project, BIMID shall replace the affected acreage at a minimum 2:1 ratio, or another approved ratio as determined by CDFW. Mitigation would be achieved through

on-site creation or enhancement. Mitigation as required in regulatory permits issued through the CDFW may be applied to satisfy this measure.

Timing: Before construction.

Responsibility: Bethel Island Municipal Improvement District

Table 3.4-2. Vegetation Types within the Project Area

Vegetation Type	Acreage
Annual Grasses and Forbs	0.92
Annual Grasses and Forbs, Nonnative/Ornamental Grasses	0.28
Fremont Cottonwood	0.19
Nonnative/Ornamental Hardwood	0.22
Riparian Mixed Hardwood	1.42
Riparian Mixed Shrub	0.29
Tule – Cattail	0.06
Urban	1.55
Wet Meadows	0.33
Wet Meadows, Nonnative/Ornamental Grass	0.19
Willow – Shrub	0.03

Source: CDFW 2016

Implementation of Mitigation Measure BIO-7 would reduce this impact to less-than-significant by adhering to permit conditions and, if appropriate, compensate for loss of riparian habitat. Additionally, no critical habitat for federally listed terrestrial plant and wildlife species has been designated within the project area. The proposed project would not impact critical habitat or Essential Fish Habitat. Therefore, the proposed Project would have a **less-than-significant impact with mitigation incorporated**.

#4 -c. Have a substantial adverse effect on state- or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

Federally protected wetlands and waters, under the jurisdiction of the U.S. Army Corps of Engineers (USACE), are afforded specific consideration through Section 404 of the Federal Clean Water Act and the Porter-Cologne Act. The ditches along the drainage alignment may be subject to USACE jurisdiction.

A wetland delineation of the project site would be conducted prior to construction of the proposed project and would be contingent on an approved jurisdictional determination for the USACE. Additionally, all federal and state regulations regarding Waters of the U.S. would be compiled with.

The ditches could be impacted temporarily during construction activities along the drainage alignment. This would be a **potentially significant** impact. The following mitigation measure has been identified to address this impact.

Mitigation Measure BIO-8: Compensate for Loss of Federally Protected Wetlands and Waters.

For every acre of federally protected waters permanently affected by the proposed Project, BIMID shall replace the affected acreage at a minimum 2:1 ratio, or another approved ratio as determined by the USACE. Mitigation would be achieved through on-site creation or enhancement. Mitigation as required in regulatory permits issued through the USACE or the Central Valley Regional Water Quality Control Board may be applied to satisfy this measure.

Timing: Before construction.

Responsibility: Bethel Island Municipal Improvement District

Implementation of Mitigation Measure BIO-8 would reduce this impact to less-than-significant by adhering to permit conditions and, if appropriate, compensating for loss of Federally protected wetlands and waters. Therefore, the proposed Project would have a **less-than-significant impact with mitigation incorporated**.

#4 -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?

The proposed project would occur with a 3-week period between April and September 2022 when water levels are low or non-existent. The project would not interfere with the movement of any migratory fish as the project would not include any in-water work. Implementation of proposed project would result in temporary disturbance of wildlife movement during the 3-weeks when the project would be constructed. However, construction activities would be limited to daytime hours, which would allow for overnight animal movement along the drainage alignment, when most movement of terrestrial wildlife typically occurs. Additionally, Taylor Road is subject to light vehicular use, therefore, wildlife is likely to make detours through the adjacent grasslands. Post-implementation, wildlife movements are anticipated to resume as normal. Therefore, this impact on terrestrial wildlife would be **less than significant**.

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

The proposed project would not conflict with any county ordinances protecting fishery resources in Contra Costa County. The Project would require the trimming or removal of several trees to facilitate construction activities. Costa County Ordinance No. 816-6.6004 "Protected Trees" includes a list of indigenous trees, which includes California black walnut (*Juglans hindsii*), and states that no person shall trench, grade, or fill within the dripline of any protected tree or cut down, destroy, trim by topping or remove any protected tree on private property within the County

without a tree permit. This applies to all protected trees that are adjacent to or part of a riparian, foothill woodland or oak savanna area, or part of a stand of four or more trees, measures twenty inches or larger in circumference (approximately 6.5 inches in diameter) as measured four and one-half feet from ground level. However, routine pruning is considered an exception and would not require a tree permit. If any protected trees meeting the above description would be impacted by the proposed Project, BIMID would obtain a tree permit from the County and would follow all measures outlined in the permit. Thus, the proposed project would have **less-than-significant** impact.

#4 -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?

The *East Contra Costa County Habitat Conservation Plan/Natural Community Conservation Plan* includes a small portion of Bethel Island but does not include the project area. The goal of this plan is to provide an opportunity to preserve diverse ecosystems, unique species, and scenic landscapes while clearing regulatory obstacles to continued economic development and growth. The project site falls within the study area of the Bay-Delta Conservation Plan, which is designed to promote recovery of species of special concern and their habitats and protect and restore water supplies. The proposed project is designed to improve levee stability along with creating habitat for special status aquatic species. These activities are consistent with the habitat conservation plan and the Bay-Delta Conservation Plan goals and objectives. Thus, the proposed project would have **no impact**.

3.5 Cultural Resources

#5. CULTURAL RESOURCES. Would the Project:

#5 -a. Cause a substantial adverse change in the significance of a historical resource pursuant to California Code of Regulations (CCR) Section 15064.5?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? Yes.	Have Less-than-Significant Impact? No.	Have No Impact? No.	Have Beneficial Impact? No.
#5 -b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to CCR Section 15064.5?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? Yes.	Have Less-than-Significant Impact? No.	Have No Impact? No.	Have Beneficial Impact? No.
#5 -c. Disturb any human remains, including remains interred outside of dedicated cemeteries?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? Yes.	Have Less-than-Significant Impact? No.	Have No Impact? No.	Have Beneficial Impact? No.

3.5.1 Environmental Setting

Cultural resources are defined as buildings, sites, structures, or objects, each of which may have historic, architectural, archaeological, cultural, or scientific importance.

Methods

The cultural resources investigations carried out for the proposed Project included a records search at the Northwest Information Center (NWIC), archival research, Native American consultation conducted by Reclamation, and archaeological and built environment field surveys of the Project area.

Record Search

GEI archaeologist, Amy Wolpert, Masters of Art (MA), conducted a records search on July 2, 2021, at the NWIC of the California Historical Resources Information System, covering a broad study area that encompassed the Project site with a quarter-mile buffer (NWIC file number: 21-0010). The search consisted of an electronic search of the NWIC's Geographic Information Systems containing reported resources and previous investigations organized by base U.S. Geological Survey (USGS) 7.5' quadrangle maps. The records search at the NWIC identified previous studies in the Project area and one archaeological resource within a quarter mile. The studies performed within the Project area were conducted between 1974 and 2007.

Field Surveys

GEI archaeologists Amy Wolpert, MA, completed a pedestrian survey on July 22, 2021. The survey was conducted to intensive standards utilizing actual transects spaced no more than 5 meters apart. Much of the Project site consists largely of heavy vegetation, and private property fence lines. Visibility was very poor along the Project area, with tall, thick blackberry brambles, and grasses obscuring visibility; in these areas any signs of rodent activity were especially examined as were small patches clear of vegetation. Areas near, or around, culverts consist of pavement, concrete, or landscaping by nearby property owners. A Trimble 7 Series Global Positioning System (GPS) unit capable of sub-meter accuracy was carried to record the location of resources, in the event that any sites or isolated finds were identified during the survey. Hard copy maps were used in conjunction with mobile device GPS maps to ensure adequate coverage of the Project area. A half mile segment of the Project area could not be accessed. This area sits between private property owners farm and agricultural lands. No archaeological resources were observed during the pedestrian survey. Two historic era (45 years old or older) built environment resources were in the Project area: a set of pump stations and Taylor Road Ditch.

3.5.2 Discussion

a, b) Cause a substantial adverse change in the significance of a historical resource pursuant to in CCR Section 15064.5? Cause a substantial adverse change in the significance of an archaeological resource pursuant to CCR Section 15064.5?

Under CEQA, public agencies must consider the effects of their actions on “historical resources.” CEQA defines an “historical resource” as any resource listed in or determined to be eligible for listing in the California Register of Historical Resources (CRHR). The CRHR includes resources listed in or formally determined eligible for listing in the NRHP, as well as some California Historical Landmarks and Points of Historical Interest. Properties of local significance that have been designated under a local preservation ordinance (local landmarks or landmark districts) or that have been identified in a local historical resources inventory may be eligible for listing in the CRHR and are presumed to be significant resources for purposes of CEQA unless a preponderance of evidence indicates otherwise (California PRC Section 5024.1, 14 CCR Section 4850). The eligibility criteria for listing in the CRHR are like those for NRHP listing but focus on importance of the resources to California history and heritage.

A cultural resource may be eligible for listing in the CRHR if it:

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

In addition to meeting one or more of the above criteria, resources eligible for listing in the CRHR must retain enough of their historic character or appearance to be recognizable as historical resources and to convey the reasons for their significance. Integrity is evaluated regarding the retention of location, design, setting, materials, workmanship, feeling, and association (OHP 1999).

Impacts would be deemed significant if there is substantial adverse change by means of physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of the resource would be materially impaired. Per Section 15064.5 (b)(2) of the CEQA Guidelines the significance of a historical resource is materially impaired when a Project:

- Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the CRHR; or
- Demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources pursuant to section 5020.1(k) of the Public Resources Code or its identification in an historical resources survey meeting the requirements of section 5024.1(g) of the Public Resources Code, unless the public agency reviewing the effects of the Project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or
- Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its eligibility for inclusion in the CRHR as determined by a lead agency for the purposes of CEQA.

No previously recorded sites are present within the Project site, one previously recorded archaeological resource is present within a quarter mile of the Project site, and no archaeological resources were discovered during the pedestrian survey. Two historic era-built environment resources are present along the Project site (the set of pump stations and Taylor Road Ditch). The primary pump station is an elevated steel-frame structure with metal stairs accessing a wooden and metal enclosure. The secondary pump is a wooden platform with metal railing. The ditch is earthen and filled with overgrown vegetation. Based on research, the resources appear to date to the early to mid-20th century and are part of the flood control infrastructure built for Bethel Island (USGS Rio Vista 1915; UC Santa Barbara 1965). Although the resources play an important role in local flood management, they do not appear to meet the CRHR because of a lack of historical significance. They are also not considered historical resources for the purposes of CEQA.

Given the presence of nearby cultural resources, there is a possibility that a resource meeting CRHR significance may be discovered during Project-related ground-disturbing activities. If this were to occur, then it would be a **potentially significant** impact. The following mitigation measures have been identified to address this impact.

Mitigation Measure CR-1: Address Previously Undiscovered Historic Properties, Archaeological Resources, and Tribal Cultural Resources.

If cultural resources are identified during Project-related ground-disturbing activities, all potentially destructive work in the immediate vicinity of the find should cease immediately and the District should be notified. In the event of an inadvertent discovery, additional CEQA review might be necessary to determine a properties' eligibility for listing in the CRHR and any actions that would be necessary to avoid adverse effects. A qualified archaeologist should assess the significance of the find, make a preliminary determination, and if appropriate, provide recommendations for treatment. Any treatment plan should be reviewed by the District prior to implementation. Ground-disturbing activities should not resume near the find until treatment, if any is recommended, is complete or if the qualified archaeologist determines the find is not significant.

Timing: Before construction.

Responsibility: Bethel Island Municipal Improvement District

Implementing Mitigation Measure CR-1 would reduce this impact to less-than-significant by assessing any undiscovered historic properties, archaeological resources, and tribal cultural resources by an archaeologist and the treatment or investigation would be conducted in accordance with CEQA and its implementing guidelines. Therefore, the proposed Project would have a **less-than-significant impact with mitigation incorporated**.

