



DRAFT INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

Mokelumne River Confluence Multi-Benefit Project on Staten Island

JUNE 2026

PREPARED FOR

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Cover photo: Staten Island levee slope.

PROJECT SUMMARY

Mokelumne River Confluence Multi-Benefit Project on Staten Island	
Lead agency name and address:	Reclamation District No. 38 (Staten Island) Post Office Box 2382 Stockton, California 95201
Contact person and phone number:	Martin Berber, Project Manager (916) 441-6850 Engineer/Representation Wagner and Bonsignore, Consulting Civil Engineers 2379 Gateway Oaks Drive, Suite 100 Sacramento, CA 95833
Project location:	Staten Island, San Joaquin County
Project sponsor's name and address:	California Department of Water Resources Delta Levees Program P.O. Box 942836 Sacramento, CA 94236-0001
General plan designation:	General Agriculture (A/G)
Zoning:	AG-40 (General Agriculture, 40-acre minimum)
Description of Project:	Rehabilitation of the levee section from Station 822+00 through Station 1038+00 to the Delta-Specific Public Law 84-99 standard and creation of approximately 1 acre of Delta Waterside Habitat from Station 857+00 through Station 864+00
Surrounding land uses and setting:	Located on land zoned for agriculture and adjacent to the North and South Mokelumne rivers
Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement):	- California Department of Water Resources (funding) - California Department of Fish and Wildlife (Lake and Streambed Alteration Agreement) - Central Valley Regional Water Quality Control Board (Section 401 water quality certification) - U.S. Army Corps of Engineers (Section 404 Nationwide Permit) - Delta Stewardship Council (Delta Plan Consistency Determination)
Have California Native American Tribes traditionally and culturally affiliated with the Project Area requested consultation pursuant to Public Resources Code section 21080.3.1? If so, is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.?	The Confederated Villages of Lisjan Nation requested formal consultation pursuant to Public Resources Code Section 21080.3.1. Consultation was conducted pursuant to Government Code Sections 65351, 65352.3, and 65562.5, and concluded on May 20, 2026. Implementation of mitigation measures addressing inadvertent discovery procedures for tribal cultural resources and human remains would reduce any potentially significant impacts to a less-than-significant level.

PROPOSED MITIGATED NEGATIVE DECLARATION

Project: Mokelumne River Confluence Multi-Benefit Project on Staten Island

Lead Agency: Reclamation District No. 38

Project Location: Staten Island, San Joaquin County

Project Description: The Mokelumne River Confluence Multi-Benefit Project on Staten Island (Project) will rehabilitate approximately 4 miles of the Staten Island levee system from Station 822+00 through Station 1038+00 to the Delta-Specific Public Law 84-99 standard. Additionally, the Project will create approximately 1 acre of Delta Levee Waterside Habitat from Station 857+00 through Station 864+00.

Findings: An Initial Study has been prepared to assess the potential effects of the Project on the environment and the significance of those effects. Based on the Initial Study, Reclamation District No. 38 has determined that the Project, including conservation measures that are part of the Project design, would not have significant effects on the environment. This conclusion is supported by the following findings:

- the Project would not result in impacts on or related to agriculture and forestry resources, land use and planning, mineral resources, noise, population and housing, public services, recreation, transportation, and wildfire;
- the Project would result in less-than-significant impacts on or related to aesthetics, air quality, energy, geology and soils, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, and utilities and service systems;
- mitigation would be included to reduce potentially significant impacts to less-than-significant levels for biological resources, cultural resources, and tribal cultural resources.

Mandatory Findings of Significance:

- The 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, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory.
- The Project would not have environmental effects that are individually limited, but cumulatively considerable.
- The Project would not have environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly.
- The Project would not achieve short-term environmental goals to the disadvantage of long-term environmental goals.
- No substantial evidence exists that the Project would have a negative or adverse effect on the environment.

Proposed Mitigation Measures: Mitigation measures included for the Project to avoid or minimize potential environmental impacts are included in the attached Initial Study, which is hereby incorporated and fully made part of this Mitigated Negative Declaration. Implementation of these mitigation measures will ensure that the potential environmental impacts of the Project are less than significant. Reclamation District No. 38 has agreed to implement each of the identified mitigation measures, which will be adopted as part of the Mitigation Monitoring and Reporting Program.

Determination: In accordance with Section 21082.1 of the California Environmental Quality Act (CEQA), Reclamation District No. 38 has independently reviewed and analyzed the Initial Study and proposed Mitigated Negative Declaration for the Project and finds that the Initial Study and proposed Mitigated Negative Declaration reflects the independent judgment of Reclamation District No. 38. The lead agency further finds that the Project mitigation measures will be implemented as stated in the Initial Study and Mitigated Negative Declaration. This Mitigated Negative Declaration is filed in accordance with CEQA and the State CEQA guidelines.

I hereby approve this Project:

Reclamation District No. 38

Date

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Acronyms and Abbreviations

AB	Assembly Bill
BFE	Base Flood Elevation
BMP	Best Management Practice
Basin Plan	Water Quality Control Plan for the Central Valley
CalEEMod	California Emissions Estimator Model
CAL FIRE	California Department of Forestry and Fire Protection
CARB	California Air Resources Board
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CHRIS	California Historical Resources Information System
CO ₂ e	carbon dioxide equivalent
CRPR	California Rare Plant Rank
dB	decibel
dBA	A-weighted decibel
Delta	Sacramento-San Joaquin Delta
District	Reclamation District No. 38
DLWH	Delta Levee Waterside Habitat
DPS	Distinct Population Segment
ESA	Endangered Species Act
FMMP	Farmland Mapping and Monitoring Program
FNU	Formazin Nephelometric Units
ft	foot
GHG	greenhouse gas
IS/MND	Initial Study/Mitigated Negative Declaration
MBTA	Migratory Bird Treaty Act
mi	mile
MLD	Most Likely Descendant
MMTCO ₂ e	million metric tons of carbon dioxide equivalent
NAHC	Native American Heritage Commission
NOAA	National Oceanic and Atmospheric Administration
NTU	Nephelometric Turbidity Units
NWI	National Wetlands Inventory
PG&E	Pacific Gas and Electric Company
Project	Mokelumne River Confluence Multi-Benefit Project on Staten Island
PL	Public Law
PM _{2.5}	particulate matter (2.5 microns in diameter)
PM ₁₀	particulate matter (10 microns in diameter)

SWPPP	Stormwater Pollution Prevention Plan
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VdB	vibration decibel
WEAP	Worker Environmental Awareness Program

1 INTRODUCTION

Reclamation District No. 38 (District) is proposing to construct the Mokelumne River Confluence Multi-Benefit Project on Staten Island (Project) to rehabilitate approximately 4 miles (mi) of the levee along portions of the North and South Mokelumne rivers from Station 822+00 through Station 1038+00. Additionally, the Project will create approximately 1 acre of Delta Levee Waterside Habitat (DLWH) from Station 857+00 through Station 864+00.

This Initial Study/Mitigated Negative Declaration (IS/MND) has been prepared in compliance with the California Environmental Quality Act (CEQA) to address the potential environmental effects resulting from Project implementation. With the implementation of conservation measures included in the Project description, all impacts associated with this Project are anticipated to be less than significant.

1.1 Project Purpose and Benefits

The District was formed to provide levee maintenance, flood protection, and drainage management for approximately 9,200 acres of wildlife-friendly agricultural land, local infrastructure, and other assets on Staten Island through levee maintenance and habitat restoration.

Portions of the Staten Island levee system from Station 822+00 through Station 1038+00 have a history of seepage and currently lack adequate freeboard above the 100-year Base Flood Elevation (BFE). To address these issues, the District proposes to rehabilitate this levee section to meet the Delta-Specific Public Law (PL) 84-99 standard¹, providing 1.5 feet (ft) of freeboard above the 100-year BFE as determined by the U.S. Army Corps of Engineers (USACE; USACE 1992). The Project also includes constructing a levee setback between Station 857+00 and 864+00 to create a waterside bench and approximately 1 acre of DLWH, which would be revegetated, maintained, and monitored.

Funded by the Delta Levees Special Flood Control Projects Program (Project Funding Agreement ST-24-1.0-SP), the Project aims to reduce the risk of levee failure on Staten Island's southwest corner, provide Staten Island with 100-year flood protection, and restore waterside habitat. It also prepares for an anticipated sea level rise of up to 0.5 ft, which could occur by 2030 under high scenarios or by 2050 under low scenarios.

The levee toe berm reconstruction will improve stability under both static loading and earthquake forces. It will also protect the landside toe from future peat oxidation and subsidence, enhance resistance to

¹ PL 84-99 authorizes the USACE to provide post-flood emergency rehabilitation assistance to eligible non-federal flood control works. In the Sacramento–San Joaquin Delta, the California Department of Water Resources (DWR) has developed Delta-specific levee evaluation and rehabilitation criteria that are commonly used by local maintaining agencies when rehabilitating agricultural levees to support levee reliability and potential eligibility for PL 84-99 assistance (DWR 2014). These criteria may include 1.5 ft of freeboard above the 100-year BFE, a minimum 16-ft-wide crest with all-weather road access, waterside slopes no steeper than 2:1 (horizontal:vertical), landside slopes ranging from 3:1 to 5:1 (horizontal:vertical) depending on levee height and peat depth, and a landside toe drain located 30 ft landward of the landside levee toe (DWR 2014).

under-seepage, and provide additional protection against seepage through the lower portion of the landside levee slope covered by the berm.

1.2 Project Location

The Project is located in the Sacramento–San Joaquin River Delta (Delta) of San Joaquin County along the Mokelumne River, approximately 18 mi northwest of the city of Stockton, California (Figure 1-1). The island is bounded by the North Mokelumne River to the north and west and the South Mokelumne River to the east and south (Figure 1-1). The island is situated south of Deadhorse Island, east of Tyler Island, north of Bouldin Island, and west of New Hope Tract, Canal Ranch, Brack Tract, and Terminous Tract. Staten Island is accessible by Walnut Grove–Thornton Road (County Route J11) at the island’s northern end.

1.3 Project Area

The Project Area extends from Station 822+00 to Station 1038+00 along the western edge of Staten Island and includes (1) the levee crown, confined to the portion landward of the waterside hinge of the existing levee, and the adjacent landside areas along the Project levee and (2) the setback levee segment between Station 857+00 and Station 864+00, which includes both landside and waterside levee work, extending from the existing levee waterside hinge down to mean lower low water (MLLW) to accommodate construction of the DLWH. The Project Area is bordered by agricultural lands on the interior of the island and by the North and South Mokelumne rivers on the waterside of the levee (Figure 1-1).

1.4 Project Description

The Project will consist of the rehabilitation of the levee section along the North and South Mokelumne rivers and the construction of a setback levee. The Project consists of two phases of work—landside levee rehabilitation and waterside habitat enhancement. The landside work includes excavating the existing aggregate base road surfacing, placing fill to create a compacted embankment, and constructing an all-weather patrol road. The waterside work, which will occur at the setback levee, involves excavating the existing levee section to create a waterside bench, placing soil-filled riprap armoring, and planting native riparian species on the waterside slope of the setback levee.

1.4.1 Levee configuration

The Project includes importing and placing approximately 712,000 tons of levee fill material and 15,000 tons of aggregate base material to rehabilitate a continuous 4-mi-long section of the Staten Island levee system from Station 822+00 to Station 1038+00 to meet the Delta-Specific PL 84-99 standard.

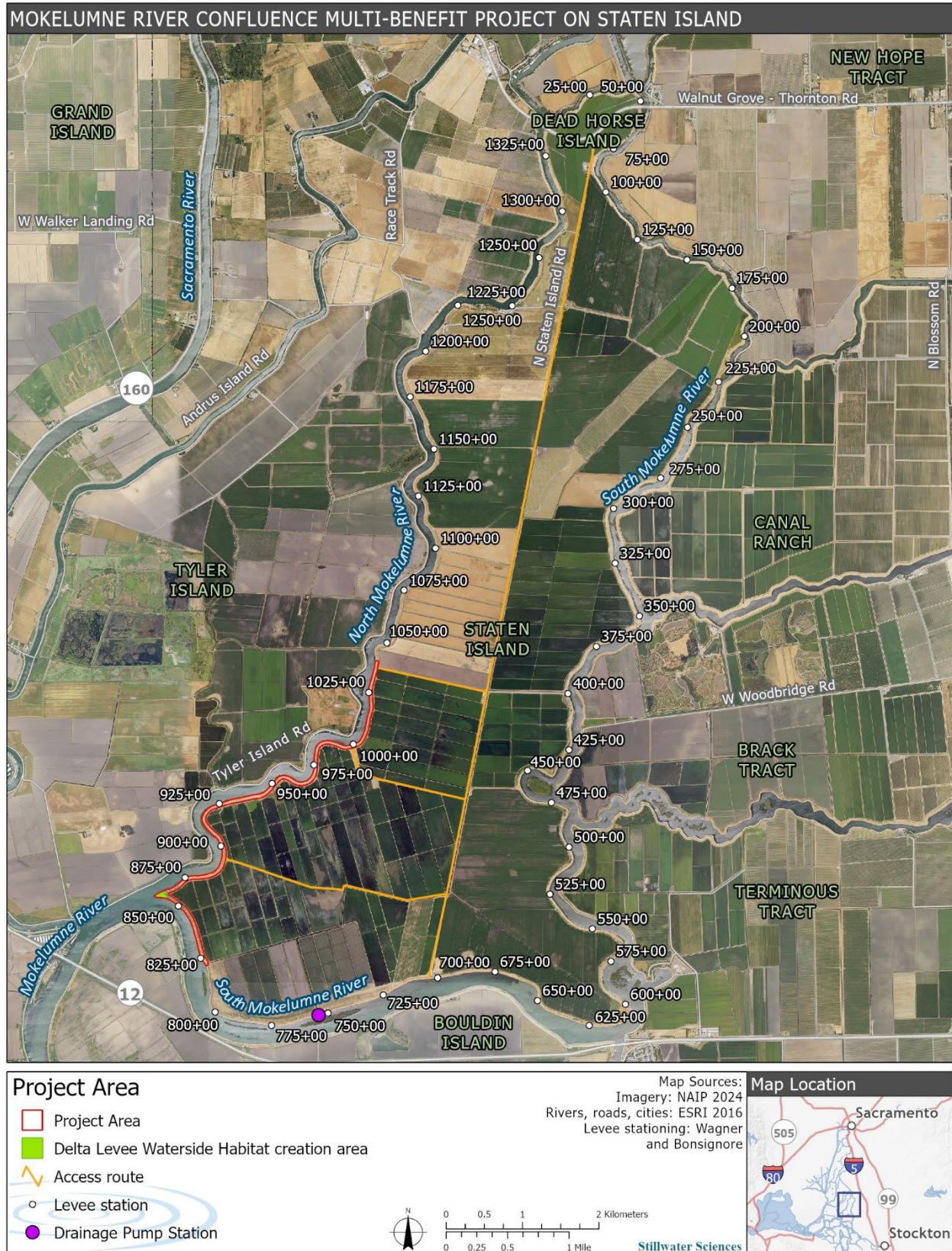
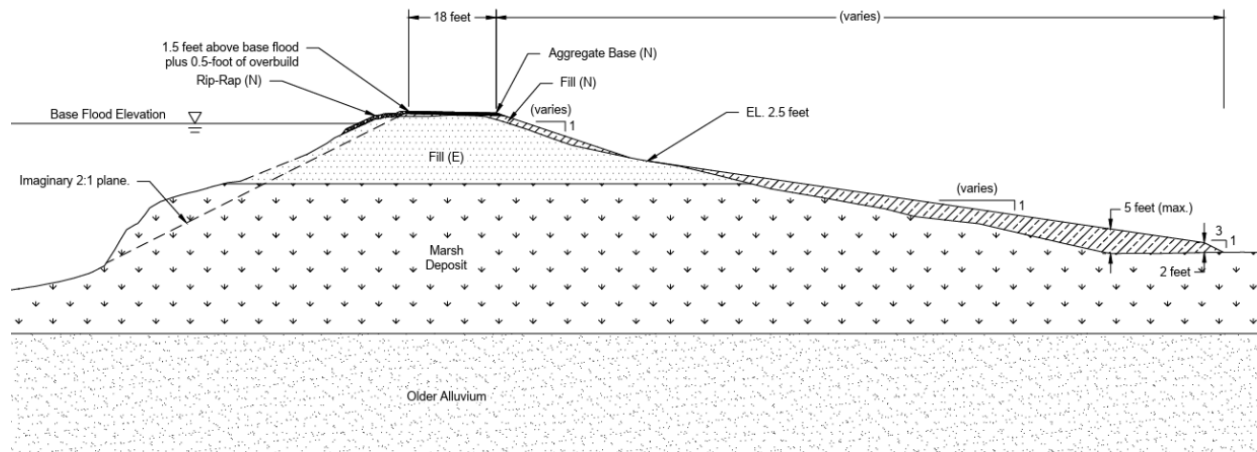


Figure 1-1 Project Area on Staten Island and surrounding vicinity

1.4.1.1 Landside

A typical levee cross-section design for the Project is provided in Figure 1-2. Levee rehabilitation will create a landside slope varying between 3:1 and 4:1 (horizontal:vertical). The embankment crest will be constructed 2 ft above the 100-year BFE, consisting of 1.5 ft of freeboard and 6 inches (in.) of overbuild to accommodate an estimated 6 in. of settlement at the levee centerline associated with consolidation of underlying marsh deposits. The crest geometry also provides tolerance for settlement toward the landside hinge.



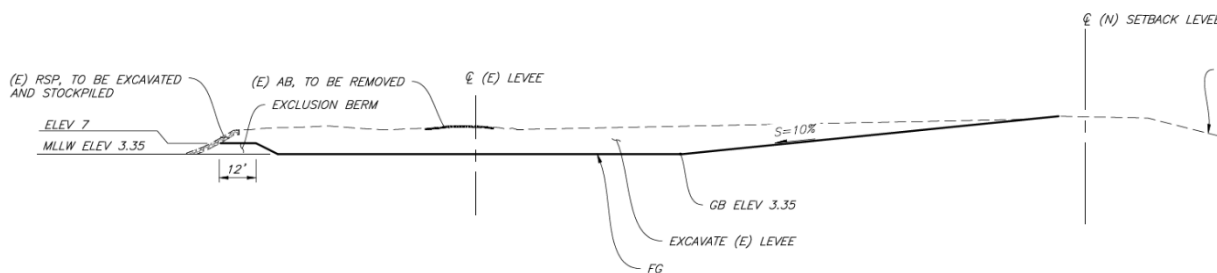
Source: Shannon & Wilson (2025)

Figure 1-2 Typical levee repair configuration for landside work

A counterbalance berm on the landside toe of the levee will enhance static and seismic stability, exceeding the minimum factor of safety of 1.25 in accordance with the Delta-Specific PL 84-99 standard. The counterbalance toe berm will also mitigate subsidence by capping organic foundation materials to prevent further oxidation and enable the District to periodically raise the levee section to maintain compliance with PL 84-99. The toe berm would extend a set distance from the landside hinge based on the thickness of the marsh soils, beginning at 5 ft thick at the existing levee slope toe and tapering to 2 ft thick at the landward edge of the toe berm.

1.4.1.2 Setback levee and waterside bench

The proposed setback levee will allow for the restoration of approximately 1 acre of DLWH by increasing the cross-sectional area at the confluence of the North and South Mokelumne rivers and creating a waterside bench to allow for new tidal wetlands, scrub-shrub, and riparian habitat (Figure 1-3). The levee will be offset approximately 200 ft landward at the maximum section near Levee Station 860+40, and will gradually transition back to tie into the existing levee alignment. The existing levee within the setback section will be excavated from the waterside hinge down to MLLW. The setback levee will include a 10:1 (horizontal:vertical) waterside slope.



Source: Wagner & Bonsignore (2025)

Figure 1-3 Setback levee and waterside bench configuration at Station 860+40

1.4.2 Construction

1.4.2.1 Site preparation

Site preparation will include stripping, clearing, and grubbing upland vegetation and debris within the construction footprint. The site will be stripped to a sufficient depth (i.e., maximum of 3 in.) to remove vegetation and root-bearing soil. Tree roots larger than 1 in. in diameter will be removed. All stripped and grubbed material will be stockpiled temporarily and spread on the landside toe berm at the conclusion of construction. Existing aggregate base will be removed from the levee crest and placed on interior island roads.

The Project includes excavating a shallow, unshored exploratory trench along the levee axis through the levee crest. The depth of the trench will depend on the ability of the levee materials to stand unshored and is expected to range from approximately 5 to 7 ft. Exploratory excavated material will be placed back into the trench and compacted. The trench will allow continuous observation of shallow subsurface conditions beneath the levee crest, disrupting through-going horizontal layers of permeable or erodible soil and providing an opportunity to locate and remove existing pipes, tree roots, and other deleterious materials (e.g., expansive clay, salts, porous rock) present at shallow depths.

1.4.2.2 Fill material

Approximately 15,000 tons of imported aggregate base material will be used to construct a 16-ft-wide, all-weather levee crest patrol road, and approximately 712,000 tons of imported, compacted embankment material will be placed to rehabilitate levee sections and construct the setback levee. Onsite borrow areas will not be used. Imported materials for the Project will be sourced from nearby areas, such as Lodi and Stockton, with specific locations to be determined by the contractor and approved by the District engineer prior to construction. Materials will be transported using existing public and private roads that are currently used for agricultural operations and levee maintenance on Staten Island, such as West Walnut Grove Road, Staten Island Road, and private levee roads. Materials can also be transported by river barge, if needed.

Material excavated from the setback levee area to construct the waterside bench will be stockpiled on the interior of the island.

1.4.2.3 Siphon modifications

Eight irrigation siphons will be modified to accommodate levee rehabilitation and ensure that each siphon crosses the levee crest above the 100-year BFE. Table 1-1 lists the siphons to be modified as well as their corresponding station and diameter size.

