

COASTAL CONSERVANCY

Staff Recommendation
November 19, 2020

TERMINAL FOUR WHARF REMOVAL PROJECT

Project No.14-025-01
Project Manager: Marilyn Latta

RECOMMENDED ACTION: Authorization to disburse up to \$3,000,000 to the City of Richmond for final design and implementation of the Terminal Four Wharf Removal Project near Point San Pablo, Contra Costa County; and adoption of a Mitigated Negative Declaration and Mitigation Monitoring and Reporting Program pursuant to the California Environmental Quality Act.

LOCATION: Point San Pablo, Richmond (Contra Costa County)

PROGRAM CATEGORY: San Francisco Bay Area Conservancy

EXHIBITS

- Exhibit 1: [Regional Map](#)
- Exhibit 2: [Map of the Terminal Four Wharf](#)
- Exhibit 3: [Photographs of the Terminal Four Wharf](#)
- Exhibit 4: [Mitigated Negative Declaration for the Terminal Four Wharf, Warehouse, and Piling Removal Project](#)
- Exhibit 5: [Mitigation Monitoring and Reporting Program for the Terminal Four Wharf, Warehouse, and Piling Removal Project](#)
- Exhibit 6: [Project Letters](#)

RESOLUTION AND FINDINGS:

Staff recommends that the State Coastal Conservancy adopt the following resolution pursuant to Sections 31160-31165 of the Public Resources Code:

“The State Coastal Conservancy hereby authorizes the disbursement of up to \$3,000,000 to the City of Richmond for final design and implementation of the Terminal Four Wharf Removal Project near Point San Pablo, Contra Costa County; and adopts the “Mitigated Negative Declaration for the Terminal Four Wharf, Warehouse, and Piling Removal Project” (“MND”) and the “Mitigation Monitoring and Reporting Program for the Terminal Four Wharf, Warehouse, and Piling Removal Project,” attached as Exhibits 4 and 5 to the accompanying staff recommendation.

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Prior to the disbursement of any funds, the City of Richmond shall submit for the review and written approval of the Conservancy's Executive Officer:

- a. A work program, budget, schedule, and the names of any contractors to be employed in carrying out the work.
- b. Evidence that all required permits and approvals have been obtained for the proposed project.

In carrying out the proposed project, the City of Richmond shall comply with all applicable mitigation and monitoring measures that are required by any permit or approval and with all measures that are identified in the MND adopted by the Conservancy."

Staff further recommends that the Conservancy adopt the following findings:

"Based on the accompanying staff report and attached exhibits, the State Coastal Conservancy hereby finds that:

1. The proposed authorization is consistent with Chapter 4.5 of Division 21 of the Public Resources Code, regarding the resource goals of the San Francisco Bay Area Conservancy Program.
2. The proposed project is consistent with the current Conservancy Project Selection Criteria and Guidelines.
3. The Conservancy has considered the "Terminal Four Wharf, Warehouse, and Piling Removal Project Initial Study/Mitigated Negative Declaration" (MND), attached to the accompanying staff recommendation as Exhibit 5, and any comments received, and finds that, on the basis of the whole record, the proposed project avoids, reduces or mitigates any possible significant environmental effect of the proposed project and there is no substantial evidence that the proposed project, as mitigated, will have a significant effect on the environment, as defined in 14 California Code of Regulations Section 15382. The MND represents the Conservancy's independent judgment and analysis."

PROJECT SUMMARY

Staff recommends that the Conservancy authorize disbursement of up to \$3,000,000 to the City of Richmond for final design and implementation of the Terminal Four Wharf Removal project, which consists of demolition of derelict pilings, decking, and two buildings, construction of enhanced rock slope protection, and monitoring at Terminal Four near Point San Pablo in Contra Costa County.

The Terminal Four site is owned by the City of Richmond (the City) and is managed by the City's Port Operations Department (Port of Richmond). The site is located on the western shore of Richmond, California, about 2.5 miles northwest of the eastern end of the Richmond-San Rafael Bridge, and just south of the tip of Point San Pablo (Exhibits 1 and 2).

The City has been planning the removal of the creosote-treated piles and deteriorated decking at the Terminal Four site for a number of years, and removal of these structures will achieve the following goals:

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1. Increase the ecological health of San Francisco Bay by removing derelict pilings, including those containing creosote-treated wood, and large amounts of artificial fill and solid debris from the Bay floor and waters;
2. Improve spawning and development success of Pacific herring through removal of the creosote-treated piles, which have been shown to have detrimental effects on early life history stages of Pacific herring;
3. Maintain the existing degree of shoreline protection while avoiding activities that would increase the current degree of erosion potential along that portion or adjacent portions of the coastline; and
4. Protect and enhance the existing eelgrass beds and other biological resources.

In addition, the project will help to increase climate resiliency by cleaning up this area of the shoreline and strengthening the natural eelgrass and oyster habitats, which act as green infrastructure that provides nature-based adaptation to climate change impacts such as sea level rise and shoreline erosion.

The Conservancy has been supporting this project since 2017, primarily through facilitating funding and taking the lead on design and environmental review. Previous authorizations by the Board and the Executive Officer have enabled habitat restoration and coastal processes assessments, upon which preparation of environmental documentation, 60% designs, and permit applications (submitted September 2020) have been based.