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

There is no indication from the records searches or pedestrian survey that human remains are present within the Project site. However, human remains have been found at a cultural resource located within a quarter mile of the Project. If human remains, including those interred outside of formal cemeteries and including associated items and materials, are discovered during subsurface activities, the human remains, and associated items and materials could be inadvertently damaged. Therefore, a **potentially significant impact** would occur. The following mitigation measure has been identified to address this impact:

Mitigation Measure CR-2: Avoid Potential Effects on Undiscovered Burials.

If human remains are found, the contractor will notify BIMID immediately. The California Health and Safety Code requires that excavation be halted in the immediate area and that the county coroner be notified to determine the nature of the remains. The county coroner is required to examine all discoveries of human remains within 48 hours of receiving notice of a discovery on private or state lands (Health and Safety Code, Section 7050.5[b]). If the county coroner determines that the remains are those of a Native American, the county coroner must contact the Native American Heritage Commission (NAHC) by telephone within 24 hours of making that determination (Health and Safety Code, Section 7050.5[c]).

Once notified by the county coroner, the NAHC shall identify the person determined to be the Most Likely Descendant (MLD) of the Native American

remains. With permission of the legal landowner(s), the MLD may visit the site and make recommendations regarding the treatment and disposition of the human remains and any associated grave goods. This visit should be conducted within 24 hours of the MLD's notification by the NAHC (Public Resources Code [PRC], Section 5097.98[a]). If a satisfactory agreement for treatment of the remains cannot be reached, any of the parties may request mediation by the NAHC (PRC, Section 5097.94[k]). Should mediation fail, the landowner or the landowner's representative must reinter the remains and associated items with appropriate dignity on the property in a location not subject to further subsurface disturbance (PRC, Section 5097.98[b]).

Timing: Before construction.

Responsibility: Bethel Island Municipal Improvement District

Implementing Mitigation Measure CR-2 would reduce this impact to less-than-significant by assessing any undiscovered burials by an archaeologist and treated or investigated in accordance with state and federal laws. Therefore, the proposed Project would have a **less-than-significant impact with mitigation incorporated**.

3.6 Energy

#6. ENERGY. Would the Project:

#6 -a. Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during Project construction or operation?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? <u>Yes.</u>	Have No Impact? No.	Have Beneficial Impact? No.
#6 -b. Conflict with or obstruct a State or local plan for renewable energy or energy efficiency?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? <u>Yes.</u>	Have Beneficial Impact? No.

3.6.1 Environmental Setting

Electricity and natural gas are supplied to Contra Costa County by Pacific Gas and Electric (PG&E) (Contra Costa County 2005). Most of the residences in Contra Costa County are served by MCE, a non-profit clean energy provider. In 2019, the total electricity consumption for Contra Costa County was approximately 9,639 million kilowatts per hour (kWh) (CEC 2019).

3.6.2 Discussion

#6 -a. Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during Project construction or operation?

The proposed Project would not result in significant environmental impacts due to wasteful, inefficient, or unnecessary consumption of energy resources. The project does not include structures that would generate vehicle trips on a permanent basis so use of fossil fuel is nominal. The proposed Project would involve the use of trucks and diesel-fueled construction equipment while clean up and rehabilitation of the drainage is taking place. However, use of these vehicles would be short-term and temporary in nature, ceasing fuel consumption once the project is complete. Additionally, limitations on idling of equipment would be implementation as part of the Project, as stated in Mitigation Measure AQ-1 “B.A.A.Q.M.D. Basic Construction Mitigation,” which would reduce fuel consumption in addition to reducing the amount of emissions generated.

The addition of a 15 HP pump planned for installation at the secondary pumping station is intended as a backup unit to increase pumping reliability during storm events. This pump would not be in continuous operation and would only be operated when the primary pump is down. The addition of one 15 HP pump would not significantly increase energy consumption because it would operate rarely. Therefore, impacts would be **less-than-significant**.

#6 -b. Conflict with or obstruct a State or local plan for renewable energy or energy efficiency?

Contra Costa County adopted a Climate Action Plan in December 2015 (Contra Costa 2015a), which outlines goals to increase energy efficiency and renewable energy within the County. The Project would not affect the forecasted inventory of emissions, nor would it reduce the targets of the Climate Action Plan. Additionally, the new pump that would be installed as part of the Project would meet the latest energy efficient standards. The Project would not conflict with or obstruct a State or local plan for renewable energy or energy efficiency. There would be **no impact**.

3.7 Geology and Soils

#7. GEOLOGY AND SOILS. Would the Project:

#7 -a. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? <u>Yes.</u>	Have No Impact? No.	Have Beneficial Impact? No.
#7 -a. i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? (Refer to California Geological Survey Special Publication 42.)	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? <u>Yes.</u>	Have No Impact? No.	Have Beneficial Impact? No.
#7 -a. ii. Strong seismic ground shaking?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? <u>Yes.</u>	Have No Impact? No.	Have Beneficial Impact? No.
#7 -a. iii. Seismic-related ground failure, including liquefaction?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? <u>Yes.</u>	Have No Impact? No.	Have Beneficial Impact? No.
#7 -a. iv. Landslides?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? <u>Yes.</u>	Have Beneficial Impact? No.
#7 -b. Result in substantial soil erosion or the loss of topsoil?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? <u>Yes.</u>	Have Less-than-Significant Impact? No.	Have No Impact? No.	Have Beneficial Impact? No.

#7. GEOLOGY AND SOILS. Would the Project:

#7 -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?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? <u>Yes.</u>	Have Less-than-Significant Impact? No.	Have No Impact? No.	Have Beneficial Impact? No.
#7 -d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994, as updated),), creating substantial direct or indirect risks to life or property?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? <u>Yes.</u>	Have Less-than-Significant Impact? No.	Have No Impact? No.	Have Beneficial Impact? No.
#7 -e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? <u>Yes.</u>	Have Beneficial Impact? No.
#7 -f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? <u>Yes.</u>	Have Less-than-Significant Impact? No.	Have No Impact? No.	Have Beneficial Impact? No.

3.7.1 Environmental Setting

The Project alignment is located on the following soil types: Piper loamy sand, partially drained 0 to 2 percent slopes; Rindge muck, 0 to 2 percent slopes, partially drained, Major Land Resource Area (MLRA) 16; and Shima muck, partially drained, 0 to 2 percent slopes MLRA 16 (NRCS 2021). The following inactive Quaternary faults are located within the vicinity of the project site: the Midland fault is located approximately 0.5-mile east of the project site, the Rio Vista fault is located approximately 4 miles northwest of the project site, and the Davis fault is located approximately 4 miles southwest from the project site. (CGS 2015a). There are no Alquist-Priolo fault zones located within the Project site (CGS 2021).

3.7.2 Discussion

#7 -a. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

#7 -a i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area

or based on other substantial evidence of a known fault? (Refer to California Geological Survey Special Publication 42.)

The Project site is not located within an Alquist-Priolo Earthquake fault zone. Surface fault rupture is most likely to occur on active faults (i.e., faults showing evidence of displacement within the last 11,700 years). Damage from surface fault rupture is generally limited to a linear zone a few yards wide. Since the proposed Project is not located on an active fault line and is at least 11 miles away from an active fault line, impacts would be **less-than-significant**.

#7 -a. ii and iii. Strong seismic ground shaking, Seismic-related ground failure

The Project site is located near the San Francisco Bay Area, which is one of the most seismically active regions in the United States and has a high ground shaking hazard potential (CGS 2015a and 2021). However, the Project does not involve the development of any habitable structures nor introduce a new drainage ditch in an area where one did not previously exist. Project design and related construction activity would comply with California Uniform Building Code (UBC) which addresses risks associated with geotechnical and seismic issues; Chapter 18 of the California UBC regulates excavation and geotechnical considerations, and Appendix J addresses grading, excavation, fill, drainage, and erosion control considerations.

The Project is located within a soils with liquefaction potential, although there is no documentation of historical surface liquefaction or paleoseismic liquefaction occurrences in the Jersey Island Quadrangle (CGS 2021). The purpose of the project is to alleviate deficiencies in the existing drainage system. Additionally, the project does not involve introduction of habitable structures, therefore, the project would not expose people or structures to a substantial adverse effect, including risk of loss, injury, or death involving seismic-related ground failure (CGS 2015a). This impact would be **less-than-significant**.

#7 -a. iv. Landslides?

The Project site is in a topographically flat area and is not subject to threat from landslides. Additionally, the California Geologic Survey (CGS) does not identify the Project site locations as susceptible to landslides (CGS 2015a). Therefore, this impact would be **no impact**.

#7 -b, c, and d. Result in substantial soil erosion or the loss of topsoil? 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? Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994, as updated), creating substantial direct or indirect risks to life or property?

The project does not involve construction of occupied structures and would not create a substantial risk to life or property from exposure to unstable soils, lateral spreading, liquefaction, or collapse. Project related activities have the potential to result in soil erosion or loss of topsoil during excavation of the bottom 1 foot of soil from the Taylor Road ditch. The soil types found along the project site consists of very deep, poorly drained soils with a moderate susceptibility to wind

or water driven erosion. Rainfall of sufficient intensity could dislodge particles from the soil surface. If particles are dislodged and the storm is large enough to generate runoff, sediment could be carried down the drainage system and pumped into the surrounding waters. Therefore, this impact would be **potentially significant**. The following mitigation measure has been identified to address this impact.

Mitigation Measure GEO-1: Implement a Stormwater Pollution Prevention Plan and Associated BMPs.

BIMID shall prepare and implement the appropriate Stormwater Pollution Prevention Plan (SWPPP), or Stormwater Management Plan (SWMP), as needed, to prevent and control pollution and to minimize and control runoff and erosion in compliance with State and local laws. The SWPPP or SWMP shall identify the activities that may cause pollutant discharge (including sediment) during storms or strong wind events, techniques to control pollutant discharge, and an erosion control plan. Regardless of the need for a SWPPP or SWMP, construction techniques and Best Management Practices (BMPs) will be identified and implemented, as appropriate to reduce the potential for runoff and exposure to hazardous materials.

Construction techniques will include minimizing site disturbance, controlling water flow over the construction site, stabilizing bare soil, and ensuring proper site cleanup. BMPs that specify erosion and sedimentation control measures to be implemented may include use of a turbidity and sedimentation control device (i.e., turbidity curtain or other similar device), silt fences, staked straw bales/wattles, silt/sediment basins and traps, geofabric, trench plugs, terraces, water bars, soil stabilizers, re-seeding with native species, and mulching to revegetate disturbed areas. If suitable vegetation cannot reasonably be expected to become established, non-erodible material will be used for such stabilization.

The SWPPP or SWMP shall also include a spill prevention, control, and countermeasure plan, and applicable hazardous materials business plans. The SWPPP or SWMP shall identify the types of materials used for equipment operation (including fuel and hydraulic fluids), measures to prevent hazardous material and waste spills, and materials available to clean up hazardous material and waste spills. The SWPPP or SWMP shall also identify emergency procedures for responding to spills. No refueling, storage, servicing, or maintenance of equipment shall take place on land within 100 feet of the ordinary high-water mark of Sutter Slough.

The SWPPP shall also include dust control practices to prevent wind erosion, sediment tracking, and dust generation by construction equipment, including during gravel processing. The BMPs presented in either document shall be clearly identified and maintained in good working condition throughout the construction process. The construction contractor shall retain a copy of the approved SWPPP or SWMP on the construction site and modify it as necessary to suit specific site conditions.