Table 1-1 List of siphons set to be modified during Project construction

Siphon number	Station number	Siphon diameter (inches)
9	1027+28	12
10	1002+53	12
11	999+00	16
12	975+33	12
13	953+49	12
14	924+21	12
15	894+45	16
16	876+30	14

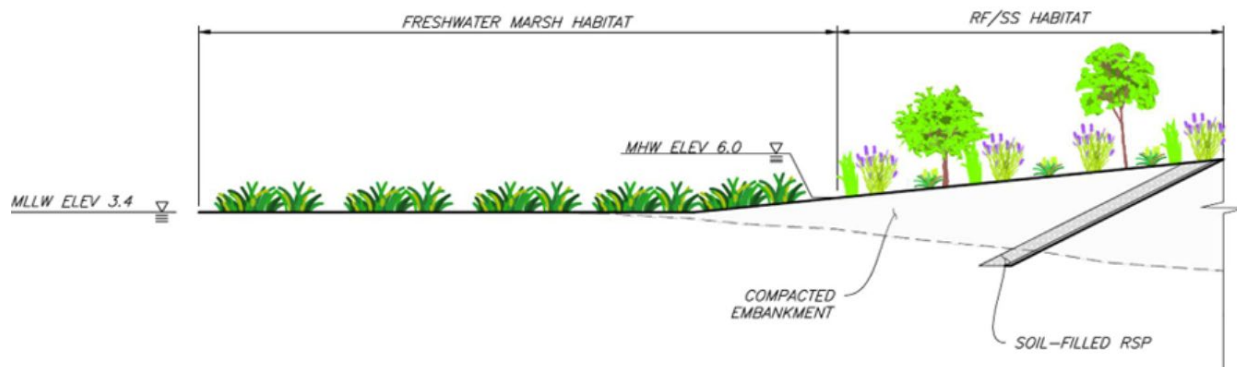
1.4.2.4 Setback levee and waterside bench

Construction of the setback levee and waterside bench will include excavation of approximately 3,000 cubic yards of material to degrade the existing levee from the waterside hinge, eventually down to MLLW (Figure 1-3). Construction will begin with degrading the existing levee down to elevation 7.0 ft, which is above the MHHW elevation of 6.3 ft. This will include removing the existing RSP as well as existing levee fill material. A 12-foot-wide tide exclusion berm will be maintained along the waterside edge of the excavation to isolate the work area from tidal influence until majority of excavation activities within the setback area are completed (Figure 1-3). Once Project activities are complete landside of the tide exclusion berm, approximately 50-foot section of the berm will be breached to MLLW. Breaching of the tide exclusion berm will be performed during low or receding tides to avoid any in-water work, and no construction equipment will operate within the water.

Construction of the setback levee will occur in two stages to accommodate an estimated 6 ft of settlement due to underlying compressible marsh deposits. The first stage will be built with sufficient height to absorb roughly 4 ft of settlement and will include a 30-ft-wide crest, leaving adequate width for an additional 2 ft of fill to be placed during the second stage. A minimum 90-day waiting period will occur between the two stages. Additionally, a keyway will be constructed beneath the setback levee prior to placement of levee fill using low-permeability imported material. It will be centered on the levee centerline, at least 3 ft deep with a 10-ft-wide base, and will include a 2:1 (horizontal:vertical) waterside slope extending to the ground surface. Steel pipe settlement plates will be installed beneath the setback levee crest embankment and at the mid-points of the waterside slope and landside toe berms to support fill-thickness control and settlement monitoring.

After levee excavation, the waterside slope of the setback levee will be armored with soil-filled riprap using fill material and imported riprap to reduce erosion and improve stability. Emergent wetland

habitat (e.g., *Schoenoplectus* [tule] species) will be planted on the waterside bench and lower slope below mean high water (MHW). Riparian forest and scrub-shrub habitats will be planted on the waterside slope above MHW (Figure 1-4). Final acreages of freshwater marsh, riparian forest, and scrub-shrub habitats will be determined during development of the planting plan. The new landside levee slope will be hydroseeded with a native seed mix. In addition, the waterside slopes of the setback levee will be hydroseeded with a mix of native grasses and forbs following construction completion. Habitat plantings on the levee waterside will be monitored and maintained for 3 years after planting to ensure performance criteria are met.



Notes: MHW = mean high water; RSP = rock slope protection (i.e., riprap); RF = riparian forest; SS= scrub-shrub

Source: Wagner & Bonsignore (2025)

Figure 1-4 Typical waterside bench detail

1.4.3 Staging

Contractor facilities, large equipment, and construction materials will be staged adjacent to the Project Area, generally along the landside levee toe and crest. Materials, portable equipment, and supplies will be stockpiled in designated areas along the levee crown or adjacent landside. All staging and stockpiling will be confined to the Project Area.

1.4.4 Erosion control and planting

Appropriate best management practices (BMPs) (e.g., working only during dry periods) and a Stormwater Pollution Prevention Plan (SWPPP) will be implemented during construction to prevent and control potential impacts on waters from erosion during Project construction (Section 1.4.8). The SWPPP will include implementation of appropriate BMPs for waterside work (e.g., turbidity curtains and compost socks) to minimize potential sediment discharge and protect water quality.

Following construction, the new landside slope will be hydroseeded with a native seed mix to protect against erosion and to create a native upland grassland ecosystem. Hydroseeding at the end of construction and prior to the rainy season will help minimize erosion during the wet months.

1.4.5 Utility infrastructure protection

The Project will require coordination with Pacific Gas and Electric Company (PG&E) and Lodi Gas Storage, LLC, to address the existing gas lines that cross through the levee and a concrete vault near Station 1037+00. The concrete vault will be extended by PG&E approximately 3 ft in height to accommodate levee rehabilitation. PG&E plans to complete this work in 2026 in advance of Project construction. Work would be limited to the levee crown and landside slope adjacent to the existing vault, where a secondary protective structure would be constructed around the existing vault footprint. The Project would not require relocation of existing gas lines, and work would be coordinated with the utility providers and is not anticipated to result in service interruptions.

1.4.6 Equipment and access

Table 1-2 provides a list of equipment expected to be used during Project implementation.

Table 1-2 Equipment list for the Staten Island Levee Rehabilitation Project

Equipment type	Number of rigs (or trips, ¹ if specified)	Phase I estimated hours (or total trips, if specified)	Phase II estimated hours (or total trips, if specified)
Dozer, CAT D6	2	1,696	0
Dozer, CAT D4	1	0	352
Motor grader, CAT 150 or CAT 160	1	848	352
Vibratory compactor, CAT 815	1	848	352
Excavator, CAT 325	1	848	352
CAT 613 scrapers	1	120	0
Telehandler	1	60	0
Haul trucks (import)			
<i>Compacted Fill</i>	~200 trips/day ²	31,000 total trips	26,000 total trips
<i>Aggregate Base</i>	~100 trips/day ²	600 total trips	570 total trips
<i>RSP, Class III</i>	~35 trips/day ³	35 total trips	35 total trips
Water truck	2	1,696	352
Foreman/support crew truck	2	1,696	352

Notes: ~ = approximately
RSP = rock slope protection (i.e., riprap)

¹ A trip represents a one-way vehicle movement. One-half of the trips are associated with import of materials to the Project site, and one-half are haul trucks leaving the Project site.

² 25-ton haul truck

³ 20-ton haul truck

Construction equipment and materials will be transported to Staten Island via trucks using the existing levee access road (Figure 1-1), with the option of using river barges if necessary. Equipment such as excavators, graders, bulldozers, water trucks, and compactors will be used to place and compact the fill material (Table 1-2). All haul routes will be restricted to existing roads.

Water trucks will be filled as needed to control dust during construction. Construction equipment will primarily operate from the levee crown or landside toe slope.

1.4.7 Schedule

Project construction activities are anticipated to occur over 2 years in two phases. Phase 1 is scheduled for May 1 through October 31, 2027, and Phase 2 is scheduled for May 1 through October 31, 2028. Across these windows, approximately 232 working days are expected to be required to complete the construction phases of the Project. Work will follow a standard 10-hour schedule during daylight hours, beginning no earlier than 6:00 a.m. and ending no later than 9:00 p.m. each workday. Work hours may be further restricted, as necessary, to avoid disturbance to sensitive bird species during seasonal peak activity periods (e.g., before sunrise and after sunset), in coordination with Conservation Farms and Ranches (CF&R) biologist and other resource agencies. Revegetation activities, which do not require construction equipment, will occur after construction is complete, between November 1 and December 31, 2028.

1.4.8 Conservation measures

The following conservation measures will be implemented as part of the Project. The measures are based on standard practices to avoid, minimize, or reduce potential impacts to environmental resources and to comply with existing regulations and requirements pertaining to air quality, biological resources, cultural resources, energy, greenhouse gas (GHG) emissions, hazards/hazardous materials, and hydrology/water quality.

CM-1: Air quality protection. The following BMPs will be implemented during Project construction to protect air quality:

- a) Materials may not be burned within the Project Area at any time.
- b) The contractor will be required to maintain all excavations, compacted embankments, stockpiles, haul roads, access roads, plant sites, waste areas, borrow sources, and all other work areas within or without the Project boundaries free from dust, which would cause the local standard for air pollution to be exceeded, or which would cause a hazard or nuisance to others.
 - a. Approved temporary methods of stabilization consisting of sprinkling, chemical treatment, or similar methods will be permitted to control dust. Sprinkling, to be approved, must be repeated at least twice daily or at such intervals as to always keep all parts of the disturbed area at least damp, and the contractor must have sufficient equipment on the job to accomplish this if sprinkling is used.
 - b. Dust control will be performed as the work proceeds and whenever a dust nuisance or hazard occurs. The contractor's attention is particularly drawn to the proximity of public roadways and residential areas and the special importance of effective dust control.
- c) Haul trucks transporting soil, sand, or other loose materials on freeways or major roadways will be covered or maintain a minimum of 2 ft of freeboard. Any haul trucks that would be traveling along freeways or major roadways must be covered.
- d) Traffic speeds on all unpaved surfaces will be limited to 15 mi per hour or less.

- e) Track-out will be removed immediately when it extends 50 ft or more from the Project Area and at a minimum of once at the end of each work day.
- f) Equipment idling time will be minimized by either shutting equipment off when not in use or reducing the time of idling to 5 minutes [required by California Code of Regulations, Title 13, Sections 2449(d)(3) and 2485]. Clear signage stating this requirement will be posted for workers at the entrances to the site.
- g) The operation of all diesel-fueled construction equipment will comply with the California Air Resources Board's (CARB) In-Use Off-Road Diesel-Fueled Fleets Regulation.
- h) All construction equipment will be properly tuned and maintained prior to and for the duration of onsite operation.

CM-2: Erosion and sediment control. Prior to Project construction, an SWPPP will be developed. The SWPPP will be kept onsite during construction activity and will be accessible during operation of the Project. The SWPPP will include, but not be limited to, the following elements to avoid and minimize potential impacts to water quality in surrounding waterways from erosion:

- a) Prior to breaching the tidal exclusion berm, installation of a turbidity curtain in a manner that does not entrap fish species to reduce potential sediment discharge and protect water quality.
- b) Requirements regarding work limits and erosion control measures during and surrounding major precipitation events.
- c) Measures to protect the site from washout or erosion prior to the onset of the rainy season (e.g., compost socks).
- d) Where applicable, procedures to restore temporarily affected areas to pre-construction contours and conditions upon completion of construction activities and to re-seed any areas of bare ground with a native seed mix.
- e) Requirements regarding the proper storage of soil, silt, and earthen materials and the implementation of erosion control measures throughout all phases of operation where silt and/or earthen fill have the potential to enter Waters of the U.S. and/or State.
- f) Ground cover will be reestablished within the Project Area as soon as possible after construction.

CM-3: Hazardous materials BMPs. The following BMPs will be implemented during Project construction regarding the use of hazardous materials:

- a) No potentially hazardous materials will be stored in a location where there is potential to enter any waterways and/or contaminate aquatic resources. All construction materials with the potential to pollute runoff will be handled and delivered with care and stored under cover and/or surrounded by berms when rain is forecast or during wet weather.
- b) An effort will be made to store only enough of a product necessary to complete the work.
- c) Materials, fuels, liquids and lubricants, and equipment supplies stored onsite will be stored in a neat, orderly manner, in their appropriate containers, with the original manufacturer's label and, if possible, in an enclosure.

- d) Any hazardous materials will be stored and labeled according to local, state, and federal regulations. If drums must be stored without overhead cover, they will be stored at a slight angle to reduce corrosion and ponding of rainwater on the lids.
- e) Substances will not be mixed with one another unless recommended by the manufacturer. Manufacturer's recommendations for proper use and disposal of a product will be followed.
- f) Whenever possible, all the product will be used up before disposal of its container. If surplus product must be disposed of, the manufacturers or the local and State recommended methods for proper disposal will be followed.

CM-4: Fire prevention. The following measures will be implemented to reduce the potential for fire:

- a) Smoking will be permitted only in designated smoking areas.
- b) Every fuel truck will carry a large fire extinguisher with a minimum rating of 40 B:C.
- c) All flammable materials will be removed from equipment parking and storage areas.

1.4.9 Mitigation measures

Mitigation measures have been added to the Project to reduce potential impacts to biological resources, cultural resources, tribal cultural resources (TCRs) and water quality to a less-than-significant level.

MM-1: Pre-construction biological surveys and resource avoidance. A qualified biologist with appropriate knowledge and experience in the biology, life history, and identification of fish, wildlife, and plants that are likely to be encountered during proposed Project activities will conduct pre-construction biological surveys for special-status plants (including during low tide, where applicable), wildlife, and sensitive natural communities before construction commences each season. Based on the survey results, the biologist will establish appropriate avoidance buffers for sensitive resources. For special-status plants, any populations identified will be flagged for avoidance with a minimum 10-ft-radius buffer. If work must occur within this 10-ft buffer, hand tools will be used to the extent possible. The qualified biologist will be present at appropriate intervals prior to and during construction activities that have the potential to adversely affect sensitive resources (e.g., during in-water work in the Mokelumne River or work within established buffers). The biologist will have the authority to halt any work that is deemed to be a cause for concern or that may endanger special-status plants, wildlife, or fisheries resources.

MM-2: Worker Environmental Awareness Program (WEAP) training. All contractors and equipment operators will be provided with WEAP training about the environmental resources of the Project Area, including special-status fish, wildlife, sensitive natural communities, and plant species with potential to occur within the Project Area, and about required protection measures. Workers will be informed about the presence, life history, and habitat requirements of all special-status species that may be affected by Project activities. Training will also include information on state and federal laws protecting fish, wildlife, plants, nesting birds, cultural resources, and water quality and the consequences of noncompliance with these laws. WEAP training will be conducted prior to construction activities or to adding any new staff/contractors during the Project.

MM-3: Waterside seasonal work window. All waterside work below the levee hinge will be limited to July 1 through October 31, a time frame when special-status fish are least likely to be present adjacent to the Project Area. Work below the Ordinary High-Water line will be limited to windows determined by resource agencies.

MM-4: Crotch's bumble bee surveys and protection. A pre-construction survey for special-status bumble bees (*Bombus* spp.) and their nests will be conducted no more than 7 days in advance of construction activities within the Project Area. If an active bumble bee nest is identified, a 25-ft no-disturbance buffer will be established and will remain in place until the biologist is able to determine the nest is no longer active.

MM-5: Northwestern pond turtle surveys and protection. A pre-construction survey for northwestern pond turtles (*Actinemys marmorata*) and active breeding locations (i.e., nests), as relevant, will be conducted in all suitable habitat within, and up to 100 ft surrounding, the Project Area. These surveys will be conducted no earlier than 7 days prior to initiation of construction activities each season. If an active northwestern pond turtle nest (nesting season is typically May through July) is discovered, the area will be noted, and a no-disturbance buffer will be established and flagged. The recommended no-disturbance buffer is 100 ft; however, the buffer will be determined by the qualified biologist (and, if needed, in consultation with relevant agencies) based on environmental conditions and activities being conducted nearby. No Project activities will occur within the no-disturbance buffer zone until the biologist has determined that the nest is no longer in use. If deemed appropriate by the biologist, exclusion fencing may be incorporated. If a northwestern pond turtle is observed at any time during construction, it will be allowed to leave the area on its own or may be relocated by a qualified biologist to suitable habitat outside the Project footprint.

MM-6: Giant garter snake surveys and protection. The following measures will be implemented to minimize potential impacts to giant garter snake (*Thamnophis gigas*) or its habitat. These measures are based on the U.S. Fish and Wildlife Service's (USFWS's) *Standard Avoidance and Minimization Measures during Construction Activities in Giant Garter Snake Habitat, from Programmatic Formal Consultation for U.S. Army Corps of Engineers 404 Permitted Projects with Relatively Small Effects on the Giant Garter Snake within Butte, Colusa, Glenn, Fresno, Merced, Sacramento, San Joaquin, Solano, Stanislaus, Sutter and Yolo Counties, California* (USFWS 1997), as well as recommendations from the California Department of Fish and Wildlife (CDFW).

- a) Site preparation and initial ground-disturbing activities within 200 ft of suitable giant garter snake habitat will occur between May 1 and October 1 (the snake's active period), lessening the potential for direct mortality during brumation. Ground-disturbing work initiated prior to October 1 may continue into the snake's inactive season.
- b) All Project Areas will be surveyed for giant garter snake by a qualified biologist within 24 hours prior to the start of construction activities and, again, if there is a lapse in activity of 2 weeks or more.
- c) If a giant garter snake is discovered at any time within the Project Area, all Project activities will halt until USFWS and CDFW have been notified and given the opportunity to provide additional giant garter snake protection measures.

- d) Project-related vehicles will observe a 15-mi-per-hour speed limit, and drivers will be informed to watch for snakes during construction and access to the Project Area.
- e) The use of erosion control materials potentially harmful to giant garter snake, such as mono-filament netting, will be prohibited. Tightly woven fiber netting or similar material will be used instead to ensure that giant garter snakes do not get trapped or become entangled.

MM-7: Nesting bird surveys and protection. To the extent practicable, construction will take place outside the typical bird nesting season (February 15 to August 31). If construction is conducted during the nesting season, a biologist will conduct a focused pre-construction nesting bird survey within the Project Area no earlier than 1 week prior to the initiation of Project activities. The survey will be conducted in all potential nesting habitat within the Project Area and within a 250-ft or 1,000-ft buffer for passerines and raptors, respectively. If construction activities lapse for 7 days or more during the nesting season, a biologist will conduct an additional nesting bird survey in areas of potential habitat before Project activities are reinitiated. If an active nest is identified, a no-disturbance buffer will be established using flagging, fencing, and/or signage as appropriate. No construction activities will occur within the buffer zone until a qualified biologist has determined that the young have fledged or that construction activities within the buffer zone are not disturbing the birds. The width of the buffer zone and whether activities are permitted within it will be determined by a qualified biologist.

MM-8: Swainson's hawk surveys and protection. The following measures will be implemented for Project activities conducted between March 1 and August 15 to minimize potential impacts to Swainson's hawk (*Buteo swainsoni*):

- a) Prior to the construction start date, surveys for Swainson's hawk will be conducted following the Swainson's Hawk Technical Advisory Committee's (2000) *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley* within 0.25 mi of the Project Area.
- b) As feasible, initial surveys will be conducted during the early months of the nesting season (March 20 to April 5) to maximize the likelihood of detecting any active nest.
- c) If active nests are found, CDFW will be notified and an initial 0.25-mi no-disturbance buffer around the nest will be established. If Project-related activities need to occur within the no-disturbance buffer, CDFW will be consulted and may permit work if an approved biological monitor experienced with raptor behavior is present during the activity. The biological monitor will have the authority to stop work if nesting hawks are exhibiting agitated behavior.

MM-9: Burrowing owl surveys and protection. Western burrowing owl (*Athene cunicularia hypugaea*) could be present within or near the work area. No earlier than 14 days prior to the start of construction, a biologist will conduct a pre-construction survey for active burrowing owl burrows using methods recommended in CDFW's (2012) *Staff Report on Burrowing Owl Mitigation*. Occupied habitat includes areas burrowing owls may use for breeding (February 1 to August 31), wintering (September 1 to January 31), foraging, and migration stopovers. Occupancy of suitable burrowing owl habitat can typically be verified by an observation of at least one burrowing owl or, alternatively, its molted feathers, cast pellets, prey remains, eggshell fragments, excrement, or loose soil near the burrow entrance. If burrowing owl presence is demonstrated, an appropriate buffer of up to 1,600 ft (as recommended in the CDFW's (2012) *Staff Report on Burrowing Owl Mitigation*) will be established by a biologist around any occupied burrows. Project-related activities that must be conducted within the buffer will be monitored by a qualified

biologist to ensure that Project construction does not detrimentally impact the owls. The onsite biologist will have the authority to stop work if the owls are exhibiting agitated behavior. If the birds appear tolerant of Project activities, the qualified biologist may consider reducing the no-disturbance buffer.

MM-10: Inadvertent discovery procedures for tribal and cultural resources. In the event of an inadvertent discovery of tribal and cultural resources, all ground-disturbing activities will immediately cease within 100 ft of the discovery. Project work may continue at other locations while the discovery is examined.

The District will retain a professionally qualified archaeologist (i.e., an archaeologist that meets the Secretary of Interior's Qualifications Standards at 36 Code of Federal Regulations [CFR] Part 61) to determine the potential significance of the discovery. If it is determined that the discovery is not significant no further investigations are necessary, and Project activity may resume.

If the discovery is determined to be a Tribal Cultural Resource (TCR) pursuant to CEQA, the District shall, in consultation with the Confederated Villages of Lisjan Nation, retain a Tribal representative and, as appropriate, involve the qualified archaeologist to develop and implement a Tribal Cultural Resources Treatment Plan. The Treatment Plan shall prioritize avoidance of the resource. If avoidance is not feasible, appropriate treatment measures shall be developed in consultation with the Tribe. Examples of appropriate mitigation for tribal cultural resources include, but are not limited to, protecting the cultural character and integrity of the resources, protecting traditional use of the resources, protecting the confidentiality of the resources, or heritage recovery. No work shall resume within the 100-foot buffer until consultation with the Tribe has occurred.

If the discovery is determined to be significant other than a Tribal Cultural Resource, additional investigations (e.g., data recovery excavations) may be necessary before resuming Project activities at the site of the discovery. Any additional archaeological investigations will be designed and conducted in consultation with the District, a professionally qualified archaeologist, appropriate Native American Tribes, and other regulatory agencies, as appropriate.

Regardless of the significance of an inadvertent discovery, all inadvertent discoveries of cultural resources and tribal cultural resources, will be appropriately documented and treated in accordance with applicable laws and in coordination with the appropriate Native American Tribe(s).

MM-11: Inadvertent discovery procedures for human remains. In the event of an inadvertent discovery of human remains the provisions of the California Health and Safety Code Section 7050.5, Public Resources Code Section 5097.98, and Assembly Bill (AB) 2641 will be implemented. In addition, all work within 100 ft of the discovery will immediately cease until the discovery can be evaluated by the County coroner. Project work may continue at other project locations while the discovery is examined. If the remains are determined to be Native American, the County coroner must contact the Native American Heritage Commission (NAHC) within 24 hours of this identification. The NAHC will identify a Most Likely Descendant (MLD) for the remains. The MLD will make recommendations for the recovery, treatment, and disposition of any Native American remains or any associated funerary objects.

There shall be no pictures taken or testing done on the Native American human remains. All bone, until identified as not human, shall be treated as potential human remains and the appropriate protocols followed.