The District and all contractors will abide by regulations governing hazardous materials transport included in CCR Title 22, the California Vehicle Code (CCR Title 13), and the State Fire Marshal Regulations (CCR Title 19). Transport of hazardous materials can only be conducted under a registration issued by the California Department of Toxic Substances

Control. Construction contractors shall be required to use, store, and transport hazardous materials in compliance with Federal, State, and local regulations.

Timing: Before construction.

Responsibility: Bethel Island Municipal Improvement District

Implementing Mitigation Measure GEO-1 would minimize the potential impact from construction-related erosion because a SWPPP or SWMP and BMPs would be implemented to prevent and control pollution and minimize and control runoff and erosion. Topsoil may be stripped and stockpiled onsite for later reuse. Therefore, the proposed Project would have a **less-than-significant with mitigation incorporated**.

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

The Project would not require the use of septic tanks or alternative wastewater disposal systems. Temporary portable restrooms would likely be provided for construction workers. Therefore, there would be **no impact**.

#7 -f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

The Project is located on marine and non-marine sedimentary rock that consist of Pleistocene- to Holocene-aged alluvium, lake, playa, and terrace deposits (CGS 2015b). Since paleontological resources are found almost exclusively in sedimentary rock, there is a chance of discovering unknown paleontological resources within the Project sites. However, the Project site is located in an area disturbed by road construction, housing, and placement of a drainage ditch. Construction and ongoing maintenance activity make it highly unlikely that a previously undiscovered paleontological resources would be discovered. However, in the unlikely event that a paleontological resource was uncovered during construction this impact would be **potentially significant**. The following mitigation measure has been identified to address this impact.

Mitigation Measure GEO-2: Avoid Potential Effects on Paleontological Resources.

If a paleontological resource is uncovered during Project implementation, all ground-disturbing work within 165 feet (50 meters) of the discovery shall be halted. A qualified paleontologist shall inspect the discovery and determine whether further investigation is required. If the discovery can be avoided and no further impacts will occur, no further effort shall be required. If the resource cannot be avoided and may be subject to further impact, a qualified paleontologist shall evaluate the resource and determine whether it is “unique” under CEQA, Appendix G, part VII. The determination and associated plan for protection of the resource shall be provided to the District for review and approval. If the resource is determined not to be unique, work may commence in the area. If the resource is determined to be a unique paleontological resource, work shall remain halted, and the paleontologist

shall consult with the District staff regarding methods to ensure that no substantial adverse change would occur to the significance of the resource pursuant to CEQA. Preservation in place (i.e., avoidance) is the preferred method of mitigation for impacts to paleontological resources and shall be required unless there are other equally effective methods. Other methods may be used but must ensure that the fossils are recovered, prepared, identified, catalogued, and analyzed according to current professional standards under the direction of a qualified paleontologist. All recovered fossils shall be curated at an accredited and permanent scientific institution according to Society of Vertebrate Paleontology standard guidelines; typically, the Natural History Museum of Los Angeles County and University of California, Berkeley accept paleontological collections at no cost to the donor. Work may commence upon completion of treatment, as approved by the District.

Timing: During construction.

Responsibility: Bethel Island Municipal Improvement District

Implementing Mitigation Measure CR-1 would minimize the potential impact of destruction of paleontological resources or sites or unique geologic features from construction activities by halting construction activities if these resources are uncovered. Therefore, the proposed Project would have a **less-than-significant with mitigation incorporated**.

3.8 Greenhouse Gas Emissions

#8. GREENHOUSE GAS EMISSIONS. Would the Project:

#8 -a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? <u>Yes.</u>	Have No Impact? No.	Have Beneficial Impact? No.
#8 -b. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? <u>Yes.</u>	Have No Impact? No.	Have Beneficial Impact? No.

3.8.1 Environmental Setting

Contra Costa County adopted a Climate Action Plan in December 2015 (Contra Costa County 2015a). The Climate Action Plan demonstrates Contra Costa County's commitment to addressing the challenges of climate change by reducing local greenhouse gas emissions (GHG) emissions while improving community health. The Climate Action Plan is currently being updated and the revised plan is expected to be complete in late 2022.

3.8.2 Discussion

#8 -a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

The project would not introduce a new source of GHG emissions that would operate on a regular basis. GHG emissions would be temporarily emitted by equipment and vehicles operating during the approximately 3-week construction period, but all such emissions would cease upon completion of the project. Construction GHG emissions are a one-time release and are, therefore, not typically expected to generate a significant contribution to global climate change. Neither the County nor BAAQMD has an adopted threshold of significance for construction related GHG emissions and does not require quantification.

On an operational basis, the project would introduce a 15 hp pump at the secondary pump station, but this unit would be connected to the electrical grid and the utility provider is subject to the GHG emissions targets of the state. The pump would not rely on a standby diesel generator for electrical power. Moreover, the pump would operate infrequently, only during times when severe flooding requires additional capacity beyond that provided by the primary pump. For these reasons, this impact would be **less than significant**.

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

California has more than 10 Executive Orders directing state agencies to implement programs to reduce GHG emissions to meet 2030 target of 40 percent below 1990 levels (state of California, 2018). C.A.R.B. is the primary state agency responsible implementing GHG reduction programs. Additionally, Contra Costa County adopted a Climate Action Plan in December 2015 which outlines specific actions and policies which Contra Costa County can use to achieve necessary GHG reduction. The proposed Project would not introduce an occupied structure or industrial or manufacturing use that would generate emissions above those assumed in the growth projections of the County's Climate Action Plan. For this reason, the project would not conflict with any applicable plans, policies, or regulations adopted to reduce emissions of greenhouse gases. Therefore, this impact would be **less than significant**.

3.9 Hazards and Hazardous Materials

#9. HAZARDS AND HAZARDOUS MATERIALS. Would the Project:

#9 -a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? <u>Yes.</u>	Have Less-than-Significant Impact? No.	Have No Impact? No.	Have Beneficial Impact? No.
#9 -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?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? <u>Yes.</u>	Have Less-than-Significant Impact? No.	Have No Impact? No.	Have Beneficial Impact? No.
#9 -c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? <u>Yes.</u>	Have Beneficial Impact? No.
#9 -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?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? <u>Yes.</u>	Have Beneficial Impact? No.
#9 -e. For a Project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project result in a safety hazard or excessive noise for people residing or working in the Project area?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? <u>Yes.</u>	Have Beneficial Impact? No.
#9 -f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? <u>Yes.</u>	Have Beneficial Impact? No.

#9. HAZARDS AND HAZARDOUS MATERIALS. Would the Project:

#9 -g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? Yes.	Have Beneficial Impact? No.
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3.9.1 Environmental Setting

To identify the potential for exposure to hazardous materials along the project alignment federal, state, and local databases were reviewed to evaluate current and historic land uses and identify the presence of hazardous materials sites listed pursuant to Government Code 65962.5 (Cortese List). These sources include the GeoTracker database, a groundwater information management system that is maintained by the State Water Resources Control Board (SWRCB); the Hazardous Waste and Substances Site List (i.e., the EnviroStor database), maintained by the California Department of Toxic Substances Control (DTSC); and EPA's Superfund Site database (DTSC 2021a and 2021b, SWRCB 2021a and 2021b, CalEPA 2021). There were no active hazardous materials sites identified within 0.25 mile of the Project site. The Project site locations are not in an area identified as more likely to contain asbestos by the DOC (DOC 2000). This issue is not discussed further in this IS.

There are no schools within 0.25 mile of the Project site. The nearest school to the Project site is Delta Vista Middle School located approximately 3 miles southwest of the Project site.

3.9.2 Discussion

#9 -a, b. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials? 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?

The Project includes temporary construction activities and would not result in increased long-term use, transport, or disposal of hazardous materials. During the 13-day construction period, work crews would use lubricants and fuels that may be stored, transported, and used to operate and maintain construction vehicles and equipment, and this use would cease once the project is complete. Operation of the Project would not involve routine or long-term transport or disposal of such materials. No acutely hazardous materials would be used during construction or operation.

The transport and use of hazardous materials are strictly regulated by local, State, and Federal agencies to minimize adverse hazards from accidental release. EPA, the California Highway Patrol, California Department of Transportation (Caltrans), and DTSC implement and enforce State and Federal laws regarding hazardous material transportation. Contractors would be required to use, store, and dispose of any hazardous materials in accordance with all applicable regulations.

However, accidental spills could still occur and therefore the Project would have a **potentially significant** impact. The following mitigation measure has been identified to address this impact.

Mitigation Measure GEO-1: Prepare and Implement a Storm Water Pollution Prevention Plan and Associated BMPs.

Please refer to Mitigation Measure GEO-1 in Section 3.7, Geology and Soils, for the full text of this mitigation measure.

Implementing Mitigation Measure GEO-1 would reduce the potential impact from accidental spill of or exposure to hazardous materials during routine use, transport, or disposal because a SWPPP would be prepared and implemented. The SWPPP would include a spill prevention, control, and countermeasure plan, and would identify the types of materials used for equipment operation (including fuel and hydraulic fluids), along with measures to prevent and materials available to clean up hazardous material and waste spills. The SWPPP would also identify emergency procedures for responding to spills. Therefore, the proposed Project would have a **less-than-significant impact with mitigation incorporated**.

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

There are no schools within 0.25 mile of the Project site. There would be **no impact**.

#9 -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?

The project site is not identified on lists compiled pursuant to Government Code Section 65962.5. There would be **no impact**.

#9 -e. For a Project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project result in a safety hazard or excessive noise for people residing or working in the Project area?

The proposed Project is not located within the 2-miles of a public airport or public use airport. The nearest airport, the Rio Vista Municipal Airport, is located approximately 10 miles north of the Project site. Therefore, the proposed Project would not result in a safety hazard or excessive noise for people residing or working in the Project area. There would be **no impact**.

#9 -f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Contra Costa County adopted an Emergency Operations Plan in June of 2015 (Contra Costa County 2015b). The Emergency Operation Plan provides the basis for coordinated response before, during and after an emergency affects Contra Costa County. The Project would not affect emergency response or evacuation as the Project would not require any road closures and no new

facilitates would be construction as part of the proposed Project. Therefore, the Project would not interfere with traffic routes or response vehicle transport. There would be **no impact**.

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

The Project site is not located in a very high fire hazard severity zone (CALFIRE 2007a and CALFIRE 2007b). Construction activities would not expose people or structures to a significant risk of loss, injury, or death involving wildland fires. There would be **no impact**.

3.10 Hydrology and Water Quality

#10. HYDROLOGY AND WATER QUALITY. Would the Project:

#10 -a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? <u>Yes.</u>	Have Less-than-Significant Impact? No.	Have No Impact? No.	Have Beneficial Impact? No.
#10 -b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? <u>Yes.</u>	Have Beneficial Impact? No.
#10 -c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? <u>Yes.</u>	Have Beneficial Impact? No.
#10 -c. i. result in substantial erosion or siltation on- or off-site;	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? <u>Yes.</u>	Have Beneficial Impact? No.
#10 -c. ii. substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? <u>No</u>	Have Beneficial Impact? Yes
#10 -c. iii. create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? <u>Yes.</u>	Have Beneficial Impact? No.

#10. HYDROLOGY AND WATER QUALITY. Would the Project:

#10 -c. iv. impede or redirect flood flows?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? <u>Yes.</u>	Have Beneficial Impact? No.
#10 -d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to Project inundation?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? <u>No.</u>	Have Beneficial Impact? Yes.
#10 -e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? <u>Yes.</u>	Have No Impact? No.	Have Beneficial Impact? No.