The archaeologist shall document the find, as appropriate, in coordination with the MLD and/or Tribal representatives. Upon completion of the archeologist's assessment, a report should be prepared documenting methods and results, as well as the MLD's recommendations regarding the treatment of the human remains and any associated funerary objects. The report should be submitted to the District, the CCIC and the consulting Tribe. Tribal representatives will rebury the Native American human remains and associated funerary objects with the appropriate dignity either; in accordance with the recommendations of the MLD if available or in the project vicinity at a location mutually agreed upon between the Tribe and the District, which may include property owned by a landowner within the District, as appropriate , where the reburial would be accessible to Tribal members in perpetuity and would not be subject to further disturbance. The discovery and reburial is to be kept confidential and secure to prevent any further disturbance.

2 ENVIRONMENTAL SETTING AND IMPACTS

Each of the following resource sections includes a completed checklist (from Appendix G of the CEQA Guidelines) of environmental factors potentially affected and identifies potential Project impacts by significance level (i.e., no impact, less-than-significant impact, less-than-significant impact with mitigation incorporated, and potentially significant impact). The environmental factors checked in Table 2-1 would potentially be affected by this Project; mitigation measures would be implemented to ensure potential impacts are reduced to less than significant levels.

Table 2-1 Summary of environmental factors potentially affected by the Project

☐ Aesthetics	☐ Agriculture and Forestry Resources	☐ Air Quality
☒ Biological Resources	☒ Cultural Resources	☐ Energy
☐ Geology and Soils	☐ Greenhouse Gas Emissions	☐ Hazards and Hazardous Materials
☐ Hydrology and Water Quality	☐ Land Use and Planning	☐ Mineral Resources
☐ Noise	☐ Population and Housing	☐ Public Services
☐ Recreation	☐ Transportation	☒ Tribal Cultural Resources
☐ Utilities and Service Systems	☐ Wildfire	

2.1 Aesthetics

Issues	Potentially significant impact	Less than significant with mitigation incorporated	Less than significant impact	No impact
Except as provided in Public Resources Code Section 21099, would the Project:				
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	✓
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	✓
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?	☐	☐	✓	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☐	✓

2.1.1 Environmental setting

The term *aesthetics* typically refers to the perceived visual character of an area, such as of a scenic view, open space, or architectural facade. The aesthetic value of an area is a measure of its visual character and visual quality combined with viewer response (SJCOG 2018). This combination may be affected by the components of a project (e.g., buildings constructed at heights that obstruct views, hillsides cut and graded, open space changed to an urban setting) or by the length or frequency of viewer exposure to a setting. Aesthetic impacts are changes in viewer response as a result of Project construction and operation.

The levees along the perimeter of Staten Island provide scenic views of the Delta, including the North and South Mokelumne rivers. The 9,200-acre island is part of the Cosumnes River Preserve and is owned and managed by The Nature Conservancy primarily for wildlife-friendly agriculture and includes herbaceous vegetation and wetlands.

Staten Island is a popular destination for wildlife viewing with individual visitors and tour groups visiting the island throughout the year to view sandhill cranes and other waterfowl and shorebirds. The island is accessible by vehicle via West Walnut Grove Road (County Route J11), which provides access to the northernmost portion of the island and crosses the North and South Mokelumne rivers. West Walnut Grove Road connects State Route 160 at Walnut Grove to the west with Thornton Road near Interstate 5 to the east and has an average daily traffic volume of approximately 3,600 vehicles (San Joaquin County Public Works 2025). Though the levees, farm roads, and fields on Staten Island are privately owned,

visitors can drive or walk on North Staten Island Road, on which public access terminates after about 4 mi (i.e., approximately 1 mi east of the Project Area). The levee road through the Project Area is primarily used for agricultural access by farmers and personnel from The Nature Conservancy, along with District employees who maintain the island's infrastructure. Due to the island's subsidence and surrounding levees, individuals engaging in recreation activities on nearby waterways typically have limited visibility into the island's interior.

2.1.2 Findings

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

The Project Area is located along a small portion of the North and South Mokelumne rivers (at their confluence). The levee road and land adjacent to the Project Area is not accessible by the public and is generally not used for scenic viewing. Views of the island's interior would not change following Project construction. Therefore, there would be no impact.

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

Staten Island is not located within a state scenic highway. Therefore, there would be no impact.

c) In nonurbanized areas, would the Project 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?

Construction activities would temporarily disrupt the visual character of the Project Area. During Project construction, some upland vegetation within the Project Area would be removed (Section 1.4.2.1), and portions of the levee would be excavated. These activities would temporarily degrade the visual quality of the site but would be designed to minimize impacts. Additionally, construction equipment may be visible to boaters using the adjacent waterways or the limited number of visitors to the island. These impacts would occur for a short period (i.e., approximately 6 months in 2027 and 6 months in 2028). After Project completion, construction equipment would be removed; freshwater marsh, riparian forest, and scrub-shrub habitats would be created in the DLWH area; and both the waterside and landside levee slope and toe berm would be hydroseeded to reestablish native grasses. Therefore, the Project would not permanently degrade the visual character or aesthetic quality of the Project Area or surrounding areas, and impacts would be temporary and less than significant.

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

The Project would not create a new source of substantial light or glare. Therefore, there would be no impact.

2.2 Agriculture and Forestry Resources

Issues	Potentially significant impact	Less than significant with mitigation incorporated	Less than significant impact	No impact
In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the Project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	✓
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	✓
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220[g]), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104[g])?	☐	☐	☐	✓
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	✓
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?	☐	☐	☐	✓

2.2.1 Environmental setting

The Project's location at the confluence of the North and South Mokelumne rivers has allowed for the development of deep, fertile soils over time. The rich soil and a climate with a lengthy growing season promote extensive agricultural production in San Joaquin County. The county has approximately 920,000 acres of land in agricultural production, and most of this acreage is in active production for fruit and nut crops, field crop livestock, and poultry (San Joaquin County 2016).

Staten Island encompasses approximately 9,200 acres of agricultural land owned and managed by The Nature Conservancy (TNC 2024). Historically, land use has been dominated by row crops and pasture; in

2010, approximately 87% of cultivated acreage was planted with corn, 6% with triticale, 7% with irrigated pasture, and a small area was planted with potatoes in 2011 (Golet 2011). Land use on the island has since shifted substantially, with more than half of the island converted from dry agricultural production to rice cultivation and permanently flooded managed wetlands (HydroFocus, Inc. 2024; DPC 2026). Agricultural fields located beyond the landside levee toe between Station 930+00 and Station 960+00, extending up to approximately 750 ft landward, experience persistently wet conditions and are often unsuitable for farming (Shannon & Wilson 2025).

2.2.1.1 Farmland

The California Farmland Mapping and Monitoring Program (FMMP), administered by the State Division of Land Resource Protection, produces agricultural resource maps based on soil quality and land use. The FMMP designates land into the following categories: Prime Farmland, Farmland of Statewide Importance, Unique Farmland, Farmland of Local Importance, Grazing Land, Urban or Built-up Land, Other Land, and Water. Descriptions of these categories are detailed in the FMMP (California DOC 2025a).

The majority of Staten Island (approximately 9,065 acres) is designated as Prime Farmland (CFMMP 2022). Smaller areas on the island are designated as Unique Farmland (53 acres, primarily along the exterior of the island) and Farmland of Statewide Importance (2.2 acres located within the interior of the island). The entire Project Area (77 acres) is designated as Prime Farmland.

2.2.2 Findings

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

While the overall Project Area is designated as Prime Farmland under the FMMP, the levee road and slopes within the Project Area are not in agricultural production. Rather, the levee serves to provide flood protection for adjacent agricultural fields. Upon completion of construction, the levee and surrounding Prime Farmland would be returned to their pre-Project condition and existing use. The Project would not permanently convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use and is consistent with the San Joaquin County General Plan's policies to protect agricultural land. Therefore, there would be no impact.

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

The San Joaquin County General Plan establishes General Agriculture Zones to preserve agricultural lands for the continuation of commercial agricultural enterprises (San Joaquin County 2016). The entirety of Staten Island, including the Project Area, is included in a Williamson Act contract (California DOC 2025b). However, the Project Area is limited to the levee along the North and South Mokelumne rivers and immediately adjacent areas (e.g., levee toe), which are not used for agricultural production. Land use within the Project Area would not change following Project construction. The Project would also establish freshwater marsh, riparian forest, and scrub-shrub habitats along the levee waterside bench between

Station 857+00 through Station 864+00, and both the waterside and landside levee slopes would be hydroseeded to reestablish native grasses compatible with existing agricultural uses. Therefore, the Project would not impact existing zoning and will not conflict with a Williamson Act contract.

- c) **Would the Project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220[g]), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104[g])?**

No portion of Staten Island is zoned as forest land, timberland, or timberland zoned as Timberland Production. There would be no impact.

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

No portion of Staten Island is zoned as forest land, timberland, or timberland zoned Timberland Production. There would be no impact.

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

Land use within the Project Area and vicinity would not change following Project implementation; therefore, the Project would not involve other changes resulting in the conversion of Farmland to non-agricultural use. There would be no impact.

2.3 Air Quality

Issues	Potentially significant impact	Less than significant with mitigation incorporated	Less than significant impact	No impact
Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the Project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	✓	☐
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?	☐	☐	✓	☐
c) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	✓	☐
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☐	✓

2.3.1 Environmental setting

The Project is in the northern region of the San Joaquin Valley Air Basin, which includes Fresno, Kern (western and central), Kings, Madera, Merced, San Joaquin, Stanislaus, and Tulare counties and is administered by the San Joaquin Valley Air Pollution Control District (SJVAPCD). The San Joaquin Valley Air Basin is bounded by mountainous areas to the east, west, and south and an opening to the north into the Sacramento Valley. The region experiences relatively long summers with generally hot and dry conditions and short winters with cool, wet conditions. Subtropical high air pressure events can occur year-round and result in the formation of strong atmospheric inversion layers. The combination of these topographical and meteorological factors can prevent the dispersion of pollutants, making the San Joaquin Valley Air Basin particularly conducive to poor air quality.

2.3.1.1 Criteria air pollutants

The federal Clean Air Act of 1970 (Section 6.1) and CARB have established air quality standards for several common pollutants: carbon monoxide, lead, nitrogen dioxide, ozone, particulate matter, sulfur dioxide, sulfates, and hydrogen sulfide (CARB 2026a). Air quality data for some criteria air pollutants in the San Joaquin Valley Air Basin from 2019 to 2024 are summarized in Table 2-2 to describe existing conditions.

Table 2-2 Summary air quality statistics for the San Joaquin Valley Air Basin, 2019 to 2024

Year	Pollutant (averaging time)	Maximum concentration ¹	Federal standard	Number of days exceeding federal standard	State standard	Number of days exceeding state standard
2019	Ozone (1-hour)	0.110 ppm	NA	NA	0.09 ppm	24
	Ozone (8-hour)	0.093 ppm	0.070	96	0.070	100
	PM _{2.5} (daily)	83.7 µg/m ³	35 µg/m ³	21	NA	NA
	PM ₁₀ (daily)	652.2 µg/m ³	150 µg/m ³	16	50 µg/m ³	130
2020	Ozone (1-hour)	0.142 ppm	NA	NA	0.09 ppm	50
	Ozone (8-hour)	0.114 ppm	0.070	119	0.070	121
	PM _{2.5} (daily)	199.7 µg/m ³	35 µg/m ³	52	NA	NA
	PM ₁₀ (daily)	517.2 µg/m ³	150 µg/m ³	39	50 µg/m ³	157
2021	Ozone (1-hour)	0.125 ppm	NA	NA	0.09 ppm	41
	Ozone (8-hour)	0.100 ppm	0.070	101	0.070	104
	PM _{2.5} (daily)	556.7 µg/m ³	35 µg/m ³	53	NA	NA
	PM ₁₀ (daily)	437.5 µg/m ³	150 µg/m ³	16	50 µg/m ³	152
2022	Ozone (1-hour)	0.141 ppm	NA	NA	0.09 ppm	31
	Ozone (8-hour)	0.113 ppm	0.070	102	0.070	105
	PM _{2.5} (daily)	62.9 µg/m ³	35 µg/m ³	41	NA	NA
	PM ₁₀ (daily)	250.8 µg/m ³	150 µg/m ³	4	50 µg/m ³	171

Year	Pollutant (averaging time)	Maximum concentration ¹	Federal standard	Number of days exceeding federal standard	State standard	Number of days exceeding state standard
2023	Ozone (1-hour)	0.117 ppm	NA	NA	0.09 ppm	26
	Ozone (8-hour)	0.095 ppm	0.070	73	0.070	77
	PM _{2.5} (daily)	123.1 µg/m ³	35 µg/m ³	11	NA	NA
	PM ₁₀ (daily)	270.4 µg/m ³	150 µg/m ³	3	50 µg/m ³	126
2024	Ozone (1-hour)	0.121 ppm	NA	NA	0.09 ppm	55
	Ozone (8-hour)	0.099 ppm	0.070	105	0.070	108
	PM _{2.5} (daily)	71.9 µg/m ³	35 µg/m ³	15	NA	NA
	PM ₁₀ (daily)	188.6 µg/m ³	150 µg/m ³	10	50 µg/m ³	161

Source: CARB (2024, 2026a)

Notes: µg/m³ = microgram per cubic meter of air

NA = not applicable

PM_{2.5} = respirable particulate matter less than 2.5 microns in diameter

PM₁₀ = respirable particulate matter less than 10 microns in diameter

ppm = parts per million

¹ Maximum concentration observed in the San Joaquin Valley Air Basin based on national reference or equivalent method, which adjusts observations to standardized conditions to eliminate variability and allow for comparison across locations.

Air quality in the San Joaquin Valley Air Basin does not consistently meet all applicable air quality standards. It is currently designated as being in attainment for federal ozone (1-hour) and PM₁₀ standards, and both state and federal carbon monoxide, lead, nitrogen dioxide, and sulfur dioxide standards (SJVAPCD 2026a). It is designated as being non-attainment for state ozone, PM_{2.5} (respirable particulate matter less than 2.5 microns in diameter) and PM₁₀ (respirable particulate matter less than 10 microns in diameter) standards and for federal ozone (8-hour) and PM_{2.5} (respirable particulate matter less than 2.5 microns in diameter) standards (SJVAPCD 2026a). Therefore, criteria air pollutants and precursors of primary concern for construction activity within the Project Area include ozone precursors (e.g., nitrogen oxides, reactive organic gases), fugitive/exhaust dust particulate matter (PM₁₀), and fine particulate matter (PM_{2.5}).

Between 1998 and 2024, SJVAPCD prepared air quality management plans for carbon monoxide, particulate matter, and ozone to support attainment of federal and state air quality standards through emissions reductions (SJVAPCD 2026b). In alignment with these plans, emissions thresholds for criteria pollutants were established to evaluate the significance of air quality impacts from individual construction projects. Because these thresholds are more stringent than those set by the U.S. Environmental Protection Agency (USEPA), construction emissions are considered significant if they exceed SJVAPCD's locally adopted thresholds. Thresholds established by SJVAPCD are shown in Table 2-3.

Table 2-3 San Joaquin Valley Air Pollution Control District air quality thresholds of significance for construction phase

Pollutant	Thresholds of significance for construction phase ¹ (tons/year)
NO _x	10
ROG (VOC)	10
PM ₁₀	15
PM _{2.5}	15
CO	100
NO ₂	10
SO ₂	27

Source: SJVAPCD (2015)

Notes: CO = carbon monoxide

NO_x = nitrogen oxidesNO₂ = nitrogen dioxidePM₁₀ = respirable particulate matter (less than or equal to 10 microns in diameter)PM_{2.5} = respirable particulate matter (less than or equal to 2.5 microns in diameter)

ROG = reactive organic gas

SO₂ = sulfur dioxide

VOC = volatile organic compound

¹ A project is considered to have a significant impact if its emissions are predicted to cause or contribute to a violation of any California Ambient Air Quality Standard or National Ambient Air Quality Standard (CARB 2025a, SJVAPCD 2013).

2.3.1.2 Sensitive receptors

Some individuals have heightened health risks associated with exposure to air pollution, and for some air quality constituents, impacts are determined based on the distance to the closest sensitive receptor.

Sensitive receptors include, but are not limited to, residential areas, schools, and hospitals. The nearest sensitive receptors to the Project Area are rural residences near the B&W Resort Marina at the Georgiana Slough and Mokelumne River confluence to the southwest of Staten Island, beginning approximately 0.7 mi from the Project Area. Other rural residences in the vicinity are greater than 1 mi from the Project Area.

2.3.2 Findings

Project construction details (e.g., duration, timing, equipment use) were analyzed using the California Emissions Estimator Model, Version 2022.1.1.44 (CalEEMod), to estimate Project emissions, including exhaust from construction equipment, fugitive dust generated by construction activities, and emissions from vehicle travel over unpaved roads. Operational emissions were not analyzed because there would be no change in operations or maintenance activity following Project construction. The CalEEMod data entry and emissions summary sheet is provided in Appendix A.

The modeling was based on the emission sources and construction equipment provided in Table 2-4. Additional model assumptions included implementation of air quality BMPs included as part of the Project in conservation measure **CM-1** (air quality protection; Section 1.4.8). Model results for total

anticipated Project emissions of criteria pollutants are shown in Table 2-5 and included in detail in Appendix A.

Table 2-4 Project emission sources and quantities used to determine emissions

Emission Source	Project quantities
Excavated trench and levee fill material	22,500 cubic yards
Imported levee fill material	712,000 tons
Imported aggregate base	15,000 tons
Fuel-fired construction equipment	Dozer, CAT D6—2 Dozer, CAT D4—1 Motor grader, CAT 150 or CAT 160—1 Vibratory compactor, CAT 815—1 Excavator, CAT 325—1 CAT 613 scrapers—1) Telehandler—1 Haul trucks—58,240 total trips Water truck—2 Foreman/support crew truck—2
Employee commute trips	Employee trips/day ¹ —9 Miles one way ² —35

Source: Wagner & Bonsignore (2026).

¹ Employee trips per day vary by Project phase.

² Estimated employee commute travel distance.

Table 2-5 Estimated Project construction emissions of criteria pollutants (tons/year)

	NO _x	ROG	PM ₁₀	PM _{2.5}	SO _x	CO
Estimated Project emissions	3.8	0.3	8.9	1.2	0.02	2.2
San Joaquin Valley Air Pollution Control District's emissions threshold	10	10	15	15	27	100

Source: California Emissions Estimator Model, Version 2022.1.1.44 (Appendix A), SJVAPCD (2015)

Notes: CO = carbon monoxide

NO_x = nitrogen oxides

PM_{2.5} = respirable particulate matter (less than 2.5 microns in diameter)

PM₁₀ = respirable particulate matter (less than 10 microns in diameter)

ROG = reactive organic gas

SO_x = sulfur oxides

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

Based on air quality modeling, Project construction is expected to result in temporary emissions of criteria pollutants that are below SJVAPCD significance thresholds. Because the SJVAPCD thresholds are designed to ensure that individual projects do not interfere with regional attainment and maintenance strategies, emissions below these levels would not conflict with or obstruct implementation of the applicable air quality plans (i.e., 2024 Plan for the 2012 Annual PM_{2.5} Standard [SJVAPCD 2024a]; 2022 Plan for the 2015 8-Hour Ozone Standard [SJVAPCD 2022]; 2023 Maintenance Plan and Redesignation

Request for the Revoked 1-Hour Ozone Standard [SJVAPCD 2023]; Ozone Contingency Measure State Implementation Plan Revision for the 2008 and 2015 8-Hour Ozone Standards [SJVAPCD 2024b]; Carbon Monoxide Maintenance Plan [SJVAPCD 2024]). The Project would not conflict with or obstruct implementation of an applicable air quality plan, and the temporary emissions of criteria pollutants from Project construction would be minimized by implementing the BMPs in conservation measure **CM-1** (air quality protection; Section 1.4.8). Project impacts would be less than significant.

b) Would the Project 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 CalEEMod results summarized in Table 2-5 demonstrate that emissions resulting from Project construction activities are not expected to exceed thresholds for criteria air pollutants. Implementation of BMPs in conservation measure **CM-1** (air quality protection; Section 1.4.8) would ensure emissions are minimized. There would be no change in long-term operational emissions because of the Project. Although Project construction would result in some emissions for which the SJVAPCD is not in attainment, the minimal amount and temporary nature of these emissions would not result in a cumulatively considerable net increase of these pollutants; therefore, Project impacts would be less than significant.

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

As discussed in Section 2.3.1.2, the nearest sensitive receptors to the Project Area are the rural residences near the B&W Resort Marina at the Georgiana Slough and Mokelumne River confluence to the southwest of Staten Island. The Project would not result in substantial diesel particulate emissions (i.e., PM_{2.5} and PM₁₀) (Table 2-5). Implementation of BMPs included in conservation measure **CM-1** (air quality protection; Section 1.4.8) would minimize diesel emissions, and Project construction activities would be temporary, resulting in increased diesel exhaust for approximately 6 months in 2027 and 6 months in 2028. Therefore, impacts associated with the exposure of sensitive receptors to substantial pollutant concentrations would be less than significant.

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

Project construction is not expected to result in other emissions, such as those leading to objectionable odors, adversely affecting a substantial number of people. Post-construction, the Project would not result in any change to current operation or maintenance activities that would result in additional emissions. The Project would not result in additional emission impacts.

2.4 Biological Resources

Issues	Potentially significant impact	Less than significant with mitigation incorporated	Less than significant impact	No impact
Would the Project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	✓	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☐	✓	☐
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?	☐	☐	✓	☐
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?	☐	☐	✓	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	✓
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?	☐	☐	☐	✓

2.4.1 Environmental setting

Resource evaluations were conducted to identify sensitive biological resources within or near the Project Area and to inform the development of appropriate avoidance, minimization, and mitigation measures. These evaluations included landcover classification and vegetation mapping, delineation of potentially jurisdictional waters/wetlands, surveys for special-status plants, and a habitat assessment for special-status wildlife species.

The Survey Area—the area evaluated for the potential to support sensitive biological resources that may be affected by Project implementation—includes the Project Area (Figure 1-1) and a 100-ft buffer extending landside into the agricultural areas on the interior of Staten Island and waterside into the North and South Mokelumne rivers (Figure 2-1).

Special-status species are defined in this IS/MND as those that are:

- Listed, proposed, or under review (e.g., candidate) as endangered or threatened under the federal Endangered Species Act ESA (Section 6.1) or California ESA (Section 6.2);
- Designated by CDFW as a Species of Special Concern;
- Designated by CDFW as Fully Protected under the California Fish and Game Code (Sections 3511, 4700, 5050, and 5515) (Section 6.2);
- Protected under the federal Bald and Golden Eagle Protection Act (Section 6.1);
- Designated as rare under the California Native Plant Protection Act (Section 6.2); and/or
- Included on CDFW's most recent *Special Vascular Plants, Bryophytes, and Lichens List* (CDFW 2025a) with a California Rare Plant Rank of 1, 2, 3, or 4.