3.10.1 Environmental Setting**Surface Water**

As stated in Section 1.2 “Background,” flood control infrastructure on Bethel Island consists of a network of pumps, drainage ditches and cross drainage facilities. The main drainage ditch conveys excess flows from the east side of the island to the main pumping plant where it is pumped past the protective levees and back into the Delta channels. Several cross-drainage ditches and pipe culverts are used to bring the flows from either side of the island into the main drainage. The whole island is below sea level; therefore, Taylor Slough exerts a constant pressure against the levee. Open ditches along roadways and along the levee on the North-West backside help collect seepage and convey it to the pump station.

The project site is located within a 100-year flood zone. The Project site is mapped as Zone AE; with base flood elevation of 9 feet on Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (map panel 06013C0170G: FEMA 2017). The project site is not located within a mapped dam inundation zone (DWR 2021a). The project is not located in a coastal area and is outside of a tsunami hazard zone. Additionally, there are no water bodies within the project site that appear on the 303(d) list as an impaired water, however, Taylor Slough, located approximately 0.10-mile from the project site appears on the 303(d) list as an impaired water (EPA 2020).

Ground Water

The Project site is in the San Joaquin Hydrologic Basin Planning Area, the San Joaquin Delta Hydrologic Unit, as designated by the Central Valley Regional Water Quality Control Board (RWQCB) (RWQCB 2018). In accordance with Clean Water Act Section 303, water quality standards for this basin are contained in the Water Quality Control Plan for the Sacramento River Basin and the San Joaquin River Basin. The project site locations are not within a Bulletin 118 designated groundwater basin or located within a groundwater basin designated as “High Priority” or “Critically Overdrafted” (DWR 2020b, DWR 2019).

3.10.2 Discussion

#10 -a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

The project has the potential to degrade water quality through soil disturbance during excavation and use of hazardous materials such as fuels or lubricants by heavy equipment at the site. Loose soil and hazardous material deposited on the ground as a result of spills or equipment leaks could potentially degrade water quality if it were to enter the drainage system from wind or runoff then pumped into receiving waters. This impact would be **potentially significant**. The following mitigation measure has been identified to address this impact.

Mitigation Measure GEO-1: Prepare and Implement a Storm Water Pollution Prevention Plan and Associated BMPs.

Please refer to Mitigation Measure GEO-1 in Section 3.7, Geology and Soils, for the full text of this mitigation measure.

Implementing Mitigation Measure GEO-1 would reduce the potentially significant impact from accidental spill of or exposure to hazardous materials during routine use, transport, or disposal to a less-than-significant level. A SWPPP identifying the best management practices to be used on the work site would be prepared and implemented. The SWPPP would include a spill prevention, control, and countermeasure plan, and would identify the types of materials used for equipment operation (including fuel and hydraulic fluids), along with measures to prevent and materials available to clean up hazardous material and waste spills. The SWPPP would also identify emergency procedures for responding to spills. Therefore, the proposed Project would have a **less-than-significant impact with mitigation incorporated**.

#10 -b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin?

The proposed Project involves debris and vegetation removal to ensure the desired dimensions of the drainage along Taylor Road is maintained, upgrades to the secondary pump station, and clearing blocked inlets along the drainage alignment. These improvements would not use groundwater as a supply nor does the project introduce pavement where none presently exists so

it would not interfere with regional groundwater recharge. Therefore, the project would have **no impact**.

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

#10 -i, ii, iii, and iv) Result in substantial erosion or siltation on- or off-site; Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite; Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or impede or redirect flood flows?

The Project would not alter the drainage pattern of the island, nor would it increase the rate of surface water runoff since no new above ground structures are proposed. The purpose of the Project is to alleviate flooding along Taylor Road by rehabilitating an existing storm drain network and return it to a fully functional drainage system that alleviates flooding during storm events. Therefore, the Project would have **no impact**.

#10 -d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to Project inundation?

The Project site is located within a FEMA special flood hazard area within a 100-year flood hazard area. The project site is designated as Zone AE; with base flood elevation of 9 feet. The proposed Project would increase the capacity to convey stormwater through the Taylor Road drainage system primarily by removing vegetation and debris that has reduced the channels capacity to convey stormwater. Flood modeling conducted on behalf of the district indicates that implementation of the project would alleviate flooding near existing residential uses (GEI 2021). The proposed Project would decrease the risk of exposure to people or structures from such an event, and reduce the risk of release of pollutants due to Project inundation. Therefore, impacts are **beneficial**.

#10 -e.Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Please refer to the discussion above under (a), (b), and (c). The Project would not conflict or obstruct implementation of a water quality control plan or sustainable groundwater management plan. Therefore, the impact is **less-than-significant**.

3.11 Land Use and Planning

#11. LAND USE AND PLANNING. Would the Project:

#11 -a. Physically divide an established community?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? <u>Yes.</u>	Have Beneficial Impact? No.
#11 -b. Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? <u>Yes.</u>	Have Beneficial Impact? No.

3.11.1 Environmental Setting

The Project site is zoned as General Agriculture (A-2) and Water Recreation (F-1) with a Flood Hazard Combining District (FH) overlay (Contra Costa County 2017). The project would take place within the existing drainage easement along Taylor Road and within private property located adjacent to Taylor Road where a temporary construction easement is necessary. Land uses along the project alignment include single family homes along Taylor Road, agricultural land within the island interior, and commercial uses along Bethel Island Road.

3.11.2 Discussion

#11 -a and b. Physically divide an established the community, and cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

The Taylor Road ditch is part of the backbone flood protection system serving Bethel Island. The Project would increase capacity of the system and reduce the risk from flooding consistent with the flood hazard goals and policies of the Contra Costa General Plan safety element. Project improvements would all be to existing facilities and would not physically divide an established community. There are no adopted Habitat Conservation Plans (HCPs), Natural Community Conservation Planning (NCCPs), other local, regional, or state habitat conservation plans within the Project site or vicinity, see Section 3.11 “Biological Resources”. There would be **no impact**.

3.12 Mineral Resources

#12. MINERAL RESOURCES. Would the Project:

#12 -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?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? Yes.	Have Beneficial Impact? No.
#12 -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?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? Yes.	Have Beneficial Impact? No.

3.12.1 Environmental Setting

The Project site is located within a Surface Mining and Reclamation Act of 1975 (S.M.A.R.A.) study area for aggregate materials in the San Francisco – Monterey Bay Area production-consumption region (DOC 1987). Based on information provided in the General Plan, the Project site is not located within a Mineral Resource Area (Contra Costa County 2005).

3.12.2 Discussion

#12 -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?

The Project site is in a S.M.A.R.A. study area and though unlikely, has the potential to contain mineral resources. The project would rehabilitate and upgrade existing flood control facilities within the existing right of way and would not reduce access to surrounding land once the project has ceased. The Project site is not located in areas of known significant mineral deposits and implementation of the project would not limit access to surrounding land. The project would not reduce the availability of a known mineral resource nor prevent recovery of such a resource as no new structures are proposed. Therefore, this project would have **no impact**.

#12 -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?

The Project is not located within the vicinity of a locally important mineral resource recovery site. There would be **no impact**.

3.13 Noise

#13. NOISE. Would the Project:

#13 -a. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in the local general plan or noise ordinance, or in other applicable standards of other agencies?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? Yes	Have Less-than-Significant Impact? No	Have No Impact? No.	Have Beneficial Impact? No.
#13 -b. Generation of excessive groundborne vibration or groundborne noise levels?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? Yes.	Have No Impact? No.	Have Beneficial Impact? No.
#13 -c. For a Project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within 2 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?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? Yes.	Have Beneficial Impact? No.

3.13.1 Environmental Setting

Some land uses are considered more sensitive to noise than others, and, thus, are referred to as sensitive noise receptors. Land uses often associated with sensitive noise receptors generally include residences, schools, libraries, hospitals, and passive recreational areas. Noise sensitive land uses are typically given special attention to achieve protection from excessive noise.

There is multiple noise-sensitive residential properties located adjacent to the drainage ditch along the west side of Taylor Road, approximately 0.01-mile or 100 feet from the Project site. The Contra Costa County Code does not have a noise ordinance, nor does it contain quantitative standards for regulating noise from mechanical equipment. However, Section 716-8.1004 of the County Code addresses hours of operation for excavation and grading activities. The code states that if operations are within five hundred feet of residential or commercial occupancies, except as otherwise provided by conditions of approval for the Project, grading operations shall be limited to weekdays and to the hours between 7:30 a.m. and 5:30 p.m., except that maintenance and service work on equipment may be performed at any time (Contra Costa County 2021).

Additionally, the Noise Element of the County General Plan contains land use compatibility guidelines for community noise levels to be considered when siting new development. For residences, a noise level of 55-70 dB(A) CNEL is conditionally acceptable, and 70-75 dB(A) is

normally unacceptable. However, CNEL is a unit of measurement that represents ambient conditions expressed over a 24-hour period using an A-weighted⁵ equivalent sound level with a 10-dB penalty added to the "nighttime" hourly noise levels between 10:00 PM to 7:00 AM. In comparison, construction noise would only be generated during daytime hours, therefore, the noise element compatibility criteria use a unit of value (CNEL) not generally applicable to construction noise.

3.13.2 Discussion

#13 -a. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in the local general plan or noise ordinance, or in other applicable standards of other agencies?

Excavation of debris and removal of vegetation from the Taylor Road ditch requires the use of power tools including chainsaws, excavator, and trucks to haul material to and from the site. This activity would temporarily increase ambient noise levels within the vicinity of the active work zone. **Table 3-11** provides a list of construction equipment that may be used along with the typical noise levels generated at 50 feet from the equipment (reference levels).

Table 3-5 Typical Noise Levels During Construction

Type of Equipment	Typical Noise Levels (dBA)
	L _{max} at 50 feet
Chain Saw	84
Excavator	81
Generator	81
Pick-up Truck	75
Pole Saw	84
Water Truck	75

Notes: dBA = A-weighted decibels; L_{max} = maximum instantaneous sound level.

Leq = 1-hour equivalent sound level (the sound energy averaged over a continuous 1-hour period)

Source: Construction equipment list based on Federal Highway Administration 2006, adapted by GEI

As shown, noise levels up to 84 dB(A) could be experienced by a receptor at 50 feet from the source. Residential uses would be as close as 100 feet from an active work zone. The noise level from a particular source generally declines as the distance to the receiver increases. A commonly used rule of thumb is that for every doubling of distance, atmospheric spreading over “hard” or “soft” sites reduces the noise level by at least 6 dB(A).⁶ Using this assumption, residential uses

⁵ Humans have trouble hearing noise with frequency components below 1000 Hz and above 5000 Hz. The A weighting scale emphasizes the frequency range for human hearing.

⁶ *Technical Noise Supplement*. California Department of Transportation, Division of Environmental Analysis Sacramento, California (November 2009)

nearest an active work zone could be exposed to exterior noise levels estimated at 78 dBA on a temporary basis.

Project related activity would not be fixed at a single location. Rather, the active work zone would move along the drainage alignment. Noise levels associated with construction activity would change over time as the work progresses such that no single receptor would be exposed to construction noise for the duration of the project. Moreover, noise impacts typically occur during noise-sensitive times of the day (e.g., early morning, evening, or nighttime hours. Consistent with the county code and noise policy 11-8 of the Contra Costa General Plan Noise Element, project activity would occur during the weekday between the hours of 7:30 am and 5:30 pm when people are less noise sensitive. Despite the limited hours of activity, project related activity may generate exterior noise levels that exceed the land use compatibility criteria of the County Noise Element. Therefore, the impacts of project related activity is considered to be **potentially significant**. The following mitigation measure has been identified to address this impact.

Mitigation Measures NOI-1: Implement Measures to Reduce Construction-Related Noise Effects during Construction.

BIMID shall require the construction contractor to implement the following measures to reduce impacts related to noise generation during construction activities within 100 feet of noise sensitive receptors:

- The construction contractor shall ensure that all internal combustion engine-driven equipment is equipped with mufflers that are in good condition and appropriate for the equipment.
- The construction contractor shall locate stationary noise-generating equipment as far as feasible from sensitive receptors when sensitive receptors adjoin or are near a construction disturbance area. In addition, the Project contractor shall place such stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest the Project Site.
- The construction contractor shall prohibit unnecessary idling of internal combustion engines.
- An on-site complaint and enforcement manager shall be available to respond to and track complaints. The manager will be responsible for responding to any complaints regarding construction noise and or dust and for coordinating with the adjacent land uses. The manager will determine the cause of any complaints and coordinate with the construction team to implement effective measures (considered technically and economically feasible) warranted for correcting the problem. Such measures could include but would not be limited to relocating stationary equipment, the use of sound blankets, the placement of temporary sound barriers around construction staging areas and/or continued coordination with the complainant regarding timing and duration of noise. The telephone number of the coordinator shall be posted at the construction site and provided to neighbors in a notification letter. The manager will be trained to use a

sound level meter and should be available during all construction hours to respond to complaints.

Timing: During construction.

Responsibility: BIMID

Implementation of Mitigation Measure NOI-1 would reduce noise impacts associated with the project-related construction activities to a less-than-significant level. BIMID would require the construction contractor to implement noise-reduction measures during construction and provides a means for residents to file complaints that can be used to address the source of noise in real time. Impacts related to noise levels would be **less-than-significant with mitigation incorporated**.

#13 -b. Generation of excessive ground borne vibration or ground borne noise levels?

Like noise, vibration involves a source, a transmission path, and a receiver. However, noise is generally considered to be pressure waves transmitted through air, whereas vibration usually consists of the excitation of a structure or surface. A person's perception to the vibration depends on their individual sensitivity to vibration, as well as the amplitude and frequency of the source and the response of the system which is vibrating.

The Project would use equipment such as heavy trucks and an excavator that generate ground borne vibration. The type of construction equipment most associated with vibration impacts are vibratory compactors and jackhammers, neither of which are required for the rehabilitation and maintenance of the drainage system. Exposure to vibration from project activity would occur on a temporary basis and would cease upon completion of the project. No adverse levels of vibration would be generated during Project operations. Therefore, impacts would be **less-than-significant**.

#13 -c. For a Project located within-the vicinity of a private airstrip or-an airport land use plan or, where such a plan has not been adopted, within 2 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?

The proposed Project is not located within the 2-miles of a public airport or public use airport. The nearest airport, the Rio Vista Municipal Airport, is located approximately 10 miles north of the Project site. Therefore, the proposed Project would not expose people residing or working in the area to excessive noise levels. There would be **no impact**.

3.14 Population and Housing

#14. POPULATION AND HOUSING. Would the Project:

#14 -a. Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? <u>Yes.</u>	Have Beneficial Impact? No.
#14 -b. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? <u>Yes.</u>	Have Beneficial Impact? No.

3.14.1 Environmental Setting

The Project site is located on Bethel Island in Contra Costa County. The population was estimated in 2021 to be 1,153,854 in Contra Costa County (DOF 2021). Population levels on Bethel Island are highly variable as the summer season results in a rise in tourism.

3.14.2 Discussion

#14 -a. Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

The proposed Project would repair existing flood control infrastructure to alleviate known deficiencies in system capacity. The project would not expand the area served by the flood control system, nor would it construct new housing that expands population levels. Therefore, the project would have **no impact** on population growth.

#14 -b. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

The Project would not displace people or housing. The Project includes repairs and improvements to existing infrastructure. There would be **no impact**.

3.15 Public Services

#15. PUBLIC SERVICES. Would the Project:

#15 -a. Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the 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:	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? <u>Yes.</u>	Have Beneficial Impact? No.
Fire protection?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? <u>Yes.</u>	Have Beneficial Impact? No.
Police protection?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? <u>Yes.</u>	Have Beneficial Impact? No.
Schools?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? <u>Yes.</u>	Have Beneficial Impact? No.
Parks?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? <u>Yes.</u>	Have Beneficial Impact? No.

#15. PUBLIC SERVICES. Would the Project:

Other public facilities?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? Yes.	Have Beneficial Impact? No.
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3.15.1 Environmental Setting

The Contra Costa County Sheriff's Department provide law enforcement services for Contra Costa County. The Contra Costa County Fire Protection District and the East Contra Costa Fire Protection District provide fire protection to residents of the County. All fire agencies within the County have signed mutual aid agreements to help neighboring agencies (Contra Costa County 2005).

3.15.2 Discussion

#15 -a.Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the 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:

The project would involve short-term construction activities and would not result in the development of any new residential or commercial uses. As such, the project would have no increased demand for public services and would not require new or altered government facilities. There would be **no impact**.

3.16 Recreation

#16. RECREATION. Would the Project:

#16 -a. Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? <u>Yes.</u>	Have Beneficial Impact? No.
#16 -b. Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? <u>Yes.</u>	Have Beneficial Impact? No.

3.16.1 *Environmental Setting*

There are no recreational facilities located within the Project site. The nearest recreation facility is the Franks Tract State Recreation Area located approximately 1.60 miles northeast of the project site.

3.16.2 *Discussion*

#16-a and b. 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 or include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?

The Project does not include a residential component so it would not increase the use of existing parks or recreational facilities or require the construction or expansion of recreational facilities. There would be **no impact**.

3.17 Transportation

#17. TRANSPORTATION. Would the Project:

#17 -a. Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? <u>Yes.</u>	Have Beneficial Impact? No.
#17 -b. Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? <u>Yes.</u>	Have No Impact? No.	Have Beneficial Impact? No.
#17 -c. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? <u>Yes.</u>	Have Beneficial Impact? No.
#17 -d. Result in inadequate emergency access?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? <u>Yes.</u>	Have Less-than-Significant Impact? No.	Have No Impact? No.	Have Beneficial Impact? No.

3.17.1 Environmental Setting

The proposed Project is located along Taylor Road on Bethel Island. The Project would be implemented along Taylor Road and within private lands zoned for General Agriculture (A-2) (Contra Costa County 2017). The active segment of the work area would be accessed from the south via Canal Road and from the north via Bethel Island Road. There are no transit or on-street bicycle/pedestrian facilities near the Project site.

3.17.2 Discussion

#17 -a and b. Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities? Be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?

Contra Costa County has adopted a Transportation Analysis Guideline (2020) which provides a vehicle mile traveled (VMT) screening criteria in order to quickly determine if a proposed project should be expected to prepare a detailed VMT analysis. The County guidelines have identified the following types of projects as having a less-than-significant impact and do not require VMT analysis. These projects include:

- 1) Project that:
 - a) generate or attract fewer than 110 daily vehicle trips: or,
 - b) projects of 10,000 square feet or less of non-residential space or 20 residential units or less, or otherwise generating less than 836 VMT per day (Contra Costa County 2020).
- 2) Residential, retail, office projects, or mixed-use projects proposed within ½ mile of an existing major transit stop or an existing stop along a high-quality transit corridor.
- 3) Residential projects (home-based VMT) at 15% or below the baseline County-wide home-based average VMT per capita, or employment projects (employee VMT) at 15% or below the baseline Bay Area average commute VMT per employee in areas with low VMT that incorporate similar VMT reducing features (i.e., density, mix of uses, transit accessibility).
- 4) Public facilities (e.g., emergency services, passive parks (low-intensity recreation, open space), libraries, community centers, public utilities) and government buildings.

The proposed Project would generate approximately 25 vehicle trips per day or approximately 3 trips per hour. All trips would take place during daytime hours using existing public roads and would cease after the 13-day work schedule is complete. Additionally, no trip generating land uses are proposed as part of the Project so no permanent increase in vehicle miles traveled would occur. Since the project would generate less than 110 daily trips and would not include the construction of any residential, retail, office, mixed-use, or public facilities, the project would have a **less-than-significant** impact. The Project would comply with all program plans, ordinances or policies addressing the circulation system, and would be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b).

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

The Project does not propose any changes to the existing road network. The Project would not increase hazards due to a geometric design feature or incompatible uses. There would be **no impact**.

#17 -d. Result in inadequate emergency access?

To access portions of the drainage alignment located on private property a temporary construction easement would be established for the District to complete the work. However, these parcels are

not currently being used for agricultural production and access to this portion of the proposed project would not result in inadequate emergency access since these parcels would not normally be used by emergency responders.

Portions of the drainage parallel the alignment of Taylor Road which would serve as a route to transport material and equipment to and from the work zone. Loading of heavy trucks with soil and debris excavated from the ditch would require the close of one lane until the loading is completed and the truck leaves the site with the load. If a travel lane along Taylor Road were blocked by construction activity access to uses would be limited and congestion at the point of lane closure would create delays that impede an emergency response vehicle traveling to a call for service. Therefore, this impact would be **potentially significant**. The following mitigation measure has been identified to address this impact.

Mitigation Measure TN-1: Implement a Traffic Control Safety Plan.

The construction contractor(s) will develop a traffic safety and management plan consistent with the California Manual on Uniform Traffic Control Devices (Part 6 Temporary Traffic Control). At a minimum the plan shall call for the following elements:

- posting warnings about the potential presence of slow-moving vehicles.
- using traffic control personnel when appropriate; and

The contractor(s) will train construction personnel in appropriate safety measures as described in the traffic safety and management plan and will implement the plan during construction activity. The plan will include the prescribed locations for staging equipment and parking trucks and vehicles. Provisions will be made for overnight parking of haul trucks to avoid causing traffic or circulation congestion.

Before project construction begins, BIMID and/or its construction contractor(s) will provide notification of project construction and potential delays along Taylor Road to all appropriate emergency service providers serving Bethel Island and will coordinate with providers throughout the construction period to maintain emergency access through construction areas to the extent possible.

Timing: Before and during construction.

Responsibility: BIMID and its construction contractor(s).

Implementation of Mitigation Measure TN-1 would reduce this impact to a less-than-significant level by requiring the preparation of a Traffic Safety Plan, posting warnings about slow moving traffic, and requiring the use of a one-lane flagger during construction activities. Impacts related to transportation would be **less-than-significant with mitigation incorporated**.

3.18 Tribal Cultural Resources

#18. TRIBAL CULTURAL RESOURCES. Would the Project cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

#18 -a. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in PRC Section 5020.1(k), or	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? <u>Yes.</u>	Have Less-than-Significant Impact? No.	Have No Impact? No.	Have Beneficial Impact? No.
#18 -b. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of PRC Section 5024.1. In applying the criteria set forth in subdivision (c) of PRC Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? <u>Yes.</u>	Have Less-than-Significant Impact? No.	Have No Impact? No.	Have Beneficial Impact? No.

3.18.1 Environmental Setting

A Tribal Sacred Lands (SLF) search request was filed by GEI's Amy Wolpert, MA, with the NAHC on July 8, 2021. The NAHC responded by letter on July 27, 2021; the results of the SLF were positive indicating a tribal cultural resource (TCR) in the vicinity of the Project. SLF results are accurate only to Township, Range, and Section and do not necessarily indicate any tribal cultural resources are within the Project boundary (NAHC 2021). The NAHC response letter also included contact information for eighteen Native American tribal representatives that may have information regarding tribal resources within the Project boundary and a request that these representatives be contacted for further information. The District sent letters to the eighteen listed tribal representatives to extend the opportunity to consult on the Project.

Assembly Bill 52 (AB 52)

AB 52, effective on July 1, 2015, amended CEQA and added sections relating to Native American consultation and TCRs. AB 52 further establishes deadlines for contacting Native American tribes and responses from Native American tribes. Native American tribes must contact local state governments by letter indicating that they wish to be consulted with on projects under AB 52.