In addition, sensitive natural communities are defined as vegetation communities identified as critically imperiled (S1), imperiled (S2), or vulnerable (S3) on CDFW's most recent California Sensitive Natural Communities List (CDFW 2025b).

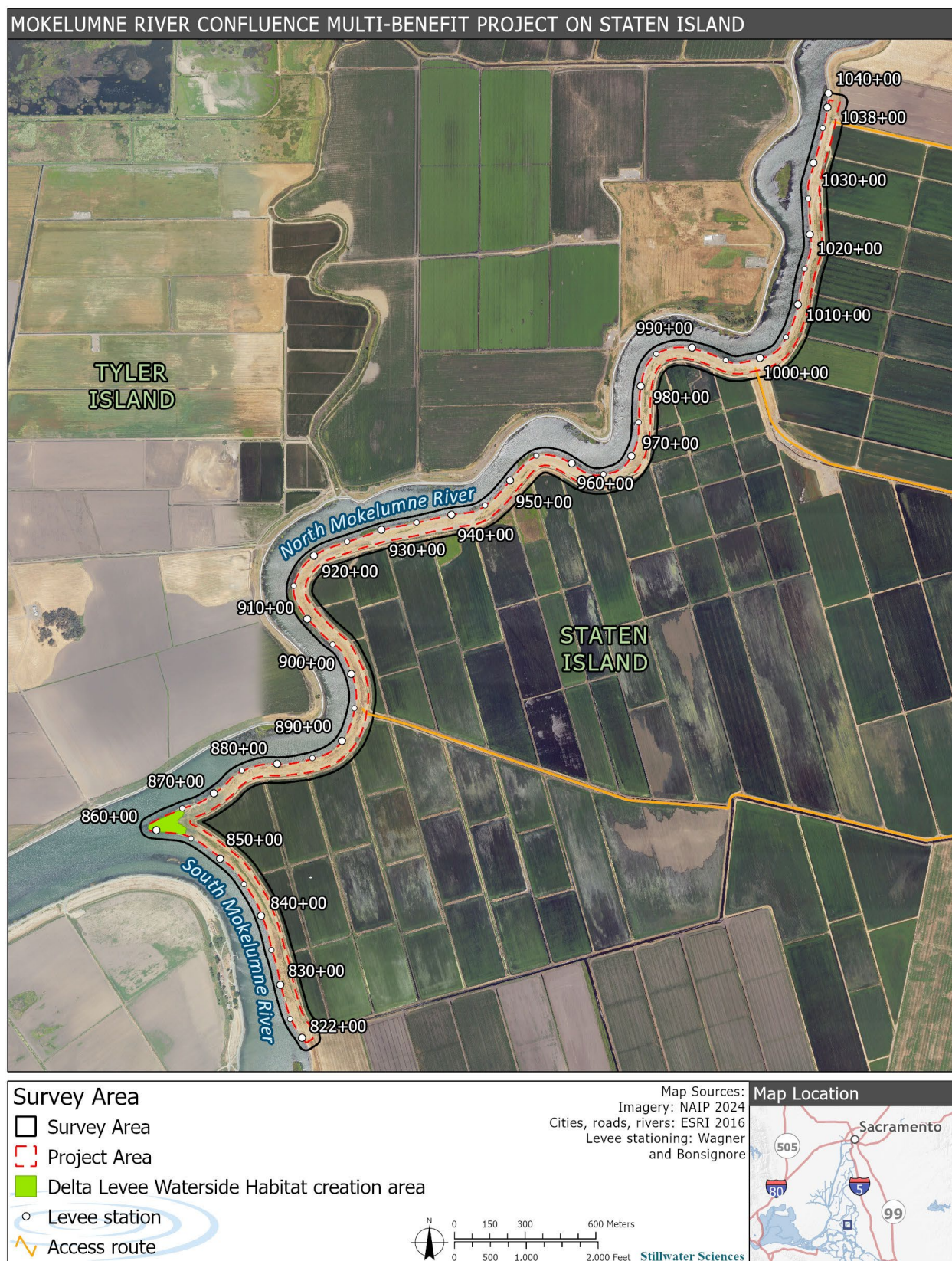


Figure 2-1 Survey Area on Staten Island

2.4.1.1 Methods

Desktop review

Lists of the special-status plant, fish, and wildlife species and sensitive natural communities with the potential to occur within the Survey Area were developed by querying the following databases and other resources:

- CDFW's California Natural Diversity Database (CDFW 2026a);
- USFWS's Information for Planning and Conservation portal (USFWS 2026);
- California Native Plant Society's online Inventory of Rare and Endangered Vascular Plants of California (CNPS 2026a); and
- NOAA (National Oceanic and Atmospheric Administration) Fisheries, West Coast Region, Species and Habitat App (NOAA 2026).

The following resources were also reviewed for occurrence data and to inform evaluations of special-status species and sensitive natural communities with potential to occur within the Survey Area:

- Biogeographic Information and Observation System (CDFW 2026b) by the U.S. Geological Survey (USGS) 7.5-minute quadrangle for special-status plant and wildlife species previously documented in the vicinity;
- eBird (2026) online database for bird distribution, abundance, and special-status bird occurrences within the Project vicinity;²
- iNaturalist (2025) to review research-grade citizen science observations of plants and wildlife;
- Bumble Bee Watch (The Xerces Society 2025) for bumble bee distribution, abundance, and special-status bumble bee occurrences within the Project vicinity;
- CalFlora (2025) for plant species previously documented within the Project vicinity; and
- VegCAMP (Kreb et al. 2019) for mapped vegetation types within the Survey Area.

Desktop database query methods and results are described in detail in a separate report titled *Biological Resources Evaluation for the Mokelumne River Confluence Multi-Benefit Project, Staten Island, California* (BRE; Appendix B [Stillwater Sciences 2026]).

Field surveys

Field survey methodologies for the vegetation mapping, aquatic resource delineation for waters and wetlands, botanical surveys, and wildlife habitat assessment are all described in the BRE for the Project (Appendix B [Stillwater Sciences 2026]).

² Herein, Project vicinity refers to the area within approximately 0.5 mi of the Project Area.

2.4.1.2 Vegetation mapping

Landcover within the Survey Area is largely composed of non-native ruderal herbaceous vegetation followed by non-vegetated (e.g., riverine, road) features and agricultural areas. One sensitive natural community—hardstem and California bulrush marshes (*Schoenoplectus [acutus, californicus]* Herbaceous Alliance)—was observed within the Survey Area and Project Area in patches adjacent to the North Mokelumne River. Landcover types and vegetation alliances within the Survey Area and Project Area are summarized in Table 2-6 and depicted in Figure 2-2.

Table 2-6 Landcover types and vegetation alliances within the Survey Area and Project Area

Landcover type	CWHR type ¹	MCV alliance ²	Sensitive natural community?	Acres	
				Survey Area	Project Area
Agriculture	Irrigated grain crops	–	No	24.13	0.25
Emergent wetland	Fresh or saline emergent wetland	Hardstem and California bulrush marshes <i>Schoenoplectus (acutus, californicus)</i> Herbaceous Alliance	Yes, S3S4 ³	1.85	0.03
Riverine	Riverine	–	No	37.14	0.02
Road	Barren	–	No	9.78	8.29
Ruderal herbaceous	Annual grassland	–	No	107.04	70.90
Total				179.94	79.49

Notes: CWHR = California Wildlife Habitat Relationship
MCV = A Manual of California Vegetation

¹Source: CWHR (2005)

²According to CNPS (2026b), as applicable

³Sensitive natural community rankings (CNPS 2026a):

S3 = vulnerable

S4 = apparently secure

Agriculture

Agricultural production of crops occurs in the fields on the landside of the levee within and adjacent to the Survey Area and Project Area. This area was not under active cultivation during the 2024 reconnaissance-level survey; however, rice (*Oryza sativa*) cultivation was observed during the July 2025 botanical surveys. Other species observed in the agricultural fields included the non-native poison hemlock (*Conium maculatum*) and barnyard grass (*Echinochloa crus-galli*). A total of 24.13 acres (13%) of the Survey Area and 0.25 acre (0.3%) of the Project Area was mapped as agriculture (Table 2-6; Figure 2-2).



Figure 2-2 Landcover types within the Survey Area

Emergent wetland

Emergent wetland, primarily dominated by the native species common tule (*Schoenoplectus acutus* var. *occidentalis*) was present within the Survey Area in patches along the waterside toe of the levee along the North Mokelumne River, and a small portion was present within the Project Area (Figure 2-2). Common water hyacinth (*Eichhornia crassipes*), an invasive species with a California Invasive Plant Council rating of *High*³ (Cal-IPC 2026), was also observed in this area at moderate cover. The emergent wetland was classified in the Manual of California Vegetation (CNPS 2026b) as Hardstem and California bulrush marshes (*Schoenoplectus [acutus, californicus]* Herbaceous Alliance) with a sensitive natural community with a ranking of S3S4⁴ (CDFW 2025b). A total of 1.85 acres (1%) of the Survey Area and 0.03 acre (0.03%) of the Project Area was emergent wetland (Table 2-6; Figure 2-2).

Riverine

Riverine habitats are defined as intermittent or continually running water, including rivers and streams. Riverine habitat documented within the Project Area included a small portion of the confluence of the North and South Mokelumne rivers. The Mokelumne River drains an approximately 661-square-mi watershed with headwaters at elevations around 10,000 ft (NMFS 2014). These waterways adjacent to the Survey Area are tidally influenced and can receive flows from the Sacramento River if Delta Cross Channel gates are open (Sycamore Environmental Consultants, Inc. 2021). The confluence of Mokelumne River and the San Joaquin River is approximately 2.5 mi south of the Survey Area. Camanche Dam, located approximately 30 mi east and upstream of the Survey Area, is an impassable barrier for fish movement and migration (NMFS 2014). The aquatic habitat within the Survey Area consists of intertidal riprap and low-velocity open water. The benthic substrate is likely characterized by silt, possibly with scattered riprap originating from the bank. Some submersed and floating aquatic vegetation is present along the channel margins. A total of 37.14 acres (21%) of the Survey Area and 0.02 acre (0.02%) of the Project Area was riverine habitat (Table 2-6; Figure 2-2).

Road

The levee crest within the Survey Area and Project Area was a gravel road that was unvegetated. A total of 9.78 acres (5%) of the Survey Area and 8.29 acres (10%) of the Project Area was mapped as road (Table 2-6; Figure 2-2).

³ The California Invasive Plant Council categorizes non-native invasive plants based on an assessment of potential ecological impacts. Species rated as *High* have severe ecological impacts to physical processes, plant and animal communities, and vegetation structure; species rated as *Moderate* have substantial and apparent—but generally not severe—ecological impacts to physical processes, plant and animal communities, and vegetation structure; and species rated as *Limited* are invasive but have minor ecological impacts on a statewide level or not enough available information to justify a higher score (Cal-IPC 2026).

⁴ Sensitive natural community rankings (CNPS 2026a):

S3 = vulnerable

S4 = apparently secure

Ruderal herbaceous

Ruderal herbaceous lands within the Survey Area and Project Area were primarily dominated by the introduced annual grasses rattail sixweeks grass (*Festuca myuros*) and ripgut grass (*Bromus diandrus*). A variety of other herbaceous plants were also present at low cover, including the native species Santa Barbara sedge (*Carex barbarae*) and non-native species fennel (*Foeniculum vulgare*) on the waterside of the levee as well as the native Powell's amaranth (*Amaranthus powellii*) and non-native yellow star-thistle (*Centaurea solstitialis*) on the interior levees. A total of 107.04 acres (59%) of the Survey Area and 70.90 acres (89%) of the Project Area was mapped as ruderal herbaceous (Table 2-6; Figure 2-2).

2.4.1.3 Waters and wetlands

On the waterside of the Project Area, a total of 0.2 acres of preliminary Waters of the U.S. and 0.7 acres of preliminary Waters of the State were documented in the North and South Mokelumne rivers (Table 2-7). While emergent wetland vegetation is present within the Survey Area (Section 2.4.1.3), it is found below the high tide line and is therefore associated with tidally influenced waters. No adjacent wetlands were found above the high tide line on the waterside. Waters of the U.S. and State within the Project Area are associated with the Mokelumne River, which is listed as a Traditional Navigable Water by USACE, Sacramento District (USACE 2025). These waters are classified as riverine (tidal) based on the wetland classification standard (FGDC 2013, adapted from Cowardin et al. 1979). Within the Project Area, Tidal Waters of the U.S. between the high tide line and MHW (Section 404) occupy 0.1 acres, and tidal Waters of the U.S. below MHW (Section 10 and 404) occupy 0.1 acres (Table 2-7). Tidally influenced Waters of the State occupy approximately 0.5 acres of the Project Area between the high tide line and top of bank (Table 2-7).

Table 2-7 Preliminary Waters of the U.S. and State delineated within the Project Area.

Water features	Within Project Area (acres)
Preliminary Waters of the U.S.	
Tidal Waters of the U.S., between the high tide line and mean high water (Section 404)	0.1
Tidal Waters of the U.S., below mean high water (Sections 10 and 404)	0.1
Total Preliminary Waters of the U.S.	0.2
Preliminary Waters of the State	
Tidal Waters of the State, between the high tide line and top of bank	0.5
Total Preliminary Waters of the U.S. and State	0.7

A small, seasonally ponded depression occurs at the northern end of the Project Area. It is located within an area subject to ongoing agricultural use and levee maintenance activities. It is mapped as ruderal upland vegetation and provides habitat value comparable to the surrounding uplands. The feature does not exhibit a defined bed and bank, flow conveyance, or a continuous surface connection to downstream waters.

2.4.1.4 Special-status species

Plants

Of the 25 special-status plant species previously documented in the Project vicinity (see Appendix A of the BRE, provided as Appendix B [Stillwater Sciences 2026]), six species had no suitable habitat within the Survey Area and/or occurred outside the elevation range of the Project Area, and two species were considered unlikely to occur within the Project Area due to marginally suitable habitat. The remaining 17 special-status plant species have the potential to occur within the Project Area (Table 2-8) either because of previously documented occurrences near the Project Area or because suitable habitat was observed or may be present within the Project Area.

One plant species observed during the May and July 2025 botanical surveys was likely Suisun Marsh aster (*Symphyotrichum lentum*; California Rare Plant Rank [CRPR] 1B.2), but the plant was vegetative (i.e., it had no fruits or flowers) and therefore could not be identified to species. The plant is located outside the area that would be affected by construction on a piling. Although July is within Suisun Marsh aster's typical blooming period, a targeted survey of suitable habitat (e.g., emergent wetland) in later summer months (e.g., August, September) would confirm the identification of the species. This species has not been previously documented within the Survey Area.

No other special-status plant species were documented during either the reconnaissance-level survey in 2024 or the botanical surveys in 2025. A comprehensive list of plant species observed within the Survey Area is provided in Appendix D in the BRE (Appendix B [Stillwater Science 2026]).

Table 2-8 Special-status plant species with the potential to occur within the Project Area

Scientific name	Common name	Status ¹ Federal/State/CRPR
<i>Brasenia schreberi</i>	watershield	- / - / 2B.3
<i>Carex comosa</i>	bristly sedge	- / - / 2B.1
<i>Centromadia parryi</i> subsp. <i>parryi</i>	pappose tarplant	- / - / 1B.2
<i>Centromadia parryi</i> subsp. <i>rudis</i>	Parry's rough tarplant	- / - / 4.2
<i>Chloropyron molle</i> subsp. <i>molle</i>	soft salty bird's-beak	FE / CR / 1B.2
<i>Cicuta maculata</i> var. <i>bolanderi</i>	Bolander's water-hemlock	- / - / 2B.1
<i>Downingia pusilla</i>	dwarf downingia	- / - / 2B.2
<i>Hibiscus lasiocarpus</i> var. <i>occidentalis</i>	woolly rose-mallow	- / - / 1B.2
<i>Lathyrus jepsonii</i> var. <i>jepsonii</i>	Delta tule pea	- / - / 1B.2
<i>Lilaeopsis masonii</i>	Mason's lilaeopsis	- / CR / 1B.1
<i>Limosella australis</i>	Delta mudwort	- / - / 2B.1
<i>Potamogeton zosteriformis</i>	eel-grass pondweed	- / - / 2B.2
<i>Sagittaria sanfordii</i>	Sanford's arrowhead	- / - / 1B.2
<i>Scutellaria galericulata</i>	marsh skullcap	- / - / 2B.2
<i>Scutellaria lateriflora</i>	side-flowering skullcap	- / - / 2B.2
<i>Symphyotrichum lentum</i>	Suisun Marsh aster	- / - / 1B.2
<i>Trifolium hydrophilum</i>	saline clover	- / - / 1B.2

¹ Status:**Federal**

FE = Federally listed as endangered

- = No federal status

State

CR = California State listed as rare

- = No state status

California Rare Plant Rank (CRPR):

1B = Plants rare, threatened, or endangered in California and elsewhere

2B = Plants rare, threatened, or endangered in California, but more common elsewhere

4 = Plants of limited distribution in California

CRPR Threat Rank:

0.1 = Seriously threatened in California (high degree/immediacy of threat)

0.2 = Fairly threatened in California (moderate degree/immediacy of threat)

0.3 = Not very threatened in California (low degree/immediacy of threats or no current threats known)

Fish

Fourteen special-status fish species, evolutionarily significant units, or distinct population segments (DPSs) were identified as having potential to occur within the broader Project region, based on the database queries and other available data sources (see Appendix A of the BRE, provided as Appendix B [Stillwater Sciences 2026]). Of these, three species were eliminated from further consideration because the Survey Area is outside the species' known range. Four species were determined to be unlikely to occur within the Survey Area and are not discussed further. The seven special-status fish species with moderate likelihood to occur within the Survey Area are listed in Table 2-9. The timing of special-status fish life stages likely to occur within the Survey Area is shown in Table 2-10. These species are discussed in detail in the BRE (Appendix B [Stillwater Sciences 2026]), including habitat and life history descriptions.

Table 2-9 Special-status fish species with the potential to occur within the Survey Area

Common Name	Scientific Name	Status Federal/State	Likelihood to occur within the Survey Area
Pacific lamprey	<i>Entosphenus tridentatus</i>	CDFW Species of Special Concern	Moderate
North American green sturgeon: southern DPS	<i>Acipenser medirostris</i>	Federally threatened; CDFW Species of Special Concern	Moderate
Sacramento splittail	<i>Pogonichthys macrolepidotus</i>	CDFW Species of Special Concern	Moderate
Delta smelt	<i>Hypomesus transpacificus</i>	Federally threatened; state endangered	Moderate
Longfin smelt, San Francisco Bay-Delta DPS	<i>Spirinchus thaleichthys</i>	Federally endangered; state threatened	Moderate
Chinook salmon, Central Valley fall-/late-fall run ESU	<i>Oncorhynchus tshawytscha</i>	CDFW Species of Special Concern	Moderate
Steelhead, Central Valley DPS	<i>Oncorhynchus mykiss irideus</i>	Federally threatened	Moderate

Notes: CDFW = California Department of Fish and Wildlife
DPS = distinct population segment
ESU = evolutionarily significant unit

Table 2-10 Timing of special-status fish species life stages¹ that may occur in the Project vicinity

Species ESU/DPS	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Pacific Lamprey												
Adult migration												
Larval rearing/juvenile migration												
North American Green Sturgeon, Southern DPS												
Adult migration												
Juvenile rearing/migration												
Sacramento Splittail												
Adult migration												
Spawning												
Juvenile rearing/migration												
Delta Smelt												
Adult migration												
Spawning												
Larval development/juvenile rearing												
Longfin Smelt, San Francisco Bay-Delta DPS												
Spawning/incubation												
Fry/ juvenile rearing												
Chinook Salmon, Central Valley Fall to Late-fall Run ESU												
Adult migration												
Juvenile migration												
Steelhead, Central Valley DPS												
Adult migration												
Juvenile rearing/migration												

Notes: DPS = distinct population segment
ESU = evolutionarily significant unit

¹ Spawning by North American green sturgeon, delta smelt, longfin smelt, Chinook salmon, and steelhead does not occur within or adjacent to the Survey Area.

Wildlife

Forty special-status wildlife (i.e., invertebrate, amphibian, reptile, bird, and mammal) species were identified from the database queries as occurring in the broader Project region. Twelve species determined to have no potential to occur and nine species determined to be unlikely to occur are described in Appendix A in the BRE (Appendix B [Stillwater Sciences 2026]). Nineteen special-status wildlife species have moderate or high likelihood to occur within the Survey Area; these species are summarized in Table 2-11.

Table 2-11 Special-status wildlife species with the potential to occur within the Survey Area

Common name	Scientific name	Status Federal/State	Likelihood to occur within the Survey Area
Invertebrates			
Crotch's bumble bee	<i>Bombus crotchii</i>	State candidate endangered	Moderate
Reptiles			
Northwestern pond turtle	<i>Actinemys marmorata</i>	Federally proposed as threatened; CDFW Species of Special Concern	High
Giant garter snake	<i>Thamnophis gigas</i>	Federally threatened; state threatened	Moderate
Birds			
American white pelican	<i>Pelecanus erythrorhynchos</i>	CDFW Species of Special Concern	High
White-tailed kite	<i>Elanus leucurus</i>	CDFW Fully Protected	High
Bald eagle	<i>Haliaeetus leucocephalus</i>	Federally delisted; federally protected under the Bald and Golden Eagle Protection Act; state endangered; CDFW Fully Protected	High
Northern harrier	<i>Circus cyaneus</i>	CDFW Species of Special Concern	High
Swainson's hawk	<i>Buteo swainsoni</i>	State threatened	High
Golden eagle	<i>Aquila chrysaetos</i>	Federally protected under the Bald and Golden Eagle Protection Act; CDFW fully protected species	Moderate
Greater sandhill crane	<i>Antigone canadensis tabida</i>	State threatened; CDFW Fully Protected	High
Lesser sandhill crane	<i>Antigone canadensis canadensis</i>	CDFW Species of Special Concern	High
Western burrowing owl	<i>Athene cunicularia hypugaea</i>	State candidate endangered, CDFW Species of Special Concern	High
Loggerhead shrike	<i>Lanius ludoyicianus</i>	CDFW Species of Special Concern	High

Common name	Scientific name	Status Federal/State	Likelihood to occur within the Survey Area
Yellow warbler	<i>Setophaga petechia</i>	CDFW Species of Special Concern	Moderate
Yellow-breasted chat	<i>Icteria virens</i>	CDFW Species of Special Concern	Moderate
Song sparrow (“Modesto” population)	<i>Melospiza melodia</i>	CDFW Species of Special Concern	High
Tricolored blackbird	<i>Agelaius tricolor</i>	State threatened	Moderate
Yellow-headed blackbird	<i>Xanthocephalus xanthocephalus</i>	CDFW Species of Special Concern	High
Mammals			
Western red bat	<i>Lasiurus frantzii</i>	CDFW Species of Special Concern	Moderate

Notes: CDFW = California Department of Fish and Wildlife

These species are discussed in detail in the BRE (Appendix B [Stillwater Sciences 2026]), including listing status, habitat associations, and notable life history requirements. In addition to these species described, other common and special-status amphibians, reptiles, birds, and mammals may use the Survey Area for foraging, cover, dispersal, and breeding.