If a request for AB 52 (PRC Section 21080.3.1) consultation is received, the district will contact those Tribes in accordance with AB 52. Thus far a request for consultation has not been received. Should a request for consultation be received, a summary report of the consultation process shall

be made an addendum to this IS/MND for review by the District Board of Directors prior to their consideration of the Project.

3.18.2 Discussion

#18 -a and b. Would the Project cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in PRC Section 5020.1(k)? A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of PRC Section 5024.1. In applying the criteria set forth in subdivision (c) of PRC Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

The NAHC identified one resource during its SLF search. It is currently unknown if this resource is within the Project boundary and might be significantly impacted by the project; to determine its location and possible impacts further investigation, consultation, and analysis is necessary. If the TCR is located within the Project, this could represent a **potentially significant impact**. The following mitigation measures have been identified to address this impact.

Mitigation Measure CR-1: Address Previously Undiscovered Historic Properties, Archaeological Resources, and Tribal Cultural Resources.

Please refer to Mitigation Measure CR-1 in Section 3.5, Cultural Resources, for the full text of this mitigation measure.

Mitigation Measure CR-2: Avoid Potential Effects on Undiscovered Burials.

Please refer to Mitigation Measure CR-2 in Section 3.5, Cultural Resources, for the full text of this mitigation measure.

Implementation of Mitigation Measure CR-1 and CR-2 would reduce this impact to less than significant by assessed all undiscovered historic properties, archaeological resources, tribal cultural resources, and burials by an archaeologist and treated or investigated in accordance with state and federal laws. Therefore, the proposed Project would have **a less-than-significant impact with mitigation incorporated**.

3.19 Utilities and Service Systems

#19. UTILITIES AND SERVICE SYSTEMS. Would the Project:

#19 -a. Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? <u>Yes.</u>	Have Beneficial Impact? No.
#19 -b. Have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry, and multiple dry years?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? <u>Yes.</u>	Have Beneficial Impact? No.
#19 -c. Result in a determination by the wastewater treatment provider that 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?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? <u>Yes.</u>	Have Beneficial Impact? No.
#19 -d. Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? <u>Yes.</u>	Have Beneficial Impact? No.
#19 -e. Comply with Federal, State, and local management and reduction statutes and regulations related to solid waste?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? <u>Yes.</u>	Have No Impact? No.	Have Beneficial Impact? No.

3.19.1 Environmental Setting

The Project sites and vicinity are served by PG&E (Contra Costa County 2005). Water services in Contra Costa County are provided by special service districts, nine municipalities, and groundwater supplies. Wells pumping groundwater are the primary water source in rural parts of the County. Sewer services for Bethel Island are provided by Ironhouse Sanitary District. Bethel Island also uses septic tanks. The closest landfill is the Republic Services Keller Canyon Landfill located approximately 15 miles west of the project site.

3.19.2 Discussion

#19 -a. Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

No utility services would need to be constructed or expanded because of the proposed Project. The project would not involve the construction or expansion of any facilities for stormwater drainage purposes; however, drainage improvements along Taylor Road may convey stormwater more efficiently during storm events. As discussed in Section 3.9, “Hydrology and Water Quality,” the overall drainage pattern on the project site would be improved and all drainage water would be redirected to the main BIMID pumping plant. Implementation of the proposed Project would result in **no impacts**.

#19 -b. Have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry, and multiple dry years?

The Project would not require a water supply. There would be **no impact**.

#19 -c. Result in a determination by the wastewater treatment provider that 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?

See Question “a” above. The Project would not result in a significant amount of wastewater. There would be **no impact**.

#19 -d and e. Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals? Comply with Federal, State, and local management and reduction statutes and regulations related to solid waste?

The proposed Project would not create substantial amounts of solid waste, and as such would not exceed the capacity of local infrastructure. Clearing the channel would generate an estimated 2,572 cubic yards of soil and debris by excavating an average of one foot of material from the open ditch. No increase in waste production would occur during the operation of the Project. It is District policy to retain soil on the island in support of goals to limit soil erosion on the island. The material would be stockpiled along the temporary construction alignment to dry before being reapplied along the alignment and hauled elsewhere on the island for farming use as needed. Debris would likely be disposed of at the Keller Canyon Landfill, which has a remaining capacity of approximately 63,000 cy (CalRecycle 2019). The Project would comply with federal, state, and local management and reduction statutes and regulations related to solid waste. There would be **less-than-significant impacts**.

3.20 Wildfire

#20. WILDFIRE. If located in or near State responsibility areas or lands classified as very high fire hazard severity zones, **would the Project:**

#20 -a. Substantially impair an adopted emergency response plan or emergency evacuation plan?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? <u>Yes.</u>	Have Beneficial Impact? No.
#20 -b. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose Project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? <u>Yes.</u>	Have Beneficial Impact? No.
#20 -c. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? <u>Yes.</u>	Have Beneficial Impact? No.
#20 -d. Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? <u>Yes.</u>	Have Beneficial Impact? No.

3.20.1 Environmental Setting

The Project site is not located in a high severity fire zone. The entire area is classified as Local Responsibility Areas (LRA) unzoned. (CALFIRE 2007a and 2007b). The Contra Costa County Fire Protection District and the East Contra Costa Fire Protection District provides fire protection for residents of the County. Additionally, all fire agencies within the County have signed mutual aid agreements to help neighboring agencies (Contra Costa County 2005).

3.20.2 Discussion

#20 -a, b, c, and d. Substantially impair an adopted emergency response plan or emergency evacuation plan? Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose Project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire? Require

the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment? Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

The proposed Project is not located in or near State responsibility areas or lands classified as very high fire hazard severity zones (CALFIRE 2007a and 2007b). Therefore, the project would have **no impact**.

3.21 Mandatory Findings of Significance

#21. MANDATORY FINDINGS OF SIGNIFICANCE. Would the Project:

#21 -a. Have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of an endangered, rare, or threatened species, or eliminate important examples of the major periods of California history or prehistory?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? <u>Yes.</u>	Have Less-than-Significant Impact? No.	Have No Impact? No.	Have Beneficial Impact? No.
#21 -b. Have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a Project are considerable when viewed in connection with the effects of past Projects, the effects of other current Projects, and the effects of probable future Projects)?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? <u>Yes.</u>	Have Less-than-Significant Impact? No.	Have No Impact? No.	Have Beneficial Impact? No.
#21 -c. Have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? <u>Yes.</u>	Have No Impact? No.	Have Beneficial Impact? No.

3.21.1 Discussion

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

The analysis conducted in this IS concludes that implementation of the proposed Project would not have a significant impact on the environment with incorporation of mitigation measures. As evaluated in Chapter 3.4, Biological Resources, impacts on biological resources would be less-than-significant or less-than-significant with mitigation incorporated. The proposed Project would

not substantially degrade the quality of the environment; substantially reduce the habitat of a fish or wildlife species; cause a fish or wildlife population to drop below self-sustaining levels; threaten to eliminate a plant or animal community; or reduce the number or restrict the range of an endangered, rare, or threatened species.

As discussed in Chapter 3.5, Cultural Resources, the proposed Project would not eliminate important examples of the major periods of California history or prehistory. Nevertheless, mitigation measures are provided to address the potential that historic or prehistoric resources could be discovered during construction activities. Considering the above, the proposed project would not: 1) degrade the quality of the environment; 2) substantially reduce or impact the habitat of fish or wildlife species; 3) cause fish or wildlife populations to drop below self-sustaining levels; 4) threaten to eliminate a plant or animal community; 5) reduce the number or restrict the range of a rare or endangered plant or animal; or 6) eliminate important examples of the major periods of California history or prehistory. Therefore, a **less-than-significant** impact would occur.

#21 -b. Would 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.)

Past and present projects within the project vicinity are limited as the island is primarily used for residential uses and some agricultural production. There are no other ongoing or proposed projects on Bethel Island that would overlap with construction of the proposed project. Construction of the proposed project would result in temporary and short-term impacts that would be limited to the project site and immediate vicinity over a 13-day construction period and mitigation measures are proposed to avoid, minimize, rectify, reduce, eliminate, and/or compensate for any potentially significant impacts.

The proposed project could incrementally contribute to cumulative impacts in Contra Costa County. However, as demonstrated in this IS/MND, all potential environmental impacts that could occur because of project implementation would be reduced to a less-than-significant level through compliance with the mitigation measures included in this IS/MND, as well as applicable General Plan policies, Municipal Code standards, and other applicable local and State regulations. In addition, the project would be consistent with the site’s existing land use and zoning designations. Therefore, when viewed in conjunction with other closely related past, present, or reasonably foreseeable future projects, development of the proposed project would not result in a cumulatively considerable contribution to cumulative impacts in Contra Costa County, and the project’s incremental contribution to cumulative impacts would be less than significant.

#21 -c. Would the Project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?

As described in this IS/MND, the proposed project would comply with all applicable General Plan policies, Municipal Code standards, other applicable local and State regulations, and mitigation

measures included herein. In addition, as discussed in the Air Quality, Geology and Soils, Hazards and Hazardous Materials, Greenhouse Gas Emissions, and Noise sections of this IS/MND, the proposed project would not cause substantial effects to human beings, which cannot be mitigated to less-than-significant levels, including effects related to exposure to air pollutants, geologic hazards, GHG emissions, hazardous materials, and excessive noise. Therefore, the proposed project's impact would be **less than significant**.

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Appendix A Project Site Photos



Photo 1. View near 2850 Taylor Road (Facing Southeast). Note trees in the Taylor Road Ditch.



Photo 2. Looking south along Taylor Road near intersection with Canal Road.



Photo 3. View of Taylor Road Ditch near 2000 Taylor Road (Facing East). Note overgrown vegetation in the ditch.



Photo 4. Taylor Road near intersection with Bethel Island Blvd (Facing West)



Photo 5. Primary Pumping Station at intersection of Taylor and Canal Road (Facing West).



Photo 6. Transitional Ditch to Secondary Pump near Taylor and Bethel Island Road

Appendix B Biological Resources



United States Department of the Interior



FISH AND WILDLIFE SERVICE
San Francisco Bay-Delta Fish And Wildlife
650 Capitol Mall
Suite 8-300
Sacramento, CA 95814
Phone: (916) 930-5603 Fax: (916) 930-5654
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In Reply Refer To:

August 23, 2021

Consultation Code: 08FBDT00-2021-SLI-0252

Event Code: 08FBDT00-2021-E-00615

Project Name: Bethel Island Drainage and Flooding Remediation Mitigation Project

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

To Whom It May Concern:

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

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

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

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

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

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

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

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at:

<http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>;

<http://www.towerkill.com>; and

[http://](http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html)

www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

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

Attachment(s):

- Official Species List
-

Official Species List

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

This species list is provided by:

San Francisco Bay-Delta Fish And Wildlife

650 Capitol Mall

Suite 8-300

Sacramento, CA 95814

(916) 930-5603

Project Summary

Consultation Code: 08FBDT00-2021-SLI-0252

Event Code: 08FBDT00-2021-E-00615

Project Name: Bethel Island Drainage and Flooding Remediation Mitigation Project

Project Type: LAND - DRAINAGE

Project Description: The proposed project would conduct maintenance and rehabilitation on the existing Taylor Road ditch system and secondary pump station including debris and vegetation removal within the ditch, repair and rehabilitation to existing culverts, upgrades to the secondary pump station, and clearing blocked inlets along the drainage alignment. These actions would alleviate known deficiencies within the drainage system that have reduced the capacity of the ditch system to convey storm water to the pump stations. Flooding experienced along the Taylor Road Drainage represents a potential hazard to public health and safety. BIMID is seeking to address this potential health and safety hazard by rehabilitating the drainage ditch and pump station as part of the proposed project.