2.4.2 Findings

a) **Would the Project 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?**

2.4.2.1 Special-status plants

One plant species observed during the May and July 2025 botanical surveys was likely Suisun Marsh aster (CRPR 1B.2), but the plant was vegetative (i.e., it had no fruits or flowers) and therefore could not be identified to species. The plant is located outside the area that would be impacted by construction and would be flagged for avoidance, in accordance with mitigation measure **MM-1** (pre-construction biological surveys and resource avoidance), to ensure it is not affected. Additionally, construction personnel would be informed of any special-status plants that are present or have the potential to occur and the avoidance measures required to protect them (**MM-2**, WEAP training) (Section 1.4.9). Project-related impacts to special-status plants would be less than significant with implementation of mitigation measures **MM-1** and **MM-2**.

2.4.2.2 Special-status fish

Special-status fish that may use the tidally connected waterways surrounding the Project Area (North and South Mokelumne rivers) have the potential to be impacted by waterside Project activities related to construction of the setback levee and waterside bench, including excavation of the existing levee,

installation of soil-filled riprap to armor the waterside slope, planting of freshwater marsh vegetation, and breaching the tidal exclusion berm. The tidally connected North and South Mokelumne rivers within the Survey Area provide suitable migration habitat for Pacific lamprey, green sturgeon, Chinook salmon, and steelhead; suitable larvae rearing habitat for Pacific lamprey; suitable rearing habitat for Sacramento splittail, delta smelt, and longfin smelt; and marginally suitable rearing habitat for Chinook salmon and steelhead (see Table 2-10 and the BRE, provided as Appendix B [Stillwater Sciences 2026]). No suitable spawning habitat is present within the Survey Area for any of the special-status fish species; therefore, spawning habitat is not discussed further. Designated critical habitat for the green sturgeon DPS, delta smelt, and the California Central Valley steelhead DPS is present in the North and South Mokelumne rivers within the Survey Area (USFWS 1994; NMFS 2005, 2009).

There would be no in-water work activities and no construction equipment operating within the water that could directly cause injury or mortality to fish species. In addition, there would be no work activities that could impact tidally wetted Pacific lamprey larvae rearing habitat (e.g., backwater areas with fine sediment). As described in Section 1.4.2.4, a 12-foot-wide tide exclusion berm would be left in place along the waterside edge of the excavation area to isolate the Project Area from tidal influence during setback area excavation, levee construction, soil-filled riprap armoring, and habitat enhancement activities. Once Project Activities are complete landside of the tide exclusion berm, a 50-foot section of the berm will be breached to MLLW. The berm material (between MHW and MLLW) along the 50-foot breach will be reinforced with riprap.

Waterside work activities that include excavating the setback area, installing the soil-filled riprap, revegetating, and breaching a 50-foot section of the berm, although not occurring in-water, could result in noise and vibration disturbance of individual migrating or rearing fish, if adjacent to the Project Area, which could lead to harm or mortality of individuals. Noise and vibration disturbance could occur during use of heavy equipment within the Project Area near water. Vibration may cause special-status fish species acute physiological stress, changes in behavior (e.g., changing from foraging to hiding), and, in extreme cases, injury or death if the noise and vibrations are substantial, close by, and/or repeated. In addition, waterside work could result in underwater disturbance (e.g., from suspended sediments or hazardous materials) that could potentially harm juveniles, migrants, or other life stages of special-status fish species or cause the individuals to avoid in-water areas adjacent to the Project Area. Although there is only a moderate likelihood for special-status fishes to occur adjacent to the Project Area, portions of the existing open-water and shoreline habitat may support foraging and sheltering by some species and life stages, which could be present during the July 1–October 31 waterside work window.

Construction activities could result in short-term impacts to fish habitat that is currently present adjacent to the Project Area, including designated critical habitat for the green sturgeon DPS, delta smelt, and the California Central Valley steelhead DPS. As described in Section 1.4.2, the Project involves installing new soil-filled riprap material on top of existing riprap material. Interstitial spaces that are present within the current riprap material and available to fish species during tides above the MLLW would be reduced with the installation of soil-filled riprap. Excavation of the existing levee, installation of the soil-filled riprap, and revegetation activities, once tidally influenced, could result in temporary increases in turbidity or the inadvertent introduction of hazardous materials adjacent to the Project Area.

The Project also includes creating approximately 1 acre of emergent wetland and riparian habitat (Section 1.4.2.4), resulting in an increase in the extent and long-term enhancement of these habitat types. Project habitat enhancement activities would involve planting freshwater marsh habitat on the waterside bench and lower slope within a portion of the Project Area. Revegetation actions would not involve in-water work or removal or disturbance of benthic substrate or floating/submerged vegetation, and would not result in negative effects on special-status fish species or their habitat. In the long term, an increase in freshwater marsh habitat could improve habitat for fish species by adding complexity to in-water habitat within the Project Area. In-water freshwater marsh habitat could provide increased cover, foraging, and rearing habitat for juvenile salmonids, Pacific lamprey larvae, Sacramento splittail, and smelts.

Conservation and mitigation measures would be implemented to avoid or minimize the potential for adverse impacts to special-status fishes and their habitat. Implementation of conservation measures **CM-2** (erosion and sediment control) and **CM-3** (hazardous materials BMPs) (Section 1.4.8) would reduce the potential for adverse effects by protecting water quality during Project activities. A turbidity curtain will be deployed pursuant to the SWPPP prior to breaching the tidal exclusion berm to avoid and minimize potential impacts to water quality. It will be installed in a manner that does not entrap fish species within it. In addition, the implementation of mitigation measure **MM-3** would further avoid or minimize adverse effects on special-status fishes and their habitat during waterside work. Waterside work below the Ordinary High-Water line (i.e., excavating the setback area, riprap placement below MHW, revegetation, and excavating the 50-foot portion of the existing levee down to MLLW) would only be conducted July 1 through October 31 (per **MM-3**, Section 1.4.9), a period when special-status fish are least likely to be present adjacent to the Project Area, or limited to specific life stages (Table 2-10). In addition, juvenile or adult life stages of species present adjacent to the Project Area during waterside work would have the ability to leave the vicinity during the disturbance.

With the implementation of applicable conservation and mitigation measures, potential disturbances on fishes and aquatic habitat, including critical habitat within the Project Area, would be limited and would only occur in the short term. In addition, the creation of emergent wetland and riparian habitat would benefit special-status fish species in the long-term by increasing habitat complexity within the tidally influenced portions of the Project Area. With implementation of these conservation and mitigation measures, effects on special-status fishes and their habitat would be less than significant.

2.4.2.3 Special-status wildlife

Crotch's bumble bee

Crotch's bumble bees may forage and nest within the Project Area. Individuals could be injured or killed, and/or nests could be destroyed by Project vehicles or construction equipment. **MM-2** (WEAP training) includes training construction personnel about Crotch's bumble bee and what to do in the event one is encountered (Section 1.4.9). Additionally, measure **MM-4** (Crotch's bumble bee surveys and protection) includes a pre-construction survey and 25-ft no-disturbance buffers for active nests to limit potential impacts of the Project on Crotch's bumble bee (Section 1.4.9).

Western pond turtle

Northwestern pond turtles that may occur in or along the Mokelumne River, agricultural ditches, or borrow site ponds within or adjacent to the Project Area would likely disperse away from areas disturbed during Project activities. Turtles that may use uplands within the Project Area could be impacted by vehicles or construction equipment during Project activities; however, the implementation of conservation measure **CM-1** (speed limit enforcement under air quality protection; Section 1.4.8) would minimize the risk of collisions with northwestern pond turtle.

Implementation of mitigation measures **MM-1** (pre-construction biological surveys and resource avoidance), **MM-2** (WEAP training), and **MM-5** (northwestern pond turtle surveys and protection) (Section 1.4.9) would further minimize the potential for adverse effects on northwestern pond turtle. Northwestern pond turtles could potentially nest or aestivate within the Project Area, but they are not likely to because the riprap and hard packed ground of the levee crown and slopes provide sub-optimal substrate for burrowing. Additionally, mitigation measures **MM-1** and **MM-5** include pre-construction surveys for turtles and their nests and biological monitoring during construction activities that have the potential to adversely affect sensitive natural resources, further reducing the potential for impacts to turtles or their nests.

Construction of the waterside bench would result in a temporary disruption of upland basking habitat on the waterside levee. However, the Project would ultimately result an increase in waterside habitat extent for the species through creation of the waterside riparian bench, which would increase foraging, basking, nesting, and refuge opportunities. Conservation measures **CM-2** (erosion and sediment control), **CM-3** (hazardous materials BMPs), and **CM-4** (fire prevention) (Section 1.4.8) would further reduce the potential for impacts to northwestern pond turtle habitat by limiting the likelihood of run-off or hazardous material spills that could degrade aquatic or upland habitats. Potential impacts to northwestern pond turtle would be less than significant with the incorporation of mitigation measures **MM-1**, **MM-2**, and **MM-5**.

Giant garter snake

The Project Area is adjacent to suitable giant garter snake aquatic habitat in managed rice fields and interior agricultural ditches as well as in and along the Mokelumne River. Marginally suitable upland habitat for basking or overwintering along the waterside levee slopes also exists. Project activities in upland habitat (e.g., clearing, grading, compacting) have the potential to displace, injure, or kill individual giant garter snakes, particularly during the brumation season (typically from October 1 to May 1). However, because ground-disturbing activities would not commence before May 1 during each year of construction, the potential for injury or mortality of a snake is reduced. Grading activity and collision with vehicles or equipment have the greatest potential for direct effects on individual snakes, but implementation of mitigation measures **MM-1** (pre-construction biological surveys and resource avoidance), **MM-2** (WEAP training), and **MM-6** (giant garter snake surveys and protection) (Section 1.4.9) would substantially reduce this risk.

Construction would result in temporary disruption of habitat on the waterside levee during riparian bench creation and aquatic foraging habitat from a portion of the North and South Mokelumne rivers

during waterside work. However, the Project would ultimately result in an increase in the waterside habitat extent for the species through creation of the waterside riparian bench, which would provide beneficial habitat elements for the species. The impact to giant garter snake would be less than significant with the incorporation of mitigation measures mitigation measures **MM-1**, **MM-2**, and **MM-6**.

Special-status and migratory birds

Project activities may affect special-status and/or other migratory birds that nest on or near (i.e., in low vegetation) the ground (e.g., western burrowing owl [*Athene cunicularia hypugaea*], northern harrier [*Circus hudsonius*], Modesto song sparrow [*Melospiza melodia*]) if disturbance occurs to or near active nest sites during the breeding season (generally February 15 through August 31). These species may be directly affected by vegetation removal or ground disturbance (e.g., foot traffic or excavation).

Mature riparian trees and shrubs located near the Project Area on adjacent islands could potentially support nesting white-tailed kite [*Elanus leucurus*], Swainson's hawk [*Buteo swainsoni*], loggerhead shrike [*Lanius ludovicianus*], and yellow warbler [*Setophaga petechia*]. Because no riparian trees exist directly within the Project Area, no trees would be removed during Project construction. Impacts to nesting birds may occur from construction noise (e.g., from heavy equipment, vehicles, generators, human presence) or vibration near nests on the ground or in nearby trees or structures, potentially leading to nest abandonment or premature fledging. Preconstruction nesting bird surveys (**MM-7**; Section 1.4.9) would be conducted prior to construction to avoid direct impacts to nesting birds.

Several special-status and migratory bird species may use the Project Area or its vicinity for foraging or dispersal only, including American white pelican (*Pelecanus erythrorhynchos*), bald eagle (*Haliaeetus leucocephalus*), golden eagle (*Aquila chrysaetos*), yellow-breasted chat (*Icteria virens*), tricolored blackbird (*Agelaius tricolor*), yellow-headed blackbird (*Xanthocephalus xanthocephalus*), and greater and lesser sandhill crane (*Antigone canadensis tabida* and *Antigone canadensis canadensis*, respectively). Foraging birds can easily disperse away from temporary Project construction noise and vibration; therefore, Project-related adverse effects on these bird species are not anticipated.

Foraging habitat may be disturbed temporarily during Project construction by vegetation removal. While these disturbances may lower the quality of foraging habitat for some species, the effects would be temporary, and foraging birds can easily move away from Project-related disturbances to nearby alternative foraging habitat of similar value.

Non-special-status migratory bird species and their nests are protected under the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code Sections 3503, 3513, and 3800. Mitigation measures **MM-1** (pre-construction biological surveys and resource avoidance), **MM-2** (WEAP training), and **MM-7** (nesting bird surveys and protection) (Section 1.4.9) would minimize the potential for impacts to migratory birds, their nests, and their eggs to less than significant levels. Additional mitigation measures that further protect nesting birds include surveys for target special-status birds, including **MM-8** for Swainson's hawk and **MM-9** for western burrowing owl (Section 1.4.9). These species-specific measures would limit the potential for reproductive failure of target special-status species. Therefore, the implementation of mitigation measures would reduce potential impacts to migratory and special-status birds to less than significant.

Western red bat

Western red bats were determined to have moderate potential to forage in the open grassland, croplands, and sloughs in and adjacent to the Project Area. However, no suitable roosting habitat is present within or adjacent to the Project Area. No impacts on bats foraging from nearby islands in the evenings are anticipated outside of construction hours.

2.4.2.4 Riparian habitat or sensitive natural communities

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

Approximately 0.03 acre of hardstem and California bulrush marsh, classified as emergent wetland and a sensitive natural community ranked (S3S4) by CDFW (CDFW 2025b), is present within the Project Area but is outside the anticipated construction footprint. With implementation of standard conservation measures (Section 1.4.8) and mitigation measures **MM-1** and **MM-2** (Section 1.4.9) and, the Project would not substantially degrade or reduce riparian habitat or sensitive natural communities. Additionally, the Project includes creating approximately 1 acre of emergent wetland and riparian habitat as part of setback levee construction (Section 1.4.2.4), resulting in an increase and long-term enhancement of these habitat types. With implementation of Project design features and standard conservation measures (Section 1.4.8) and mitigation measures (Section 1.4.9), impacts would be less than significant.

2.4.2.5 Waters and wetlands

- c) Would the Project 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?**

As part of the Project design, the proposed setback levee would create approximately 1 acre of DLWH through construction of a waterside bench, establishing tidal wetlands and additional waterside habitat. Any impacts to Waters of the U.S. or State associated with the excavation of the existing levee would be temporary. Following setback levee construction, the waterside of the new levee slope would be seeded and planted with native vegetation, including freshwater marsh, resulting in greater wetland extent and function.

The landside levee rehabilitation would involve permanent placement of fill material within a small, seasonally ponded depression at the northern end of the Project Area. The feature is highly disturbed and provides habitat value similar to surrounding uplands, though it may exhibit wetland characteristics during portions of the year. The creation of approximately 1 acre of DLWH as an integral part of setback levee construction would substantially offset any minor and localized loss related to the seasonal depression. Accordingly, the Project would not have a substantial adverse effect on wetlands, and impacts would be less than significant.

d) Would the Project 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 habitat on the Project's levee may be used by wildlife, but it does not serve as a significant migratory corridor or nursery site. Any modifications to existing levee infrastructure would be temporary and would not interfere substantially with the movement of any native resident wildlife species or impede the use of any wildlife nursery sites. Therefore, potential impacts would be less than significant.

The Project includes modifications to existing levee infrastructure and would not include construction of any elements that would block or substantially impede or delay native resident or anadromous fish movement. If Project activities were to result in fill material (e.g., soil, riprap) incidentally entering the waterway, individual fish occurring adjacent to the Project Area would be sufficiently mobile to avoid affected areas and resume normal activities in nearby aquatic habitats. Additionally, construction activities above MHW within the Project Area adjacent to the Mokelumne River, as well as the brief periods of waterside work required during the existing levee excavation down to MLLW and installation of the riprap, may be temporary sources of atypical noise and turbidity that could result in avoidance and potentially delay movement or migration. However, given the availability of lateral aquatic habitat available to mobile species in the unconfined waters immediately adjacent to the Project Area, these activities are unlikely to impair fish movement. As such, potential impacts of Project activities on fish movement would be less than significant.

e) Would the Project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

The Project would not conflict with any local policies or ordinances protecting biological resources. There would be no impact.

f) Would the Project 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 Project would not conflict with any provisions of an adopted or approved (local, regional, or state) Habitat Conservation Plan or Natural Community Conservation Plan. The Project does not conflict with the purpose or goals of the Solano Multispecies Habitat Conservation Plan (developed by the Solano County Water Agency in 2012), which promote the conservation of biological diversity and preservation of endangered species (and their habitats), to provide a healthy economic environment (for citizens, agriculture, and industries) and allow for the ongoing maintenance and operation of public and private facilities (Solano County Water Agency 2012).

2.5 Cultural Resources

Issues	Potentially significant impact	Less than significant with mitigation incorporated	Less than significant impact	No impact
Would the Project:				
a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	☐	☐	✓	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	✓	☐	☐
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	✓	☐	☐

2.5.1 Environmental setting

2.5.1.1 Methods

Eileen Barrow & Associates conducted a cultural resources study for the Project's Cultural Resources Area of Potential Effects (APE), which includes the entire Project levee section, documented in a report titled *Cultural Resources Study for the Mokelumne River Confluence Multi-Benefit Project, Staten Island, San Joaquin County, California* (Eileen Barrow & Associates 2024a). The study included archival research at the North Central Information Center of the California Historical Resources Information System (CHRIS), a geoarchaeological sensitivity analysis, and a reconnaissance field survey. The field survey involved walking a 25-meter-wide corridor along the foot of the levee, where access and ground visibility allowed, and inspecting the waterside of the levee for cultural features or structures.

A search of the NAHC's Sacred Lands File and outreach to Native American Tribes and individuals identified on the NAHC contact list were also completed (Section 2.18).

2.5.1.2 Results

The CHRIS records search, completed on August 19, 2024 (File No. 13016L), identified four previously recorded cultural resources within the APE—a historic isolate (P-39-004426), two historic trash deposits (P-39-004427 and P-39-004428), and the partially documented Staten Island levee (P-39-005384). Three additional cultural resources were recorded within 0.5 mi of the APE.

Professionally qualified archaeological staff from Eileen Barrow & Associates conducted a reconnaissance field survey of the APE on August 21, 2024. The survey included visual inspection of a corridor up to approximately 25 meters wide along the foot of the levee, where access and ground visibility permitted, as well as an inspection of the waterside of the levee for cultural features or structures. Standing water limited access and visibility in several locations. Vegetation and surface duff were selectively cleared to facilitate examination of the ground surface. In addition, soil exposed by burrowing animals was

inspected where present. Special attention was directed to areas where camps were previously documented along the levee and to the locations of previously recorded cultural resources.

The Staten Island levee (P-39-005384), previously only partially recorded in the CHRIS, comprised the majority of the APE. Its site record was updated to include portions not previously documented. The survey also identified one fragment of blue glass, interpreted as part of a canning jar mouth, at the location of site P-39-004427. The site record was updated to reflect this find. Additional historic-period features associated with site P-39-004428 were documented, including two posts set into the river approximately 10 ft waterside of the levee, a concrete foundation, and the possible remnants of another round post. These features correspond to a pump station shown on historic maps dating to at least 1952, with aerial photographs indicating a building at this location as early as 1937 (USGS 1952; UCSB 1937, as cited in Eileen Barrow & Associates 2024a). No evidence of the previously recorded isolates at site P-39-004426 was observed. Several modern features, including a gas line, agricultural ditches, and eight siphon structures, were observed during the survey.

The historic isolate (P-39-004426), the historic trash deposit (P-39-004427), and the modern features documented during the survey were determined to be ineligible for inclusion in the National Register of Historic Places (NRHP) and the California Register of Historical Resources (CRHR). Eileen Barrow & Associates recommended evaluating P-39-004428 and the undocumented portion of the Staten Island levee (P-39-005384) for its eligibility for inclusion in the NRHP. It was determined that the Staten Island Levee had been previously evaluated and found ineligible for inclusion on the NRHP in a report titled, *North Mokelumne River Multi-Benefit Project, Archaeological Testing and National Register of Historic Places Evaluation – Staten Island North Mokelumne River Levee, and Sites P-39-356, P-39-4424, P-39-4425, Staten Island, San Joaquin County, California* (Ludwig and Marvin 2021), but the documentation had not been submitted to CHRIS. P-39-004428 was evaluated for its eligibility for inclusion on the NRHP and the California Register of Historical Resources (CRHR) in a report titled, *Historic Property Evaluation Study of P-39-004428, Staten Island, San Joaquin County, California* (Eileen Barrow & Associates 2024b). This study found that P-39-004428 was not eligible for listing on the NRHP, nor the CRHR.

Buried site sensitivity analysis determined that the APE has a low probability of containing buried cultural deposits. Rehabilitation of the landside levee slope during Project construction is expected to occur completely within fill soils and is not expected to disturb underlying marsh deposits. Any native soils that may be present within the lean clay and silt beneath the road base have likely been substantially altered by previous levee construction activities, including the placement of fill, use of heavy machinery, and other related ground disturbances. Ancillary Project components, such as irrigation siphon modifications and setback levee keyway construction, would involve limited subsurface excavation that is expected to occur primarily within previously placed and reworked levee fill and disturbed soils. However, construction of the setback levee keyway would require excavation below existing grade and may extend into underlying native marsh deposits that have not been previously disturbed. The extent of keyway excavation is limited, and the majority of Project ground disturbance would occur within areas that have previously been disturbed. As a result, the potential for the Project to encounter intact cultural resources or undisturbed native soil contexts of cultural significance is considered low.

2.5.2 Findings

a) Would the Project cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?

None of the resources (P-39-004426, P-39-004427, P-39-004428, and P-39-005384) meet criteria for inclusion on the NRHP or the CRHR; therefore, this project will not result in a substantial adverse change to a historical resource.

Accordingly, Project-related effects on historical resources would be less than significant.

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

Eileen Barrow & Associates did not identify any unique archaeological resources within the APE, and the sensitivity of the area for buried archaeological resources is considered low. Project activities would primarily occur in soils that have been previously disturbed by construction of the existing levee system and associated infrastructure. However, certain Project components (i.e., levee keyway construction) would extend into undisturbed marsh deposits. Although such deposits generally have a low potential to contain buried archaeological resources, there remains a possibility that unique archaeological resources could be inadvertently discovered during ground-disturbing activities. If such a discovery were to occur, it could result in a potentially significant impact. Implementation of mitigation measure **MM-10** (inadvertent discovery procedures for cultural resources; Section 1.4.9) would reduce impacts to less than significant.

c) Would the Project disturb any human remains, including those interred outside of dedicated cemeteries?