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@38.025510350000005,-121.65092357076506,14z>



Counties: Contra Costa County, California

Endangered Species Act Species

There is a total of 12 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Birds

NAME	STATUS
California Clapper Rail <i>Rallus longirostris obsoletus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4240	Endangered

Reptiles

NAME	STATUS
Giant Garter Snake <i>Thamnophis gigas</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4482	Threatened

Amphibians

NAME	STATUS
California Red-legged Frog <i>Rana draytonii</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/2891	Threatened
California Tiger Salamander <i>Ambystoma californiense</i> Population: U.S.A. (Central CA DPS) There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/2076	Threatened

Fishes

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

Insects

NAME	STATUS
Delta Green Ground Beetle <i>Elaphrus viridis</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/2319	Threatened
Valley Elderberry Longhorn Beetle <i>Desmocerus californicus dimorphus</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/7850	Threatened

Crustaceans

NAME	STATUS
Vernal Pool Fairy Shrimp <i>Branchinecta lynchi</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/498	Threatened
Vernal Pool Tadpole Shrimp <i>Lepidurus packardii</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/2246	Endangered

Flowering Plants

NAME	STATUS
Antioch Dunes Evening-primrose <i>Oenothera deltoides ssp. howellii</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/5970	Endangered
Large-flowered Fiddleneck <i>Amsinckia grandiflora</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/5558	Endangered
Soft Bird's-beak <i>Cordylanthus mollis ssp. mollis</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/8541	Endangered

Critical habitats

There is 1 critical habitat wholly or partially within your project area under this office's jurisdiction.

NAME	STATUS
Delta Smelt <i>Hypomesus transpacificus</i> https://ecos.fws.gov/ecp/species/321#crithab	Final

*The database used to provide updates to the Online Inventory is under construction. [View updates and changes made since May 2019 here.](#)

Plant List

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

Search Criteria

Found in Quads 3812127, 3812126, 3812125, 3812117, 3812116, 3812115, 3712187, 3712186, 3712185, 3812124 3812114 and 3712184;

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Scientific Name	Common Name	Family	Lifeform	Blooming Period	CA Rare Plant Rank	State Rank	Global Rank
Amsinckia grandiflora	large-flowered fiddleneck	Boraginaceae	annual herb	(Mar)Apr-May	1B.1	S1	G1
Arctostaphylos auriculata	Mt. Diablo manzanita	Ericaceae	perennial evergreen shrub	Jan-Mar	1B.3	S2	G2
Arctostaphylos manzanita ssp. laevigata	Contra Costa manzanita	Ericaceae	perennial evergreen shrub	Jan-Mar(Apr)	1B.2	S2	G5T2
Astragalus tener var. tener	alkali milk-vetch	Fabaceae	annual herb	Mar-Jun	1B.2	S1	G2T1
Atriplex cordulata var. cordulata	heartscale	Chenopodiaceae	annual herb	Apr-Oct	1B.2	S2	G3T2
Atriplex coronata var. coronata	crownscale	Chenopodiaceae	annual herb	Mar-Oct	4.2	S3	G4T3
Atriplex depressa	brittscale	Chenopodiaceae	annual herb	Apr-Oct	1B.2	S2	G2
Blepharizonia plumosa	big tarplant	Asteraceae	annual herb	Jul-Oct	1B.1	S1S2	G1G2
Brasenia schreberi	watershield	Cabombaceae	perennial rhizomatous herb (aquatic)	Jun-Sep	2B.3	S3	G5
Calandrinia breweri	Brewer's calandrinia	Montiaceae	annual herb	(Jan)Mar-Jun	4.2	S4	G4
Calochortus pulchellus	Mt. Diablo fairy-lantern	Liliaceae	perennial bulbiferous herb	Apr-Jun	1B.2	S2	G2
Carex comosa	bristly sedge	Cyperaceae	perennial rhizomatous herb	May-Sep	2B.1	S2	G5
Centromadia parryi ssp. congdonii	Congdon's tarplant	Asteraceae	annual herb	May-Oct(Nov)	1B.1	S1S2	G3T1T2
Centromadia parryi ssp. parryi	pappose tarplant	Asteraceae	annual herb	May-Nov	1B.2	S2	G3T2

<u>Centromadia parryi ssp. rudis</u>	Parry's rough tarplant	Asteraceae	annual herb	May-Oct	4.2	S3	G3T3
<u>Chloropyron molle ssp. molle</u>	soft bird's-beak	Orobanchaceae	annual herb (hemiparasitic)	Jun-Nov	1B.2	S1	G2T1
<u>Cicuta maculata var. bolanderi</u>	Bolander's water-hemlock	Apiaceae	perennial herb	Jul-Sep	2B.1	S2?	G5T4T5
<u>Convolvulus simulans</u>	small-flowered morning-glory	Convolvulaceae	annual herb	Mar-Jul	4.2	S4	G4
<u>Cryptantha hooveri</u>	Hoover's cryptantha	Boraginaceae	annual herb	Apr-May	1A	SH	GH
<u>Downingia pusilla</u>	dwarf downingia	Campanulaceae	annual herb	Mar-May	2B.2	S2	GU
<u>Eriogonum nudum var. psychicola</u>	Antioch Dunes buckwheat	Polygonaceae	perennial herb	Jul-Oct	1B.1	S1	G5T1
<u>Eriogonum truncatum</u>	Mt. Diablo buckwheat	Polygonaceae	annual herb	Apr-Sep(Nov-Dec)	1B.1	S1	G1
<u>Eryngium jepsonii</u>	Jepson's coyote thistle	Apiaceae	perennial herb	Apr-Aug	1B.2	S2?	G2?
<u>Eryngium racemosum</u>	Delta button-celery	Apiaceae	annual / perennial herb	Jun-Oct	1B.1	S1	G1
<u>Erysimum capitatum var. angustatum</u>	Contra Costa wallflower	Brassicaceae	perennial herb	Mar-Jul	1B.1	S1	G5T1
<u>Eschscholzia rhombipetala</u>	diamond-petaled California poppy	Papaveraceae	annual herb	Mar-Apr	1B.1	S1	G1
<u>Extriplex joaquinana</u>	San Joaquin spearscale	Chenopodiaceae	annual herb	Apr-Oct	1B.2	S2	G2
<u>Fritillaria agrestis</u>	stinkbells	Liliaceae	perennial bulbiferous herb	Mar-Jun	4.2	S3	G3
<u>Fritillaria liliacea</u>	fragrant fritillary	Liliaceae	perennial bulbiferous herb	Feb-Apr	1B.2	S2	G2
<u>Galium andrewsii ssp. gatense</u>	phlox-leaf serpentine bedstraw	Rubiaceae	perennial herb	Apr-Jul	4.2	S3	G5T3
<u>Helianthella castanea</u>	Diablo helianthella	Asteraceae	perennial herb	Mar-Jun	1B.2	S2	G2
<u>Hesperevax caulescens</u>	hogwallow starfish	Asteraceae	annual herb	Mar-Jun	4.2	S3	G3
<u>Hesperolinon breweri</u>	Brewer's western flax	Linaceae	annual herb	May-Jul	1B.2	S2	G2
<u>Hibiscus lasiocarpus var. occidentalis</u>	woolly rose-mallow	Malvaceae	perennial rhizomatous herb (emergent)	Jun-Sep	1B.2	S3	G5T3
<u>Isocoma arguta</u>	Carquinez goldenbush	Asteraceae	perennial shrub	Aug-Dec	1B.1	S1	G1
<u>Juglans hindsii</u>	Northern California black walnut	Juglandaceae	perennial deciduous tree	Apr-May	1B.1	S1	G1
<u>Lasthenia conjugens</u>	Contra Costa goldfields	Asteraceae	annual herb	Mar-Jun	1B.1	S1	G1
<u>Lathyrus jepsonii var. jepsonii</u>	Delta tule pea	Fabaceae	perennial herb	May-Jul(Aug-Sep)	1B.2	S2	G5T2
<u>Lilaeopsis masonii</u>	Mason's lilaeopsis	Apiaceae	perennial rhizomatous herb	Apr-Nov	1B.1	S2	G2
<u>Limosella australis</u>	Delta mudwort	Scrophulariaceae	perennial stoloniferous herb	May-Aug	2B.1	S2	G4G5
<u>Madia radiata</u>	showy golden madia	Asteraceae	annual herb	Mar-May	1B.1	S3	G3

<u>Malacothamnus hallii</u>	Hall's bush-mallow	Malvaceae	perennial evergreen shrub	(Apr)May-Sep(Oct)	1B.2	S2	G2
<u>Myosurus minimus ssp. apus</u>	little mouseltail	Ranunculaceae	annual herb	Mar-Jun	3.1	S2	G5T2Q
<u>Navarretia heterandra</u>	Tehama navarretia	Polemoniaceae	annual herb	Apr-Jun	4.3	S4	G4
<u>Navarretia leucocephala ssp. bakeri</u>	Baker's navarretia	Polemoniaceae	annual herb	Apr-Jul	1B.1	S2	G4T2
<u>Navarretia nigelliformis ssp. nigelliformis</u>	adobe navarretia	Polemoniaceae	annual herb	Apr-Jun	4.2	S3	G4T3
<u>Navarretia nigelliformis ssp. radians</u>	shining navarretia	Polemoniaceae	annual herb	(Mar)Apr-Jul	1B.2	S2	G4T2
<u>Neostapfia colusana</u>	Colusa grass	Poaceae	annual herb	May-Aug	1B.1	S1	G1
<u>Oenothera deltoides ssp. howellii</u>	Antioch Dunes evening-primrose	Onagraceae	perennial herb	Mar-Sep	1B.1	S1	G5T1
<u>Plagiobothrys hystriculus</u>	bearded popcornflower	Boraginaceae	annual herb	Apr-May	1B.1	S2	G2
<u>Potamogeton zosteriformis</u>	eel-grass pondweed	Potamogetonaceae	annual herb (aquatic)	Jun-Jul	2B.2	S3	G5
<u>Sagittaria sanfordii</u>	Sanford's arrowhead	Alismataceae	perennial rhizomatous herb (emergent)	May-Oct(Nov)	1B.2	S3	G3
<u>Scutellaria galericulata</u>	marsh skullcap	Lamiaceae	perennial rhizomatous herb	Jun-Sep	2B.2	S2	G5
<u>Scutellaria lateriflora</u>	side-flowering skullcap	Lamiaceae	perennial rhizomatous herb	Jul-Sep	2B.2	S2	G5
<u>Senecio aphanactis</u>	chaparral ragwort	Asteraceae	annual herb	Jan-Apr(May)	2B.2	S2	G3
<u>Senecio hydrophiloides</u>	sweet marsh ragwort	Asteraceae	perennial herb	May-Aug	4.2	S3	G5
<u>Sidalcea keckii</u>	Keck's checkerbloom	Malvaceae	annual herb	Apr-May(Jun)	1B.1	S2	G2
<u>Symphyotrichum lentum</u>	Suisun Marsh aster	Asteraceae	perennial rhizomatous herb	(Apr)May-Nov	1B.2	S2	G2
<u>Tropidocarpum capparideum</u>	caper-fruited tropidocarpum	Brassicaceae	annual herb	Mar-Apr	1B.1	S1	G1
<u>Viburnum ellipticum</u>	oval-leaved viburnum	Adoxaceae	perennial deciduous shrub	May-Jun	2B.3	S3?	G4G5