The Sacred Lands File search for the APE returned negative results, and Eileen Barrow & Associates did not identify any human remains or evidence suggesting the presence of human burials within the APE. Project activities would primarily occur in soils that have been previously disturbed by construction of the levee system and associated infrastructure; however, certain Project components (i.e., levee keyway construction) would extend into undisturbed marsh deposits. Although no evidence of human remains has been identified, there remains a possibility of encountering previously undiscovered human remains during Project implementation. If an inadvertent discovery of human remains were to occur, it could result in a potentially significant impact. Implementation of mitigation measure **MM-11** (inadvertent discovery procedures for human remains; Section 1.4.9) would reduce any potential impacts to less than significant.

2.6 Energy

Issues	Potentially significant impact	Less than significant with mitigation incorporated	Less than significant impact	No impact
Would the Project:				
a) Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during Project construction or operation?	☐	☐	✓	☐
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☐	✓

2.6.1 Environmental setting

Energy sources are either renewable (e.g., solar, wind) or nonrenewable (e.g., fossil fuels) and can be used to power vehicles and equipment directly or converted to energy storage.

In 2023, California consumed more energy than all other states, except Texas, but its per capita consumption of 174 million British thermal units was the second lowest in the nation (USEIA 2026). The California Energy Commission, established by the Warren-Alquist Act in 1975 (Section 6.2), has been instrumental in limiting California's energy consumption, particularly by establishing energy efficiency standards that are updated every 3 years in the Title 24 Building Energy Efficiency Standards, which serve to reduce wasteful, uneconomical, and unnecessary uses of energy for the state (CEC 2025).

The San Joaquin County 2035 General Plan (San Joaquin County 2016) outlines policies to improve energy efficiency. The Project supports local energy goals by minimizing energy use during construction and avoiding unnecessary fuel consumption.

2.6.2 Findings

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

Project construction equipment and vehicles would use fossil fuels for power. The use of such equipment is necessary to rehabilitate the Project's levee for flood protection. BMPs included in conservation measure **CM-1** (air quality protection) would ensure construction equipment would be used as efficiently as feasible (e.g., by limiting idling) (Section 1.4.8). Fossil fuel consumption would be on a short-term basis during construction and would not persist upon Project completion. No electricity consumption would be associated with the Project. Overall, Project construction would not consume energy resources considered wasteful, inefficient, or unnecessary. Therefore, Project impacts would be less than significant.

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

State and local plans such as California Title 24 Building Energy Efficiency Standards and the San Joaquin County 2035 General Plan establish energy efficiency standards for actions (e.g., new building construction, retrofitting existing developments) that are not associated with the Project. Construction-related energy measures in the General Plan are directed at county operations and county construction projects and do not apply to non-county projects. Consequently, the Project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. There would be no impact.

2.7 Geology and Soils

Issues	Potentially significant impact	Less than significant with mitigation incorporated	Less than significant impact	No impact
Would the Project:				
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map, issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☐	✓
ii) Strong seismic ground shaking?	☐	☐	☐	✓
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☐	✓
iv) Landslides?	☐	☐	☐	✓
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	✓	☐
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 onsite or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☐	✓	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☐	✓	☐
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?	☐	☐	☐	✓
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	✓

2.7.1 Environmental setting

The Project Area lies on the western edge of the Great Valley geomorphic province. While this province is crossed by few active faults, it is bordered by the Coast Range province to the west, which contains several active fault zones that predominately exhibit right-lateral, strike-slip motion. The closest active faults⁵ designated by the California Geological Survey are the Greenville Fault Zone and Green Valley–Concord Fault zones, located about 23 and 28 mi to the southwest and west, respectively (CGS 2018a, 2024). The closest potentially active fault is the Midland Fault Zone, which runs north-south through the Delta about 5 mi east of the Project Area (Unruh and Hitchcock 2009). The most recent displacement along this fault is estimated to be early to mid-Quaternary (0.7–2.6 million years before present) (CGS 2010).

The Greenville and Green Valley–Concord faults both have estimated slip rates of 1 to 5 millimeters per year (Bryant and Cluett 2002a,b). The USGS estimates a 16% probability of an earthquake of magnitude 6.7 or greater occurring on either of these fault systems by the year 2043 (Aagaard et al. 2016). In general, ground rupture hazards do not affect San Joaquin County. Delta islands are, however, susceptible to liquefaction because of the presence of shallow groundwater and sandy-peaty soils with low cohesive strength (CGS 2018b, Hopf 2011). Liquefaction or seismically induced waves (i.e., seiches) in Delta channels may damage levees on Delta islands (Hopf 2011).

Staten Island encompasses approximately 9,200 acres and ranges in elevation from 10 to 18 ft below sea level near the Project levee (TNC 2024, Shannon & Wilson 2025). The island is underlain by peat and mud deposits formed through tidal wetland and fluvial deposition. The Project area consists primarily of partially drained mucky silt loam soils classified within the Venice series, as well as partially drained muck soils classified within the Rindge series (UC Davis and NRCS 2025). The island's soil deposits consist of Quaternary sediments accumulated throughout the Holocene (i.e., less than 11,000 years before present) atop sand and eolian deposits from the Pleistocene-age Modesto Formation; peat deposits on Delta islands have been documented at thicknesses of up to approximately 15 meters (Atwater 1982a,b; USGS 2002; Drexler et al. 2007). This process of tidal marshland formation occurred throughout the Delta region until land reclamation began in the late 1800s during Euro-American settlement (Whipple et al. 2012). By the 1930s, draining of marshes and wetlands and extensive levee construction transformed the Delta into an agricultural landscape. These changes in land use allowed for microbial oxidation and depletion of peat, resulting in land-surface subsidence of up to 26 ft below sea level on Delta islands (Drexler et al. 2009). Staten Island's levees, originally constructed from dredged material from adjacent waterways, have been periodically raised and widened with dredged or imported fill material to counteract subsidence. Currently, subsidence reversal (i.e., a process that increases land elevation by halting soil oxidation and accumulating new soil material) and wetland restoration efforts are underway on Staten Island to mitigate ongoing land-surface loss and enhance carbon sequestration (DSC 2025).

The geotechnical investigation for the Project included drilling 20 borings to depths of 15.0 to 66.5 ft, and advancing 11 Cone Penetration Tests (CPTs) to depths of 50.5 to 80.5 ft below the existing grade (Shannon

⁵ An *active fault* is defined by the California Geological Survey as a fault having surface displacement within the Holocene epoch, or the past 11,700 years (CGS 2018a).

& Wilson 2025). Geotechnical laboratory tests were performed on selected samples retrieved from the borings. Previous geologic exploration by Hultgren-Tillis Engineers in 2019 included drilling one boring at the landside levee toe to a depth of about 31.5 ft and advancing 10 CPTs on the levee crest to depths of about 50 ft below the existing grade.

2.7.2 Findings

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

i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map, issued by the State Geologist for the area or based on other substantial evidence of a known fault?

The Project Area is not located within an Alquist-Priolo Earthquake Fault Zone (CGS 2024) or a California Earthquake Hazards Zone (California DOC 2024). The Project would not result in operational or land use changes that would cause substantial adverse impacts due to potential rupture of an earthquake fault. Therefore, the Project would not impact any known earthquake fault.

ii. Strong seismic ground shaking?

Although the Project Area is located at least 23 miles away from the nearest active faults and lies in a zone with moderately low potential for strong seismic ground shaking (CalOES 2023, California DOC 2023), a geotechnical investigation has been performed to ensure that appropriate material would be used to improve the levee stability (Shannon & Wilson 2025). Therefore, the Project would not increase the potential for direct or indirect adverse effects related to seismic ground shaking. There would be no impact.

iii. Seismic-related ground failure, including liquefaction?

The Project Area lies in the Delta, which is potentially susceptible to seismically induced liquefaction that could result in levee failure and flooding. The Project would not increase the potential for direct or indirect adverse impacts due to seismic-related ground failure. There would be no impact.

iv. Landslides?

The levees surrounding Staten Island are susceptible to landslides. Portions of the Project Area levee have a very high Deep-Seated Landslide Susceptibility Class of VIII (California DOC 2025b). As described in Section 1.4, the Project aims to rehabilitate the levee slope to meet the minimum geometry requirement under the Delta-Specific PL 84-99 standard, which would improve levee stability. Therefore, the Project would not increase the potential for direct or indirect adverse impacts related to landslides. There would be no impact.

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

The Project would remove topsoil during excavation of the levee slope and stripping, clearing, and grubbing activities. During these activities, there would be a minor and temporary increase in the potential for stormwater-related erosion due to exposed surficial soil. To minimize the risk of soil erosion, the Project would implement BMPs in conservation measure **CM-2** (erosion and sediment control; Section 1.4.8). The landside slope would be reconstructed to a finish grade of 3:1 (horizontal:vertical) and the waterside slope to a finish grade of 2:1 (horizontal:vertical) through placement and compaction of levee fill material. Additionally, any areas with bare ground would be re-seeded with a native seed mix. Ultimately, these activities would stabilize the levee and reduce the potential for soil erosion; therefore, impacts of the Project on soil erosion and loss of topsoil would be less than significant.

c) Would the Project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in onsite or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse?

Although the Project Area is located on Quaternary Delta mud and peat deposits, which are susceptible to liquefaction, the Project would not result in increased potential for liquefaction. However, the geotechnical investigation indicated that the thickness of the marsh deposits and the large fill volumes required for the setback levee would result in greater settlement than is typical for standard Delta levee rehabilitation projects. As a result, the geotechnical report indicates the necessity for frequent settlement monitoring during construction, including installation of settlement plates and regular survey measurements, to ensure that fill placement does not overstress the foundation soils. With implementation of staged construction, overbuild, widened levee crests, and settlement monitoring, the Project would improve levee stability and would not increase susceptibility to hazards associated with unstable geologic units. Therefore, potential impacts to unstable geologic units would be less than significant.

d) Would the Project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?

Soils in the Project vicinity (i.e., peat and organic materials) are expansive. Therefore, the Project has been designed to address the potential for expansive soil. Expansive soils would not be used to re-construct the Staten Island levee. Instead, imported fill material would consist of soil or a soil/rock mixture that is free of deleterious substances (e.g., expansive clay, salts, porous rock) and organic matter. The material would not contain rocks or hard fragments exceeding 6 in. in diameter, and no more than 15% of the material would exceed 1 in. in diameter. The fill would contain a minimum of 30% fines passing the No. 200 sieve and would have a liquid limit of less than 50%. Aggregate base material would conform to the California Department of Transportation's Class 2 aggregate base specifications. Fill would be placed in controlled lifts and compacted to engineering standards. As a result, the Project would not increase long-term deformation or pose additional risks to life or property compared to existing conditions. Therefore, potential impacts related to expansive soils would be less than significant.

e) Would the Project 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 use septic tanks or alternative wastewater disposal systems. Therefore, the Project would not impact any onsite wastewater disposal system.

f) Would the Project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

No unique paleontological resources or geologic features are documented on Staten Island. The Holocene-age muds and peats that cover much of the island are relatively young and are generally considered to have low potential for the presence of fossils. Geologic units known to contain fossils in the Delta, including the Franciscan, Mehrten, Modesto, and San Pablo formations, have not been mapped at the surface within the Project Area. Additionally, most of the Project excavation work would occur in levees composed of fill material, rather than in undisturbed native soil. The Project would therefore not impact unique paleontological resources or geologic features.

2.8 Greenhouse Gas Emissions

Issues	Potentially significant impact	Less than significant with mitigation incorporated	Less than significant impact	No impact
Would the Project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	✓	☐
b) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☐	✓

2.8.1 Environmental setting

2.8.1.1 State regulatory setting

Greenhouse gases (GHGs) can absorb and emit infrared radiation, trapping energy in the atmosphere and causing it to warm. Impacts from GHGs are more global than regional and are different from air pollutants that impact only the general area near where they are released. GHGs can occur naturally or as a direct result of human activities. California law defines GHGs as including the following emissions: carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, and nitrogen trifluoride (Health and Safety Code, § 38505(g)). The most common GHG resulting from human activity is carbon dioxide, followed by methane and nitrous oxide.

AB 32, the Global Warming Solutions Act of 2006, went into effect in January 2008 (refer also to Section 6.2). This bill required a statewide GHG emissions limit, equal to the 1990 level of 431 million metric tons of carbon dioxide equivalent (MMTCO₂e), to be achieved by December 31, 2020.

California's GHG emissions have generally decreased after peaking in 2004, remaining below the AB 32 2020 GHG emissions limit since 2014 (CARB 2026b). California's current climate targets include meeting

both the Senate Bill 32 emissions target, which includes reducing emissions by 40% below 1990 levels by 2030 (refer also to Section 6.2), and the AB 1279 emissions target, which expanded upon AB 32 by aiming to reduce anthropogenic emissions 85% below 1990 levels by 2045 and achieve carbon neutrality (refer also to Section 6.2) (CalEPA 2026).

In 2023, California's statewide GHG emissions were 360.4 MMTCO₂e,⁶ which is 11.2 MMTCO₂e (3.0%) lower than 2022 levels (CARB 2025b). This continued the long-term trend of declining GHG emissions in California, except for anomalous trends during 2019 to 2021 due to the COVID-19 pandemic, with emissions in 2023 being the lowest of any point during the CARB inventory time series (2000–2023). From 2000 to 2023, the carbon intensity of California's economy (carbon pollution per million dollars of gross state product) decreased by 56.6%, while emissions per gross state product declined by 5.0% from 2022 to 2023 (CARB 2025b). The transportation sector consistently emits more GHG than any other sector, accounting for 37.1% of state GHG emissions in 2023. When upstream emissions from oil extraction, petroleum refining, and oil pipelines in California are included in this metric, transportation is responsible for 46.4% of statewide emissions in 2023 (CARB 2025b).

2.8.1.2 Local regulatory setting

SJVAPCD has developed guidance for performance-based standards, or Best Performance Standards, to assess the significance of GHG emission totals for stationary sources and land use development projects. For these types of projects, adherence to Best Performance Standards or a demonstration of a 29% reduction from business-as-usual emissions would be required to demonstrate less-than-significant GHG emission impacts (SJVAPCD 2009). For construction projects, SJVAPCD has not established such guidance or quantitative significance thresholds for GHG emissions.

The San Joaquin County General Plan aims to reduce GHG emissions primarily through changes in land-use patterns (e.g., alternative transportation systems, sustainable building practices) (San Joaquin County 2016).

2.8.2 Findings

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

Project construction is expected to generate approximately 2,310 metric tons of carbon dioxide equivalent (CO₂e) during each year of construction as indicated by the CalEEMod results in Appendix A. The Project would not result in changes to long-term GHG emissions following construction. Therefore, short-term impacts involving the generation of GHG emissions during Project construction would be less than significant.

⁶ A metric measure used to compare the emissions from various GHGs based on their global warming potential. Carbon dioxide equivalents are commonly expressed as million metric tons of carbon dioxide equivalents (MMTCO₂e). The carbon dioxide equivalent for a gas is derived by multiplying the tons of the gas by the associated global warming potential (USEPA 2012).

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

Emissions associated with Project construction would be temporary and would not inhibit attainment of the statewide GHG emissions limit established by AB 1279, as described in Section 6.2. SJVAPCD has not established GHG emissions guidance or quantitative significance thresholds for GHG emissions from construction projects, and construction projects are not a mechanism by which the San Joaquin County General Plan aims to reduce GHG emissions (Section 2.8.1.1). The Project would not result in changes to long-term GHG emissions following construction. For these reasons, the Project would not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions. There would be no impact.

2.9 Hazards and Hazardous Materials

Issues	Potentially significant impact	Less than significant with mitigation incorporated	Less than significant impact	No impact
Would the Project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	✓	☐
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?	☐	☐	✓	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	✓
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code § 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	✓
e) For a Project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☐	✓
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	✓

Issues	Potentially significant impact	Less than significant with mitigation incorporated	Less than significant impact	No impact
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?	☐	☐	☐	✓

2.9.1 Environmental setting

Land uses surrounding the Project Area are predominantly agricultural. Agricultural areas have the potential to contain hazardous substances, particularly petroleum products or pesticides that may have been stored nearby or released into the surrounding environment. Between 2017 and 2019, Staten Island's census tract had a higher use of hazardous and volatile agricultural pesticides than 87% of census tracts statewide, and commonly applied chemicals included 1,3-dichloropropene, propanil, chlorothalonil, mancozeb, and paraquat dichloride (OEHHA 2026a). Additionally, older gas wells and underground storage tanks used to store petroleum products and other hazardous materials may develop leaks that can lead to contamination of soil or groundwater. The number and type of hazardous waste generators and sites in Staten Island's census tract are higher than 73% of the census tracts in California (OEHHA 2026b). However, a query of the California Department of Toxic Substances Control's database revealed no known sites with cleanup, permitted, or other hazardous materials statuses within the Project Area (CDTSC 2026).

2.9.2 Findings

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

Hazardous materials (e.g., diesel fuel) would be used by construction equipment during Project implementation. To minimize the risk of hazardous material release, the Project would implement hazardous material BMPs, as outlined in conservation measure **CM-3** (Section 1.4.8). All fuels and other hazardous materials would be handled and stored according to the manufacturer's specifications. The construction equipment staging area would consist of bare ground enclosed by containment measures (e.g., berms or absorbent wattles) to limit the spread of any spills. Secondary containment methods would be used during all refueling activities, which would occur within the staging area whenever feasible. In the event of a spill, crew personnel would stop the spillage at its source, contain the spilled material, and notify Project supervisors and appropriate agency representatives.

The Project would have no potential impacts resulting from hazardous material use following Project completion. The Project is consistent with the San Joaquin County General Plan's Public Health and Safety Element, including policies that promote safe handling, disclosure, and prevention of hazardous material incidents. Impacts related to the transport, use, or disposal of hazardous materials would be less than significant due to compliance with applicable regulations and incorporation of conservation measure **CM-3**.

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

As described above, implementation of hazardous material BMPs outlined in **CM-3** (Section 1.4.8) would occur during Project implementation; therefore, the potential for the Project to create a significant hazard that could affect the public or environment would be less than significant.

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

Because no schools are currently located, or proposed to be constructed, within 0.25 mi of the Project Area, the Project would not impact schools.

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

Because no portion of the Project Area is included on the list of hazardous materials sites (CDTSC 2026), the Project would not impact the public or environment by posing risk of exposure to hazardous materials pursuant to Government Code § 65962.5.

- 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 use airport, would the Project result in a safety hazard or excessive noise for people residing or working in the project area?**

Because no public-use airports are located within 2 mi of the Project Area, the Project would not result in a safety hazard or excessive noise for people residing or working within the Project Area.

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

The Project will rehabilitate an existing section along the Staten Island levee and replace the levee crest patrol road. However, this road is private and used only by the District for inspections and patrolling. All roadway traffic supporting the Project would adhere to applicable laws for motor vehicles and with San Joaquin County's Office of Emergency Services. The construction contractor would comply with local fire, police, and medical responders during any emergency. Therefore, the Project would not interfere with emergency response plans or disrupt emergency evacuations.

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

Staten Island has been designated by the California Department of Forestry and Fire Protection (CAL

FIRE) as an unzoned local responsibility area⁷ with no moderate, high, or very high fire hazard severity zones (CAL FIRE 2026). Accordingly, the Project would not affect people or structures by exposing them a significant risk of loss, injury, or death involving wildland fires. In addition, the Project would implement conservation measure **CM-4** (Section 1.4.8) to reduce the potential for a grass fire.

2.10 Hydrology and Water Quality

Issues	Potentially significant impact	Less than significant with mitigation incorporated	Less than significant impact	No impact
Would the Project:				
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☐	✓	☐
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin?	☐	☐	☐	✓
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
i) result in substantial erosion or siltation onsite or offsite;	☐	☐	✓	☐
ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	☐	☐	☐	✓
(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	☐	☐	☐	✓
(iv) impede or redirect flood flows?	☐	☐	☐	✓
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to Project inundation?	☐	☐	☐	✓
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☐	✓

⁷ Local responsibility areas are lands for which neither the state nor the federal government has any legal responsibility for providing fire protection.

2.10.1 Environmental setting

The Project Area is within the South Mokelumne River–Mokelumne River watershed (Hydrologic Unit Code 180400121106) (USGS and USDA-NCRS 2024). Staten Island is surrounded by navigable waterways and encircled by 25.3 mi of flood control levees maintained by the District (San Joaquin LAFCO 2026). Waterways adjacent to the Project Area include the North and South Mokelumne rivers (Figure 1-1).

Project activities would include waterside work associated with construction of a setback levee between Station 857+00 and Station 864+00, consisting of breaching the existing levee and excavating the waterside slope from the waterside hinge down to MLLW at low or receding tides to increase the cross-sectional area at the confluence of the North and South Mokelumne rivers and improve flood conveyance. All other levee rehabilitation activities, including levee raising, constructing the landside toe berm, and modifying irrigation siphons, would occur above the ordinary high water mark and outside the waterways. No in-water excavation or construction would occur as part of the Project.

The typical daily tidal range at Staten Island is from about elevation 3.5 to 6 ft (Shannon & Wilson 2025). Extreme low tides approach elevation 3 ft and extreme high tides are near elevation 6.5 ft. The 100-year flood level varies from elevation 10.2 to 12.5 ft at Station 822+00 to Station 1038+00.

Groundwater levels within the levee are expected to be near mean tide levels during construction. Staten Island is below sea level, and groundwater levels within the island are artificially controlled through evapotranspiration and pumping. Groundwater is generally expected to occur within a few feet of the ground surface. Local groundwater conditions are expected to vary spatially and temporally depending on seasonal precipitation, irrigation practices, and tidal influences.

No tsunami risks are present within the Project Area or vicinity according to the State of California's tsunami hazard area map (California DOC 2026). Earthquakes along any of the active fault zones in the Project vicinity (Section 2.7.1), however, could result in seiches in the waterways in the Project vicinity.

Water quality objectives and beneficial uses for surface water and groundwater are provided in the Water Quality Control Plan for the Central Valley (Basin Plan) (CVRWQCB 2019). The water quality objectives apply to all surface waters in the Sacramento and San Joaquin River basins, including the waterways near the Project Area (i.e., Staten Island). Existing and potential beneficial uses for the Delta include municipal and domestic supply, agricultural supply (irrigation and stock watering), industrial supply (process and service), recreation (contact and noncontact), freshwater fish habitat (warm and cold), migration (warm and cold), spawning (warm), wildlife habitat, and navigation.

The waterways surrounding Staten Island are not listed as impaired by the State Water Resources Control Board pursuant to Section 303(d) of the Clean Water Act (SWRCB 2024). Under the Basin Plan, this designation applies to waterbodies that do not meet established water quality objectives or where beneficial uses are not adequately protected. Placement of a waterbody on the Section 303(d) list requires development of a pollution control plan, called a Total Maximum Daily Load, which establishes pollutant load limits necessary to attain and maintain applicable water quality standards.

Turbidity is a measure of the relative clarity of a liquid. It is an optical property of water, quantified by the amount of light scattered by particles in the water (i.e., suspended solids) when a light source is passed through a sample (USGS 2018). Elevated turbidity can create nuisance conditions, impair beneficial uses (e.g., municipal and domestic supply, freshwater fish habitat), and harm aquatic life, including special-status fish species. Continuous turbidity measurements collected between 2010 and 2015 at the USGS Little Potato Slough gage at Terminous, CA (USGS gage 11336790), located on the eastern edge of Bouldin Island approximately 4 miles southeast of the Project Area, ranged up to approximately 110 Formazin Nephelometric Units (FNU) during the winter “wet” season and up to 35 FNU during the spring–fall “dry” season (USGS 2026). General water quality objectives for turbidity in Central Delta waters specify that, except during periods of storm runoff, turbidity shall not exceed 50 Nephelometric Turbidity Units (NTU)⁸ (CVRWQCB 2018).

2.10.2 Findings

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

There will be no in-water work associated with the Project, and all work near MLLW will be conducted at low or receding tides and in the dry. Although the Project levee has a history of seepage and prior seepage repairs, the Project is intended to improve levee stability and would not introduce new long-term seepage pathways. Project-related ground disturbance, however, could temporarily increase the potential for localized erosion and sediment-laden stormwater runoff. To minimize the risk of soil erosion and stormwater runoff during construction, the Project will implement a SWPPP to mitigate potential pollution associated with stormwater runoff (CM-2, erosion and sediment control) (Section 1.4.8). The Project will also implement hazardous materials BMPs (CM-3) to minimize the potential for accidental spills of hazardous materials to enter waterways (Section 1.4.8). To reduce erosion upon completion of the setback levee, the slopes will be seeded with a native hydroseed mix. Impacts from implementation of the Project will therefore be less than significant.

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

The Project would not substantially alter existing groundwater pumping rates or natural recharge potential in a manner that would impede sustainable groundwater management of the basin. There would be no impact.

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

i) result in a substantial erosion or siltation onsite or offsite?

⁸ Nephelometric turbidity units (NTUs) and formazin nephelometric units (FNUs) are considered numerically equivalent (ISO 2016).

Movement of earth-and-fill material would temporarily disturb soils and alter runoff patterns over a small area on the landside levee slope during Project construction. Appropriate BMPs included in the Project SWPPP would be implemented to minimize potential temporary impacts to waters from erosion during Project construction (CM-2, Section 1.4.8). The topography of the Project Area would be reconstructed to similar grades and revegetated following Project construction, and no new impervious surfaces would be created. Rehabilitating the levee slopes and adding riprap armoring on the waterside slope would also reduce erosion. Therefore, no substantial long-term change in erosion or siltation would occur onsite or offsite. The Project would have a less-than-significant impact related to erosion and siltation.

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

The Project would not substantially alter drainage patterns following construction. Earth-moving activities during construction have the potential to cause minor and temporary alterations to the Project Area's existing drainage patterns but would not result in an increased risk of flooding. The Project would not result in flooding impacts to locations within the Project Area or to offsite areas. The Project would have no impact.

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?

The Project would not create or contribute runoff water or provide additional sources of polluted runoff. The Project would have no impact.

iv) impede or redirect flood flows?

Project construction would be completed during the summer and early fall, when precipitation and flood risk are low. Construction would not impede or redirect flows in adjacent waterways. Project implementation would not result in long-term changes to flood flow patterns. The Project would have no impact.

d) In flood hazard, tsunami, or seiche zones, would the Project risk release of pollutants due to Project inundation?

The Project Area is not at risk of tsunamis. In the unlikely event of a flood or seiche during Project construction (Section 2.10.1), implementation of hazardous material BMPs (CM-3, Section 1.4.8) would minimize the risk of a pollutant release. The Project would not risk release of pollutants following Project construction. The Project would have no impact.

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

The Project would not conflict with or obstruct the implementation of the Basin Plan (CVRWQCB 2019) or any sustainable groundwater management plan (Eastern San Joaquin Groundwater Authority 2019)

because it incorporates measures to protect water quality and maintain identified beneficial uses. The Project would have no impact.

2.11 Land Use and Planning

Issues	Potentially significant impact	Less than significant with mitigation incorporated	Less than significant impact	No impact
Would the Project:				
a) Physically divide an established community?	☐	☐	☐	✓
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?	☐	☐	☐	✓

2.11.1 Environmental setting

The land-use designation for Staten Island is Agricultural (San Joaquin County 2026), and the Project Area is designated as Prime Farmland (Section 2.2.1). Staten Island has about 8,500 acres of agricultural fields managed by The Nature Conservancy for wildlife-friendly farming (TNC 2024).

Staten Island is also part of the Delta Primary Zone, as defined by the Delta Protection Act of 1992 (Section 6.2). The Primary Zone includes approximately 500,000 acres of waterways, levees, and farmed lands throughout five counties (DPC 2010). The Land Use and Resource Management Plan for the Primary Zone of the Delta guides planning for the conservation and enhancement of the natural resources of the Delta, while sustaining agriculture and meeting increased recreational demand (DPC 2010).

Staten Island is located within the boundary covered by the Delta Plan, a comprehensive, long-term management plan for the Delta and Suisun Marsh mandated by the 2009 Delta Reform Act (Section 6.2) (DSC 2024a). The Delta Plan includes recommendations for achieving the coequal goals of protecting and enhancing the Delta ecosystem and its unique agricultural, cultural, and recreational characteristics, while providing for a more reliable water supply for California. Delta Plan Policy DP P2 reflects these goals by requiring that local land uses be considered when choosing placement of water or flood facilities or restoring habitats.

Staten Island is designated as a *Very-High Priority Island* under the Delta Levees Investment Strategy (DSC 2024b). The island's levees protect West Walnut Grove Road and North Staten Island Road, utility infrastructure, agricultural land, water quality and supply, and freshwater wetlands. The Project is consistent with Delta Levees Investment Strategy goals and supports the continued function of these systems.

2.11.2 Findings

a) Would the Project physically divide an established community?

No established communities are located on Staten Island, and the Project would not change the character of or access to any of the residences or farm buildings on the island; therefore, the Project would not impact or divide any established community.

b) Would the Project 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 Project would not result in any long-term changes to land use on Staten Island; therefore, it would not conflict with any goals or policies in the San Joaquin County General Plan (San Joaquin County 2016), the Land Use and Resource Management Plan for the Primary Zone of the Delta (DPC 2010), or the Delta Plan. There would be no impact.

2.12 Mineral Resources

Issues	Potentially significant impact	Less than significant with mitigation incorporated	Less than significant impact	No impact
Would the Project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	✓
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?	☐	☐	☐	✓

2.12.1 Environmental setting

Few mineral resources of economic value occur in the Delta; however, limited extraction of peat and sand-and-gravel resources takes place on some Delta islands. No mineral extraction activities currently occur on Staten Island. In addition, Staten Island has not been classified within a mineral resource zone pursuant to the California Surface Mining and Reclamation Act of 1975 (Section 6.2) (CGS 2026).

2.12.2 Findings

a) Would the Project 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?

No known mineral resources are present within the Project Area; therefore, the Project would have no impact.

b) Would the Project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

No known mineral resources are present within the Project Area; therefore, the Project would not conflict with any local general plans, specific plans, or other land use plans and would not impact any locally important mineral resource recovery site. There would be no impact.

2.13 Noise

Issues	Potentially significant impact	Less than significant with mitigation incorporated	Less than significant impact	No impact
Would the Project result in:				
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 applicable standards of other agencies?	☐	☐	☐	✓
b) Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☐	✓
c) For a Project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	✓

2.13.1 Environmental setting

2.13.1.1 Noise

Noise can be defined as unwanted or disruptive sound. Pressure waves traveling through air exert a force that is perceived by the human ear as sound, measured in decibels (dB) using monitoring instruments. For context, a whisper measures approximately 30 dB, normal speaking is about 60 dB, and a chain saw is around 110 dB (CDC 2015). Prolonged exposure to noises above 70 dB can lead to adverse impacts, such as hearing loss. Noise levels from localized (i.e., point) sources attenuate with distance at a rate of approximately 6 dB per doubling of distance (FTA 2018). Construction noise levels are often expressed in A-weighted decibels (or dBA), a unit that incorporates frequency adjustments to model the human ear's varying sensitivity to different sound frequencies.

Ambient noise levels on Staten Island are primarily influenced by boat traffic along adjacent waterways, routine agricultural equipment, and vehicular traffic. Potential roadway noise sources include Highway 12 on nearby Bouldin Island, located across the South Mokelumne River approximately 0.5 mi from the southern extent of the Project Area, and North Staten Island Road, which runs north-south through the center of the island. The nearest noise-sensitive receptors to the Project Area are the rural

residences associated with the B&W Resort Marina near the confluence of the Georgiana Slough and the Mokelumne River, located approximately 0.7 mi southwest of the Project Area. Other rural residences in the vicinity are located more than 1 mi from the Project Area.

The San Joaquin County Development Title (Section 9-404) states that noise generated from construction activities are exempt from noise level regulations, provided the work takes place between 6:00 a.m. and 9:00 p.m. on any day.

2.13.1.2 Vibration

Vibrations are periodic oscillations of a medium, including groundborne vibrations generated by machinery or construction equipment. These vibrations can lead to groundborne noise, which occurs when objects such as room surfaces resonate in response to ground vibrations. Vibrations are typically measured by their root mean squared velocity, expressed in vibration decibels (VdB). Vibrations become perceptible at approximately 65 VdB, distinctly perceptible around 75 VdB, and bothersome around 85 VdB (FTA 2018).

Existing vibration levels are relatively low near the Project Area. Vibrations in the Project vicinity are primarily produced by vehicular traffic, including routine agricultural and maintenance vehicles and equipment. The San Joaquin County Development Title (Section 9-1025.5(c)) states that vibration sources associated with construction or demolition of structures or infrastructure are exempt from vibration level regulations.

2.13.2 Findings

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

San Joaquin County Development Title (Chapter 9-404) provides an exemption for construction activities from standard noise level restrictions, provided that such activities occur between 6:00 a.m. and 9:00 p.m. Project construction activities would take place between these hours, and no night work is expected. Therefore, the Project would have no impact.

- b) **Would the Project result in generation of excessive groundborne vibration or groundborne noise levels?**

Vibration levels for heavy equipment and loaded haul trucks to be used during Project construction are not expected to exceed 94 VdB at 25 ft from the source, or 29 VdB at 0.67 mi from the source (i.e., the distance to the nearest noise-sensitive receptor) (FTA 2018). No equipment used during Project construction is expected to have detectable vibrations at surrounding land uses, including the nearest sensitive receptor. Vibration and noise produced by Project construction activities during daytime hours are also exempt from San Joaquin County regulations, and operational vibration or noise levels would not increase following Project construction. No long-term increase in groundborne vibration generation would occur following Project construction. For these reasons, the Project would not result in generation

of excessive groundborne vibration; therefore, the Project would have no impacts resulting from groundborne vibrations or sounds.

- c) **For a Project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project expose people residing or working in the project area to excessive noise levels?**

The Project is not located within the vicinity of a private airstrip or within 2 mi from a public airport or public use airport. Therefore, the Project would have no impact.

2.14 Population and Housing

Issues	Potentially significant impact	Less than significant with mitigation incorporated	Less than significant impact	No impact
Would the Project:				
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)?	☐	☐	☐	✓
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	✓

2.14.1 Environmental setting

The Project Area is located in a rural part of San Joaquin County with low population density. Staten Island's census tract, which includes neighboring islands and the town of Terminous, had a population of 2,215 as of 2017 (OEHHA 2026c). Land surrounding the Project Area is primarily agricultural, with a few domestic residences outside the Project boundary.

2.14.2 Findings

- a) **Would the Project 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)?**

Although the Project would improve infrastructure along Staten Island levee, it does not include any elements that would induce population growth. Therefore, the Project would not impact population levels.

- b) **Would the Project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?**

The Project would not displace or impact any existing housing or necessitate the construction of replacement housing elsewhere. Therefore, there would be no impact.

2.15 Public Services

Issues	Potentially significant impact	Less than significant with mitigation incorporated	Less than significant impact	No impact
Would the Project:				
a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:	☐	☐	☐	✓
Fire protection?	☐	☐	☐	✓
Police protection?	☐	☐	☐	✓
Schools?	☐	☐	☐	✓
Parks?	☐	☐	☐	✓
Other public facilities?	☐	☐	☐	✓

2.15.1 Environmental setting

The Nature Conservancy owns Staten Island, and its levees are maintained by the District. The island is managed primarily for agriculture and wildlife conservation, encompassing 9,200 acres of predominantly wildlife-friendly farmland. The island has no government facilities, public resources, or services.

2.15.2 Findings

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

Fire protection?

Police protection?

Schools?

Parks?

Other public facilities?

The Project would not affect public services including fire protection, police protection, schools, parks, or other public facilities. None of these services have facilities near the Project Area, and access routes would be maintained to allow fire and police protection services to reach the residents and structures on Staten Island. There would be no impact.

2.16 Recreation

Issues	Potentially significant impact	Less than significant with mitigation incorporated	Less than significant impact	No impact
a) Would the Project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	✓
b) Does the Project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	✓

2.16.1 Environmental setting

The Delta waterways surrounding Staten Island provide recreational opportunities for boating, fishing, and wildlife viewing. The Nature Conservancy owns and manages Staten Island, which is part of the Cosumnes River Preserve. Public access is limited; visitors may drive or walk along North Staten Island Road, where public access terminates approximately 4 mi from the entrance (i.e., about 1 mi east of the Project Area). The Lodi Sandhill Crane Association occasionally offers sandhill crane viewing tours of the island. Staten Island is not designated by San Joaquin County as a Recreation Area, Boater Destination Site, or Fishing Access Site.

2.16.2 Findings

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

The Project would not alter or impact the use of the existing neighborhood or regional parks or of the surrounding recreational areas on Staten Island. There would be no impact.

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

The Project does not require construction or expansion of recreational facilities that might cause adverse, physical impacts to the environment. There would be no impact.

2.17 Transportation

Issues	Potentially significant impact	Less than significant with mitigation incorporated	Less than significant impact	No impact
Would the Project:				
a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?	☐	☐	☐	✓
b) Conflict or be inconsistent with CEQA Guidelines § 15064.3, subdivision (b)?	☐	☐	☐	✓
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	✓
d) Result in inadequate emergency access?	☐	☐	☐	✓

2.17.1 Environmental setting

Staten Island is accessible by vehicle via West Walnut Grove Road, which runs east–west across the northern portion of the island and provides a direct connection between the communities of Walnut Grove and Thornton (i.e., Interstate 5 and California State Route 160). As of 2016, approximately 3,600 vehicles travel daily along West Walnut Grove Road through the northern portion of Staten Island (San Joaquin County Public Works 2025). The Staten Island levee system also provides access to the Deadhorse Island Bridge, which is operated by Reclamation District No. 2111. In addition, an existing roadway along the levee crown would be replaced during the Project.

During construction, Project personnel would access the work site primarily via West Walnut Grove Road and North Staten Island Road. The Mokelumne River may also be used during construction to transport materials to the Project Area by barge. Construction activities would temporarily increase traffic in the Project vicinity. However, the Project would not result in long-term changes to local or regional traffic or transportation circulation systems.

2.17.2 Findings

a) Would the Project conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?

The Project would not conflict with or impact a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities. There would be no impact.

b) Would the Project conflict or be inconsistent with CEQA Guidelines § 15064.3, subdivision (b)?

The Project is not expected to change vehicle miles traveled because no detours would be required during Project construction and the Project would not change any transportation system. There would be no impact.

c) Would the Project 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 would not impact the design or use of roads in the Project vicinity. There would be no impact.

d) Would the Project result in inadequate emergency access?

Emergency services would continue to have access to Staten Island via West Walnut Grove Road, which runs east–west along the northern portion of the island, throughout Project construction. Project personnel, including haul truck drivers and equipment operators, would comply with local fire, police, and medical responders during any emergency. Therefore, the Project would not impact access to emergency services.

2.18 Tribal Cultural Resources

Issues	Potentially significant impact	Less than significant with mitigation incorporated	Less than significant impact	No impact
a) Would the Project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code § 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code § 5020.1(k), or	☐	✓	☐	☐
ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code § 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code § 5024.1, the lead agency will consider the significance of the resource to a California Native American tribe.	☐	✓	☐	☐

2.18.1 Environmental setting

Eileen Barrow & Associates conducted cultural resources investigations for the APE. The study is documented in a report titled *Cultural Resources Study for the Mokelumne River Confluence Multi-Benefit Project Staten Island, San Joaquin County, California* (Eileen Barrow & Associates 2024a), which includes a records search of the CHRIS conducted at the Central California Information Center, a Sacred Lands File search conducted by the NAHC, geoarchaeological sensitivity analyses, and a reconnaissance field survey of the APE. The report also provides detailed precontact, ethnographic, and historic information relevant to the APE.

The APE is located in the ethnographic territory of the Eastern Miwok, a subgroup of the broader Miwok-speaking peoples of Central California (Levy 1978). Their ancestral territory extends from the Walnut Creek area eastward through the Sacramento–San Joaquin Delta, north toward Sacramento, eastward to the Sierra Nevada foothills, and ending at the south just north of the Calaveras River (Bennyhoff 1977; Kroeber 1925; Levy 1978; Merriam 1907, as cited in Eileen Barrow and Associate 2024a).

Many Tribes, regardless of federal recognition status, maintain enduring traditional and cultural affiliations with the APE and its surrounding lands. These communities have deep spiritual, cultural, and physical connections to their ancestral lands and continue to serve as contemporary stewards of their heritage and landscapes. Tribal presence remains rooted in these homelands, embodying the resilience and continuity of their ancestors through sustained relationships with sacred sites, cultural practices, and history. Each Tribe is committed to preserving and revitalizing its cultural legacy for present and future generations. The Miwok peoples continue to live and thrive throughout the San Francisco Bay Area, affirming their presence and cultural vitality in the region today.

2.18.1.1 Results of Tribal Resources investigation

The CHRIS records search, which was completed on August 19, 2024 (File No. 13016L), identified several cultural resources (Section 2.5) that were historic-era and non-Tribal in nature. The NAHC's formal response to the Sacred Lands File search request indicated negative results for sensitive Native American cultural resources within the APE.

Eileen Barrow & Associates sent outreach letters to the following Native American individuals and groups: Buena Vista Rancheria of Me-Wuk Indians, Calaveras Band of Mi-Wuk Indians, Chicken Ranch Rancheria of Me-Wuk Indians, Confederated Villages of Lisjan, Guidiville Indian Rancheria, Ione Band of Miwok Indians, Jackson Rancheria Band of Miwok Indians, Nashville Enterprise Miwok-Maidu-Nishinam Tribe, Pakan'yani Maidu of Strawberry Valley, United Auburn Indian Community of the Auburn Rancheria, and Wilton Rancheria. The letters do not constitute Section 106⁹ consultation with Tribes. No other responses to the Tribal outreach letters have been received at the time of this report.

On February 13, 2026, the lead agency sent formal notification letters to the above-listed tribes in accordance with Assembly Bill 52 (AB 52) and Section 21080.3.1(d) of the California Public Resources Code (PRC), providing an opportunity to consult regarding the Project. Pursuant to PRC Section 21080.3.1(d), tribes were provided 30 days to respond to the notification. The AB 52 consultation response period ended on March 15, 2026.

The Confederated Villages of Lisjan, responded to the notification letter requesting consultation and additional information, including draft cultural resources reports, records search results, and information regarding proposed ground disturbance. The requested information was provided by the lead agency. A consultation meeting was conducted on April 22, 2026. The Tribe subsequently provided recommended mitigation measures via email, which have been reviewed and incorporated where appropriate into the CEQA document. The Confederated Villages of Lisjan Nation reviewed the proposed mitigation measures, after which consultation was concluded on May 20, 2026.

Buried site sensitivity analysis determined that the APE has a low probability of containing buried cultural deposits. Rehabilitation of the landside levee slope during Project construction is expected to occur completely within fill soils and is not expected to disturb underlying marsh deposits. Any native soils that may be present within the lean clay and silt beneath the road base have likely been significantly

⁹ Section 106 of the National Historic Preservation Act requires consultation with Tribes when proposed projects may affect historic properties of cultural or religious significance.

altered by previous levee construction activities, including the placement of fill, use of heavy machinery, and other related ground disturbances. Ancillary Project components, such as irrigation siphon modifications and setback levee keyway construction, would involve limited subsurface excavation that is expected to occur primarily within previously placed and reworked levee fill and disturbed soils. However, construction of the setback levee keyway would require excavation below existing grade and may extend into underlying native marsh deposits that have not been previously disturbed. The extent of keyway excavation is limited, and the majority of Project ground disturbance would occur within areas that have previously been disturbed. As a result, the potential for the Project to encounter intact tribal cultural resources or undisturbed native soil contexts of tribal cultural significance is considered low.

Professionally qualified archaeological staff from Eileen Barrow & Associates conducted a reconnaissance field survey of the APE on August 21, 2024. The survey included visual inspection of a corridor up to approximately 25 meters wide along the foot of the levee, where access and ground visibility permitted, as well as inspection of the waterside of the levee for cultural features or structures. Standing water limited access and visibility in several locations. Vegetation and surface duff were selectively cleared to facilitate examination of the ground surface. In addition, soil exposed by burrowing animals was inspected where present. Special attention was directed to areas where camps had been previously documented along the levee and to the locations of previously recorded cultural resources. The survey identified several resources (Section 2.5) which were historic-era and non-Tribal in nature.

2.18.2 Findings

- a) **Would the Project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code § 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:**
 - i) **Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code § 5020.1(k), or?**

Cultural resources investigations conducted for the Project did not identify any known indigenous cultural resources. Additionally, a search of the NAHC's Sacred Lands File returned negative results. No evidence of archaeological significance or characteristics was found that would meet the criteria for listing in the California Register of Historical Resources or a local register as defined in Public Resources Code § 5020.1(k).

Mitigation measures **MM-2** (WEAP training), **MM-10** (inadvertent discovery procedures for tribal and cultural resources) and **MM-11** (inadvertent discovery procedures for human remains) include training for construction personnel on measures protecting tribal cultural resources and procedures for addressing the inadvertent discovery of such resources during ground-disturbing activities. The impact would, therefore, be less than significant with incorporation of mitigation measures **MM-2**, **MM-10** and **MM-11**.

- ii) **A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of**

Public Resources Code § 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code § 5024.1, the lead agency will consider the significance of the resource to a California Native American tribe.