Suggested Citation

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Questions and Comments

rareplants@cnps.org



Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database



Query Criteria: Quad> IS > (Birds Landing (3812127)> OR > Rio Vista (3812126)> OR > Isleton (3812125)> OR > Antioch North (3812117)> OR > Jersey Island (3812116)> OR > Bouldin Island (3812115)> OR > Sutter Causeway (3812186)> OR > Nicolaus (3812185)> OR > Terminous (3812114)> OR > Holt (3712184))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Agelaius tricolor</i> tricolored blackbird	ABPBXB0020	None	Threatened	G1G2	S1S2	SSC
<i>Ambystoma californiense pop. 1</i> California tiger salamander - central California DPS	AAAAA01181	Threatened	Threatened	G2G3	S2S3	WL
<i>Anniella pulchra</i> Northern California legless lizard	ARACC01020	None	None	G3	S3	SSC
<i>Anthicus antiochensis</i> Antioch Dunes anthicid beetle	IICOL49020	None	None	G1	S1	
<i>Anthicus sacramento</i> Sacramento anthicid beetle	IICOL49010	None	None	G1	S1	
<i>Apodemia mormo langei</i> Lange's metalmark butterfly	IILEPH7012	Endangered	None	G5T1	S1	
<i>Archoplites interruptus</i> Sacramento perch	AFCQB07010	None	None	G2G3	S1	SSC
<i>Ardea herodias</i> great blue heron	ABNGA04010	None	None	G5	S4	
<i>Arizona elegans occidentalis</i> California glossy snake	ARADB01017	None	None	G5T2	S2	SSC
<i>Astragalus tener var. tener</i> alkali milk-vetch	PDFAB0F8R1	None	None	G2T1	S1	1B.2
<i>Athene cunicularia</i> burrowing owl	ABNSB10010	None	None	G4	S3	SSC
<i>Atriplex cordulata var. cordulata</i> heartscale	PDCHE040B0	None	None	G3T2	S2	1B.2
<i>Blepharizonia plumosa</i> big tarplant	PDAST1C011	None	None	G1G2	S1S2	1B.1
<i>Bombus crotchii</i> Crotch bumble bee	IIHYM24480	None	Candidate Endangered	G3G4	S1S2	
<i>Bombus occidentalis</i> western bumble bee	IIHYM24250	None	Candidate Endangered	G2G3	S1	
<i>Branchinecta conservatio</i> Conservancy fairy shrimp	ICBRA03010	Endangered	None	G2	S2	
<i>Branchinecta lynchi</i> vernal pool fairy shrimp	ICBRA03030	Threatened	None	G3	S3	
<i>Branchinecta mesovallensis</i> midvalley fairy shrimp	ICBRA03150	None	None	G2	S2S3	



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<i>Brasenia schreberi</i> watershield	PDCAB01010	None	None	G5	S3	2B.3
<i>Buteo swainsoni</i> Swainson's hawk	ABNKC19070	None	Threatened	G5	S3	
<i>Carex comosa</i> bristly sedge	PMCYP032Y0	None	None	G5	S2	2B.1
<i>Centromadia parryi ssp. parryi</i> pappose tarplant	PDAST4R0P2	None	None	G3T2	S2	1B.2
<i>Charadrius montanus</i> mountain plover	ABNNB03100	None	None	G3	S2S3	SSC
<i>Chloropyron molle ssp. molle</i> soft salty bird's-beak	PDSCR0J0D2	Endangered	Rare	G2T1	S1	1B.2
<i>Cicindela hirticollis abrupta</i> Sacramento Valley tiger beetle	IICOL02106	None	None	G5TH	SH	
<i>Cicuta maculata var. bolanderi</i> Bolander's water-hemlock	PDAP10M051	None	None	G5T4T5	S2?	2B.1
<i>Coastal and Valley Freshwater Marsh</i> Coastal and Valley Freshwater Marsh	CTT52410CA	None	None	G3	S2.1	
<i>Coastal Brackish Marsh</i> Coastal Brackish Marsh	CTT52200CA	None	None	G2	S2.1	
<i>Coccyzus americanus occidentalis</i> western yellow-billed cuckoo	ABNRB02022	Threatened	Endangered	G5T2T3	S1	
<i>Coelus gracilis</i> San Joaquin dune beetle	IICOL4A020	None	None	G1	S1	
<i>Cryptantha hooveri</i> Hoover's cryptantha	PDBOR0A190	None	None	GH	SH	1A
<i>Desmocerus californicus dimorphus</i> valley elderberry longhorn beetle	IICOL48011	Threatened	None	G3T2	S3	
<i>Downingia pusilla</i> dwarf downingia	PDCAM060C0	None	None	GU	S2	2B.2
<i>Efferia antiochi</i> Antioch efferian robberfly	IIDIP07010	None	None	G1G2	S1S2	
<i>Elanus leucurus</i> white-tailed kite	ABNKC06010	None	None	G5	S3S4	FP
<i>Emys marmorata</i> western pond turtle	ARAAD02030	None	None	G3G4	S3	SSC
<i>Eriogonum nudum var. psychicola</i> Antioch Dunes buckwheat	PDPGN0849Q	None	None	G5T1	S1	1B.1
<i>Eriogonum truncatum</i> Mt. Diablo buckwheat	PDPGN085Z0	None	None	G1	S1	1B.1
<i>Erysimum capitatum var. angustatum</i> Contra Costa wallflower	PDBRA16052	Endangered	Endangered	G5T1	S1	1B.1



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Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Eschscholzia rhombipetala</i> diamond-petaled California poppy	PDPAP0A0D0	None	None	G1	S1	1B.1
<i>Eucerceris ruficeps</i> redheaded sphecoid wasp	IIHYM18010	None	None	G1G3	S1S2	
<i>Extriplex joaquinana</i> San Joaquin spearscale	PDCHE041F3	None	None	G2	S2	1B.2
<i>Falco peregrinus anatum</i> American peregrine falcon	ABNKD06071	Delisted	Delisted	G4T4	S3S4	FP
<i>Fritillaria liliacea</i> fragrant fritillary	PMLIL0V0C0	None	None	G2	S2	1B.2
<i>Geothlypis trichas sinuosa</i> saltmarsh common yellowthroat	ABPBX1201A	None	None	G5T3	S3	SSC
<i>Gonidea angulata</i> western ridged mussel	IMBIV19010	None	None	G3	S1S2	
<i>Great Valley Mixed Riparian Forest</i> Great Valley Mixed Riparian Forest	CTT61420CA	None	None	G2	S2.2	
<i>Hibiscus lasiocarpus var. occidentalis</i> woolly rose-mallow	PDMAL0H0R3	None	None	G5T3	S3	1B.2
<i>Hygrotus curvipes</i> curved-foot hygrotus diving beetle	IICOL38030	None	None	G1	S1	
<i>Hypomesus transpacificus</i> Delta smelt	AFCHB01040	Threatened	Endangered	G1	S1	
<i>Idiostatus middlekauffi</i> Middlekauff's shieldback katydid	IIORT31010	None	None	G1G2	S1	
<i>Isocoma arguta</i> Carquinez goldenbush	PDAST57050	None	None	G1	S1	1B.1
<i>Lasiurus blossevillei</i> western red bat	AMACC05060	None	None	G4	S3	SSC
<i>Lasiurus cinereus</i> hoary bat	AMACC05030	None	None	G3G4	S4	
<i>Lasthenia conjugens</i> Contra Costa goldfields	PDAST5L040	Endangered	None	G1	S1	1B.1
<i>Laterallus jamaicensis coturniculus</i> California black rail	ABNME03041	None	Threatened	G3G4T1	S1	FP
<i>Lathyrus jepsonii var. jepsonii</i> Delta tule pea	PDFAB250D2	None	None	G5T2	S2	1B.2
<i>Lepidurus packardii</i> vernal pool tadpole shrimp	ICBRA10010	Endangered	None	G4	S3S4	
<i>Lilaeopsis masonii</i> Mason's lilaeopsis	PDAP119030	None	Rare	G2	S2	1B.1
<i>Limosella australis</i> Delta mudwort	PDSCR10030	None	None	G4G5	S2	2B.1



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Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Linderiella occidentalis</i> California linderiella	ICBRA06010	None	None	G2G3	S2S3	
<i>Melospiza melodia</i> song sparrow ("Modesto" population)	ABPBXA3010	None	None	G5	S3?	SSC
<i>Melospiza melodia maxillaris</i> Suisun song sparrow	ABPBXA301K	None	None	G5T3	S3	SSC
<i>Metapogon hurdi</i> Hurd's metapogon robberfly	IIDIP08010	None	None	G1G2	S1S2	
<i>Myrmosula pacifica</i> Antioch multilid wasp	IIHYM15010	None	None	GH	SH	
<i>Navarretia leucocephala ssp. bakeri</i> Baker's navarretia	PDPLM0C0E1	None	None	G4T2	S2	1B.1
<i>Northern Claypan Vernal Pool</i> Northern Claypan Vernal Pool	CTT44120CA	None	None	G1	S1.1	
<i>Oenothera deltoides ssp. howellii</i> Antioch Dunes evening-primrose	PDONA0C0B4	Endangered	Endangered	G5T1	S1	1B.1
<i>Oncorhynchus mykiss irideus pop. 11</i> steelhead - Central Valley DPS	AFCHA0209K	Threatened	None	G5T2Q	S2	
<i>Oncorhynchus tshawytscha pop. 11</i> chinook salmon - Central Valley spring-run ESU	AFCHA0205L	Threatened	Threatened	G5T1T2Q	S2	
<i>Perdita scitula antiochensis</i> Antioch andrenid bee	IIHYM01031	None	None	G1T1	S1	
<i>Phalacrocorax auritus</i> double-crested cormorant	ABNFD01020	None	None	G5	S4	WL
<i>Philanthus nasalis</i> Antioch specid wasp	IIHYM20010	None	None	G1	S1	
<i>Plagiobothrys hystriculus</i> bearded popcornflower	PDBOR0V0H0	None	None	G2	S2	1B.1
<i>Pogonichthys macrolepidotus</i> Sacramento splittail	AFCJB34020	None	None	GNR	S3	SSC
<i>Potamogeton zosteriformis</i> eel-grass pondweed	PMPOT03160	None	None	G5	S3	2B.2
<i>Reithrodontomys raviventris</i> salt-marsh harvest mouse	AMAFF02040	Endangered	Endangered	G1G2	S1S2	FP
<i>Riparia riparia</i> bank swallow	ABPAU08010	None	Threatened	G5	S2	
<i>Sagittaria sanfordii</i> Sanford's arrowhead	PMALI040Q0	None	None	G3	S3	1B.2
<i>Scutellaria galericulata</i> marsh skullcap	PDLAM1U0J0	None	None	G5	S2	2B.2
<i>Scutellaria lateriflora</i> side-flowering skullcap	PDLAM1U0Q0	None	None	G5	S2	2B.2



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<i>Sidalcea keckii</i> Keck's checkerbloom	PDMAL110D0	Endangered	None	G2	S2	1B.1
<i>Spea hammondi</i> western spadefoot	AAABF02020	None	None	G2G3	S3	SSC
<i>Sphecodogastra antiochensis</i> Antioch Dunes halictid bee	IIHYM78010	None	None	G1	S1	
<i>Spirinchus thaleichthys</i> longfin smelt	AFCHB03010	Candidate	Threatened	G5	S1	
<i>Stabilized Interior Dunes</i> Stabilized Interior Dunes	CTT23100CA	None	None	G1	S1.1	
<i>Symphyotrichum lentum</i> Suisun Marsh aster	PDASTE8470	None	None	G2	S2	1B.2
<i>Thamnophis gigas</i> giant gartersnake	ARADB36150	Threatened	Threatened	G2	S2	
<i>Valley Needlegrass Grassland</i> Valley Needlegrass Grassland	CTT42110CA	None	None	G3	S3.1	

Record Count: 89