As described above, no indigenous cultural resources were identified during cultural resources investigations for the Project or during formal AB 52 consultation. Additionally, the search of the NAHC's Sacred Lands File yielded negative results.

Mitigation measures **MM-2** (WEAP training), **MM-10** (inadvertent discovery procedures for cultural resources), and **MM-11** (inadvertent discovery procedures for human remains) include training for construction personnel on measures protecting tribal cultural resources and procedures for addressing the inadvertent discovery of such resources during ground-disturbing activities. The impact would, therefore, be less than significant with incorporation of mitigation measures **MM-2, MM-10, and MM-11**.

2.19 Utilities and Service Systems

Issues	Potentially significant impact	Less than significant with mitigation incorporated	Less than significant impact	No impact
Would the Project:				
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment, or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	✓	☐
b) Have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry, and multiple dry years?	☐	☐	☐	✓
c) Result in a determination by the wastewater treatment provider, which serves or may serve the Project that it has adequate capacity to serve the Project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	✓
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?	☐	☐	✓	☐
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☐	✓

2.19.1 Environmental setting

Staten Island relies on an integrated water management system to control drainage and support agricultural operations. Water is diverted from the Mokelumne River through siphons and conveyed to toe drains that manage seepage across the island. Excess water is returned to the Mokelumne River via two pump stations, each equipped with four pumps. Because the Project Area is located at the southern end of the island, drainage from the affected area is routed through the southern pump station (Figure 1-1). These pumps manage seepage and agricultural return flows and are also used to convey water during seasonal flood events. Staten Island is intentionally flooded to support rice cultivation and to provide winter habitat for migratory birds.

PG&E provides electricity to Staten Island via local distribution lines. The Project would require coordination with PG&E and Lodi Gas Storage, LLC, to address potential impacts of the proposed levee rehabilitation on the existing gas lines that cross through the levee, including a concrete vault near Station 1037+00. The concrete vault would need to be extended approximately 3 ft in height to accommodate levee rehabilitation. No other public wastewater treatment facilities, stormwater drainage facilities, or other public utilities or service systems are located on Staten Island. Wastewater is managed by private septic systems.

The California State Legislature passed the Integrated Waste Management Act of 1989 (AB 939; Section 6.2) to minimize the disposal of solid waste. AB 939 established the California Integrated Waste Management Board and required diversion of 25% of solid waste by 1995 and 50% by 2000. The California Integrated Waste Management Board's responsibilities transferred to the California Department of Resources Recycling and Recovery in 2010, and AB 341 was enacted in 2011, updating the statewide goal to 75% reduction by 2020 (Section 6.2).

The San Joaquin County Board of Supervisors adopted the Construction, Demolition and Landscaping Debris Recycling and Diversion Ordinance (Ordinance #4370) in 2009, which requires applicable construction projects to divert 50% of all construction and demolition debris (excluding inert and organic material) and 90% of inert and organic materials from landfills through reuse and recycling. All Project waste materials that cannot be recycled or reused must be delivered to a facility designated by San Joaquin County's Director of Public Works.

2.19.2 Findings

- a) **Would the Project require or result in the relocation or construction of new or expanded water, wastewater treatment, or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?**

The Project would not require the relocation or construction of new or expanded water, wastewater, stormwater, electric power, or telecommunications facilities. Existing natural gas infrastructure crosses the levee within the Project Area, including a concrete vault near Station 1037+00. Project design and construction would account for this infrastructure, and work would be conducted within the existing utility footprint in coordination with PG&E and Lodi Gas Storage, LLC, using standard utility protection

measures to avoid service disruptions or safety hazards. Therefore, impacts related to utilities would be less than significant.

b) Would the Project 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 create a need for an increased water supply following construction. During construction, water trucks may source water from the central drainage canal in the interior of the island. . Based on the relatively small amount of water temporarily needed during construction activities, sufficient water would be available for the Project. The Project would not create a need for an increased water supply following construction. There would be no impact.

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

The Project would not have an impact on wastewater generation or require the use of a wastewater treatment facility.

d) Would the Project 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?

To the extent possible, fill removed during the levee excavation would be reused during levee reconstruction. Any remaining materials not suitable for use in Project construction, including plant material or trash generated during construction activities, would be recycled if possible, or disposed of at a nearby offsite waste facility in accordance with San Joaquin County Ordinance #4370. Because the Project would reuse or recycle materials where feasible and only generate solid waste over temporarily during construction, it would not 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. The Project impact from the generation of solid waste would be less than significant.

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

As indicated in (d) above, the Project would not impact solid waste and would comply with associated federal, state, and local management and reduction statutes and regulations by reusing or recycling materials when possible.

2.20 Wildfire

Issues	Potentially significant impact	Less than significant with mitigation incorporated	Less than significant impact	No impact
If located in or near State Responsibility Areas or lands classified as very high fire hazard severity zones, would the Project:				
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	✓
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?	☐	☐	☐	✓
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?	☐	☐	☐	✓
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?	☐	☐	☐	✓

2.20.1 Environmental setting

Within San Joaquin County, the highest wildfire risk occurs in the southeastern foothill region, where fuel loads, steep slopes, and prevailing wind patterns contribute to elevated fire hazards. In contrast, the Project Area features predominantly flat terrain associated with agricultural use, along with localized elevation changes associated with the raised levee system. Landcover within the Project Area is largely composed of non-native ruderal herbaceous vegetation and agricultural areas, as well as a small patch of emergent wetland along the waterside toe of the levee. CAL FIRE has classified Staten Island as an Unzoned Local Responsibility Area, which is not designated within any moderate, high, or very high fire hazard severity zones (CAL FIRE 2026).

2.20.2 Findings

- a) **If located in or near State Responsibility Areas or lands classified as very high fire hazard severity zones, would the Project substantially impair an adopted emergency response plan or emergency evacuation plan?**

The Project Area is not located in or near a State Responsibility Area or on land classified as a very high fire hazard severity zone; therefore it would not affect associated emergency response or evacuation plans. There would be no impact.

- b) If located in or near State Responsibility Areas or lands classified as very high fire hazard severity zones, would the Project 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?**

The Project is not located in or near a State Responsibility Area or on land classified as a very high fire hazard severity zone. The Project would lessen the slope of the levee and would not include components that affect or exacerbate wildfire risk. There would be no impact.

- c) If located in or near State Responsibility Areas or lands classified as very high fire hazard severity zones, would the Project 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?**

The Project is not located in or near a State Responsibility Area or on land classified as a very high fire hazard severity zone and would not require the installation of associated infrastructure that could impact or exacerbate the risk of wildfire. There would be no impact.

- d) If located in or near State Responsibility Areas or lands classified as very high fire hazard severity zones, would the Project 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 Project is not located in or near a State Responsibility Area or on land classified as a very high fire hazard severity zone. The Project would stabilize and reduce the slope of the levee and would not increase runoff or otherwise cause instability. Levee repairs would benefit the surrounding area including infrastructure and property by increasing flood protection. Therefore, the Project would have no impact.

2.21 Mandatory Findings of Significance

Issues	Potentially significant impact	Less than significant with mitigation incorporated	Less than significant impact	No impact
a) Does 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 a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	✓	☐	☐
b) Does the Project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	☐	✓	☐	☐
c) Does the Project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	✓	☐	☐

- a) Does 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 a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?**

As discussed in Section 2.4, the Project has the potential to affect special-status plant and wildlife species and their habitats within the Project Area. Impacts to these resources would be overall reduced to less-than-significant levels with the incorporation of mitigation measures **MM-1** through **MM-9**.

As discussed in Sections 2.5 and 2.18, the potential for cultural or tribal cultural resources to be impacted by the Project is low; however, mitigation measures **MM-10** and **MM-11** would be implemented in the event of an unanticipated discovery of cultural or tribal cultural resources during the excavation.

Therefore, the Project would not substantially degrade the quality of the environment, substantially reduce the habitat of a wildlife species, cause a wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or

endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory. Potential impacts to biological and cultural resources would be less than significant with incorporation of the mitigation measures described above.

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

The Project has been determined to have no impact on agriculture and forestry resources, land use and planning, mineral resources, noise, population and housing, public services, recreation, transportation, and wildfire. As such, there is no potential for cumulatively considerable impacts to these resources.

The Project has been determined to have the potential for less-than-significant impacts to aesthetics, air quality, energy, geology and soils, GHG emissions, hazards and hazardous materials, hydrology and water quality, and utilities and service systems temporarily during construction. No other construction projects on Staten Island are currently planned for 2027–2028 that also have the potential to contribute to impacts to these resources. The Nature Conservancy’s Wetland Restoration Project on Staten Island started in 2026 and will continue in 2027; this fish and habitat restoration project was approved by the Delta Conservancy under the Statutory Exemption for Restoration Projects, and was determined to not have the potential to significantly affect the environment. Additionally, the Project does not exceed the air quality and GHG thresholds that were determined by SJVAPCD in consideration of the potential for cumulative impacts attributable to emissions from multiple projects occurring simultaneously. The potential for cumulatively considerable hydrology and water quality impacts would be minimized by implementation of an SWPPP during construction (conservation measures **CM-2**, erosion and sediment control); any nearby projects with the potential to impact surrounding waterways would also implement a SWPPP, as required by Clean Water Act Section 402. For these reasons, the Project would not have a cumulatively considerable impact on aesthetics, air quality, energy, geology and soils, GHG emissions, hazards and hazardous materials, hydrology and water quality, or utilities and service systems.

In addition, and as described in (a) above, implementation of mitigation measures (**MM-1** through **MM-11**) during construction would prevent impacts to biological, cultural, and tribal cultural resources that have the potential to be cumulatively considerable.

For the reasons described above, the Project would not have environmental impacts that are individually limited but cumulatively considerable; cumulative impacts would be less than significant with mitigation.

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

As discussed in this IS/MND, the Project, with the incorporation of conservation measures and mitigation measures into its design, would have no impact or a less-than-significant impact on aesthetics, agriculture, air quality, cultural resources, energy, geology and soils, GHG emissions, hazards or hazardous materials, hydrology and water quality, land use and planning, mineral resources, noise,

population and housing, public services, recreation, transportation, tribal cultural resources, utilities and services, and wildfire. As such, the Project's environmental impacts would not cause substantial, adverse impacts to humans, either directly or indirectly; impacts would be less than significant with mitigation.

3 DETERMINATION

On the basis of this evaluation:

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

4 LIST OF PREPARERS

Table 4-1 lists the preparers of this IS/MND and participants in the related planning, data gathering, and analytical tasks.

Table 4-1 List of preparers

Name	Title	Affiliation	Project role
Katherine Ayres	Senior Director	Stillwater Sciences	Project Director, senior review
Carina Bilodeau	Botanist and Plant Ecologist	Stillwater Sciences	Environmental analysis - biological resources (botany)
Christian Braudrick, Ph.D.	Senior Geomorphologist	Stillwater Sciences	Senior review - geology and soils, mineral resources
Christina Buck	Aquatic Biologist	Stillwater Sciences	Senior review - hydrology and water quality
Holly Burger	Senior Director, Wildlife Biologist	Stillwater Sciences	Project Manager, senior review, biological resources (wildlife)
Kayla Fitzpatrick	Environmental Scientist	Stillwater Sciences	Environmental analysis
Coreen Johnson	Senior Technical Editor	Stillwater Sciences	Technical editor
AJ Keith	Fisheries Biologist	Stillwater Sciences	Senior review - biological resources (fisheries)
Anne Maher	Environmental Scientist	Stillwater Sciences	Environmental analysis - biological resources (wetlands and waters)
Karley Rodriguez	Ecologist	Stillwater Sciences	Senior review - biological resources (wetlands and waters)
Brianne Roxbrough	Wildlife Biologist	Stillwater Sciences	Environmental analysis - biological resources (wildlife)
Rob Thoms	Botanist & Plant Ecologist	Stillwater Sciences	Senior review - biological resources (botany)
Kelli Wheat Dawson	Document Production	Stillwater Sciences	Formatting
Danielle Yaconelli	Fisheries Biologist	Stillwater Sciences	Environmental analysis - biological resources (fisheries)
Shaira Soliva	Staff Engineer	Wagner & Bonsignore	Engineering, Design support
Martin Berber, P.E.	Project Engineer	Wagner & Bonsignore	Engineering, Project Management
Julianna Galindo	Staff Engineer	Wagner & Bonsignore	Engineering, Permitting Support
Eileen Barrow, MA, RPA	Archaeologist	Eileen Barrow & Associates	Cultural resources, tribal cultural resources

5 CONSULTATION AND COORDINATION

The Draft IS/MND was circulated to agencies, individuals, and/or organizations known to have a special interest in the proposed Project and was made available to the public for a 30-day review period. The public was notified as follows:

- A Notice of Intent (NOI) to adopt an MND was posted for publication at the District office and filed with the San Joaquin County Clerk.
- The proposed IS/MND, NOI, and Notice of Completion, were electronically submitted to the State Clearinghouse via the CEQAnet Web Portal for distribution.
- The proposed IS/MND was distributed electronically by the State Clearinghouse to interested parties.
- Copies of the proposed IS/MND were made available for public review at the offices of Wagner & Bonsignore in Sacramento.

6 COMPLIANCE WITH FEDERAL AND STATE ENVIRONMENTAL LAWS AND REGULATIONS

6.1 Federal

Clean Air Act. Section 176(c) of this act prohibits federal action or support of activities that do not conform to a State Implementation Plan. The Project is not expected to violate any air quality standard, increase air quality violations in the Project region, exceed USEPA's general conformity de minimis threshold, or hinder the attainment of air quality objectives in the local air basin. The Project would have no adverse effect on the future air quality of the Project Area and is compliant with this act.

Clean Water Act (Sections 401 and 404). Section 404 of this act requires that prior to Project implementation, a permit be obtained from the USACE for fill of Waters of the U.S., including wetlands. In compliance with Section 401 of the act, a water quality certification or a waiver of water quality certification needs to be obtained from the Central Valley Regional Water Quality Control Board. Due to the required fill within Waters of the U.S. (as footings for the pipe replacements), Section 404 and 401 permits would be secured prior to Project implementation, in compliance with this act.

Endangered Species Act. The ESA prohibits unauthorized take of species listed or proposed for listing as threatened or endangered. The ESA also ensures that the actions of federal agencies do not jeopardize the continued existence of threatened and endangered species. The mitigation measures incorporated into the Project would ensure compliance with the ESA.

Migratory Bird Treaty Act. Protection of migratory birds, their occupied nests, and their eggs is required under the MBTA (16 United States Code 703 et seq.), Title 50 CFR Part 10. The full list of the species protected under the MBTA appears in Title 50 CFR Section 10.13 and includes federally listed and state-listed migratory birds and other non-listed migratory birds. Mitigation measures incorporated into the Project would ensure compliance with the MBTA.

Rivers and Harbors Act (Sections 10 and 14 [codified in Section 408]). The Rivers and Harbors Act prohibits the unauthorized obstruction of any navigable Water of the U.S. All features below MHW are subject to Section 10 of the Rivers and Harbors Act, which requires authorization for the construction of any structure in or over navigable waters. The Mokelumne River is considered a Traditional Navigable Water by USACE. Section 14 of the Rivers and Harbors Act (codified in and commonly referred to as Section 408) regulates permanent or temporary modifications to USACE public works projects, including federal levees. The Project would not require a Section 10 permit because it would not obstruct a Traditional Navigable Water. Additionally, the Project's levee does not fall under federal jurisdiction and would therefore not require a Section 408 Permission Letter from the USACE.

6.2 State

Assembly Bill 32. AB 32 (i.e., the California Global Warming Solutions Act of 2006) required the California Air Resources Board to develop regulations to address global climate change due to GHG emissions. The bill also required attainment of a statewide GHG emissions limit, equal to the 1990 level, by December 31, 2020. As of 2023, California's statewide GHG emissions of 360.4 MMTCO₂e (CARB

2025b) were below the 2020 GHG emissions limit of 431 MMTCO₂e (CARB 2026c). The bill has since been expanded by subsequent state legislation, including AB 1279 and Senate Bill (SB) 32.

Assembly Bill 1279. Signed into law in 2022, AB 1279 expanded upon AB 32 by specifying an emissions limit that further requires California to reduce statewide GHG emissions to 85% below the 1990s level by 2045. Emissions associated with Project construction would be temporary and would not inhibit attainment of the statewide GHG emissions limits established by AB 1279.

Assembly Bill 52. AB 52 provides a method for incorporation of Native American Tribal knowledge into the CEQA review process via formal consultation. In compliance with AB 52, Tribal members or organizations, provided by the NAHC, were contacted for information on the potential for indigenous resources within or near the Project Area. Results of Tribal outreach efforts undertaken in support of the Project gave no indication that tribal cultural resources are present within the Project Area.

Assembly Bill 341. AB 341 established regulations requiring commercial business and multi-family residences to implement recycling programs. AB 341 also updated the statewide goal from AB 939 (see Integrated Waste Management Act below) from a 50% reduction in solid waste disposal to a 75% reduction by 2020. The Project would reuse or recycle materials where feasible and would only generate solid waste in the short term during Project construction, so it would not impair the attainment of solid waste reduction goals.

Assembly Bill 454. The MBTA provides for the protection of migratory birds and authorizes states and territories of the United States to make and enforce laws or regulations that give further protection to migratory birds and their nests and eggs. Existing law, as of January 1, 2026, repeals this provision. This bill would instead extend the California Migratory Bird Protection Act indefinitely in the state of California, ensuring protections for migratory birds.

California Endangered Species Act. Generally, CDFW administers the state laws providing protection of fish and wildlife resources, including the California ESA. The California ESA parallels the federal ESA and was written to protect state endangered and threatened species. Mitigation measures incorporated into the Project would ensure compliance with the California ESA.

California Environmental Quality Act. This IS/MND has been prepared to comply with CEQA.

California Fish and Game Code Section 1600 et seq. California Fish and Game Code Section 1600 et seq. gives authority to CDFW to regulate activities that would interfere with the natural flow of, or substantially alter, the channel, bed, or bank of a lake, river, or stream. Because the Project would include work on the waterside levee below the hinge point or waterside crest, the District is required to notify CDFW. If CDFW were to determine that the Project would have potential adverse effects on fish and wildlife resources, it would issue a Lake and Streambed Alteration Agreement that would include conditions to protect these resources. The Project would therefore comply with this Fish and Game Code section.

California Fish and Game Code Sections 86, 3503, and 3513. California Fish and Game Code Section 86 defines take as hunting, pursuing, catching, capturing, or killing or attempting to hunt, pursue, catch,

capture, or kill. Under Section 3503, it is unlawful to take, possess, or needlessly destroy the nests or eggs of any bird, except as otherwise provided. Section 3503.5 protects all birds-of-prey (raptors) and their eggs and nests, and Section 3513 makes it unlawful to take or possess any migratory non-game bird designated under the MBTA. Mitigation measures incorporated into the Project would ensure compliance with these Fish and Game Code sections.

California Fish and Game Code Sections 3511, 4700, 5050, and 5515. California Fish and Game Code Sections 3511, 4700, 5050, and 5515 designated rare fish and wildlife species as Fully Protected in California. This designation provides additional protection to these species from unauthorized take or possession. Mitigation measures incorporated into the Project would ensure compliance with these Fish and Game Code sections.

Delta Protection Act. The Delta Protection Act was established in recognition of the increasing threats to the resources of the Primary Zone of the Delta from urban and suburban encroachment and their potential to impact agriculture, wildlife habitat, and recreational uses. Pursuant to this act, the Land Use and Resource Management Plan for the Primary Zone of the Delta was completed and adopted by the Delta Protection Commission in 1995 (updated in 2002). The Project would not result in urban or suburban encroachment and would, therefore, be in compliance with this act.

Delta Reform Act. The Delta Reform Act created the Delta Stewardship Council to oversee the management of water and environmental resources in the Delta through the development and implementation of the Delta Plan. If it were to be determined that the Project is a covered action, a consistency determination would be obtained from the Delta Stewardship Council.

Integrated Waste Management Act (Assembly Bill 939). The Integrated Waste Management Act made California cities and counties responsible for enacting plans to divert 25% of solid waste by 1995 and 50% by 2000. The Project would reuse or recycle materials where feasible and would only generate solid waste over the short-term during Project construction so would not impair the attainment of solid waste reduction goals.

Native Plant Protection Act. This act directed CDFW to preserve, protect, and enhance native plants. It gave CDFW the authority to designate native plants as endangered or rare and require that landowners who have been notified of state-listed species on their property, and who wish to destroy those plants and their habitat, to provide CDFW with notice to salvage the plants no less than 10 days before destruction occurs. Many of the species designated under the act were subsumed by the California ESA, but there is a subset of species, subspecies, and varieties of plants that were not and are protected as rare under the act. Mitigation measures that are incorporated into the Project would ensure compliance with this act.

Porter-Cologne Water Quality Control Act. This act was established to protect water quality and beneficial uses of water in California. It requires that National Pollutant Discharge Elimination System and Waste Discharge Requirement permits for point and nonpoint source discharges, respectively, be obtained from the Central Valley Regional Water Quality Control Board to protect water quality in surface waters, groundwater, and wetlands. If it were to be determined that the Project may impact

Waters of the U.S., then National Pollutant Discharge Elimination System and Waste Discharge Requirement permits would be secured prior to Project implementation, in compliance with this act.

Senate Bill 32. Signed into law in 2016, SB 32 expanded upon the California Global Warming Solutions Act of 2006 (AB 32) by establishing a statewide GHG emissions reduction target of 40% below 1990 levels by 2030. The emissions reduction target established by SB 32 is codified in the California Health and Safety Code (§ 38566) and provides the foundation for California's post-2020 climate policies. Emissions associated with Project construction will be temporary and will not inhibit attainment of the statewide GHG emissions limits established by these bills.

Surface Mining and Reclamation Act. This act includes policies for the regulation of surface mining operations to balance production of state mineral resources with minimization of adverse environmental impacts associated with these activities. In support of these goals, state lands are classified into mineral resource zones based on known or inferred mineral resources. No land on Staten Island has been classified into mineral resource zones, so the Project would not conflict with the policies in this act.

Warren-Alquist Act. This act established the California Energy Commission, the state's primary energy policy and planning agency. The California Energy Commission works to advance state energy policy, encourage energy efficiency, and develop renewable energy. The Project would only use fossil fuels on a short-term basis during construction activities and would include BMPs for energy conservation (e.g., limiting idling time, properly maintaining equipment).

Williamson Act (also known as the California Land Conservation Act). This act allows for the formation of contracts between local governments and private landowners to restrict use of specific parcels to agricultural or related open space land uses. The Project Area is covered by a Williamson Act contract, and land use within the Project Area would not change over the long-term following Project construction.

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APPENDIX A

California Emissions Estimator Model Emissions Summary Sheets

APPENDIX B

Biological Resources Evaluation for the Project