The project proposed for this funding authorization consists of completing designs; demolishing the decking, warehouse and dockmasters office, and all pilings; sorting and safe disposal of the material; construction of a 350-foot portion of rock slope protection that incorporates “living” habitat elements such as native plantings at the crown, cobbles with native seaweeds embedded into the face of the rock, and oyster reef elements incorporated into the toe of the rock slope; and post-project monitoring of the eelgrass bed and the enhanced rock slope protection. Removal designs take into account that there is a range of estimates of current number of pilings and volume of debris, as described in the “Site Description” section, below.

Site Description: The Richmond Terminal Four Wharf Removal site is near the northwestern tip of Point San Pablo (see Exhibit 1) and extends along a rubble-armored shoreline at the north and central portions of the pier and in front of a small cove at the southern end of the pier (see Exhibit 2). Based on a review of historic bay charts, the Terminal Four structures were built sometime between 1850 and 1915. However, other sources list them as being built in the 1930’s and being initially used for handling and processing fish. The site was used primarily over the years for storage, distribution and processing of vegetable and animal oils, petroleum fuels and additives, and other chemicals. Storage tanks on the shore were used to supply ships docked at the wharf. Two companies, Vopak and United Molasses, each leased portions of the property from the City. Photos from 1938 (Exhibit 3) shows ships secured to the south end of the wharf.

Exhibits 2 and 3 show the key site features of the Terminal Four Wharf Removal site which include:

- Approximately 2,150 standing piles, of three types described below,

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- A 1,000 foot long wharf area of deteriorated wood creosote decking,
- An 1,100 square foot office building,
- A deteriorated wooden warehouse located over the water with a footprint of about 12,800 square feet, and,
- Up to 2,700 tons of debris on the bay bottom with material that has already sunken into the bay.

According to a survey conducted by the San Francisco Estuary Institute (SFEI) in 2009 of the entire San Francisco Bay region (Subtidal Goals 2010), there were approximately 2,500 pilings at the Terminal 4 Wharf site. More recently, as part of the design process, Merkel & Associates (2014) conducted a survey largely by interferometric sidescan sonar, which resulted in slightly lower estimates of piles ranging from 2,127 to 2,347 total piles within the structure. In 2019 C&W Divers were hired to assess the structure a third time, and they noted 2,150 pilings still standing and up to 2,700 tons of concrete, wood, and other debris on the bay floor. This data shows the substantial deterioration over a short period of time, and the structures have degraded further since 2019. However, since the collapsed beams and decking material can block sidescan sonar, and visibility is limited due to the structures and due to high turbidity (suspended sediment) in the bay, there remains substantial uncertainty regarding the piling count, which has been taken into consideration during design.

Three types of pilings are primarily present at the site: creosote-treated woodpiles, creosote-treated woodpiles later encased in concrete and precast concrete piles. There are also a small number of steel-encased pilings as well as rubber fenders on the side of the wharf facing the bay. Merkel & Associates estimated that up to 90% of the piles at Terminal Four are either wood encased in concrete or made of solid concrete. The concrete encasement design suggests these piles were wrapped at the time of initial construction rather than a later repair retrofit. The majority of the unwrapped wooden piles on the structure are either fender piles along the western margin of the wharf, or batter piles within the framework of the pier itself.

Project History: The proposed project is the result of numerous planning efforts in the Bay over the last two decades to address the growing recognition that creosote, a by-product of the coal and coke industry used to protect marine structures from decay, is toxic to fish and other marine organisms. Resource managers have been particularly concerned about the potential to the herring fishery in the Bay since herring lay eggs on pilings and creosote can cause impacts such as mutations in developing herring eggs.

In 2010, the Conservancy, the San Francisco Bay Conservation and Development Commission (BCDC), the National Oceanic and Atmospheric Administration (NOAA), and the San Francisco Estuary Partnership led development of the *San Francisco Subtidal Habitat Goals Report (Subtidal Goals Report)*, a 50-year conservation plan for how to move forward with science-based research, protection, and restoration of subtidal habitats in the San Francisco Bay. The report included a study titled "Removal of Creosote-Treated Pilings and Structures from San Francisco Bay," which described the negative impacts of creosote-treated pilings on the marine environment, mapped a total of 33,000 derelict pilings and their locations around San Francisco Bay, and described methods for removal of these pilings. However, the study noted that abandoned pilings also provide benefits that need to be taken into account when considering

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removal actions. Old pilings may have historical significance. They also can serve as perches for sea birds, enhance sediment accumulation behind pilings, and increase protection from wave action, thus enhancing conditions to support for eelgrass habitat.

In 2013, the Conservancy used National Fish and Wildlife Foundation (NFWF) funding to retain the professional services of AECOM to design a related, but separate, creosote-treated piling removal project at the Red Rocks Warehouse, a site adjacent to Terminal Four. Demolition was completed in Fall 2016, and a living shoreline with oyster reef elements and eelgrass plantings was installed in 2018 and 2019. This effort also analyzed and prioritized the many abandoned piling sites in San Francisco Bay for removal and site restoration, and the Terminal Four site was found to be a high priority for creosote piling removal.

In July 2014, the Conservancy retained AECOM to develop 30% design plans for the Terminal Four site, under the Executive Officer's delegated authority (\$75,494). In April 2017, the Conservancy Board authorized \$500,000 (later augmented by \$57,841) for Environmental Science Associates (ESA) to complete 60% design, CEQA documentation, and preparation of permit applications.

The proposed project is part of a continuing effort by the Conservancy to promote long-term management and restoration of subtidal habitat in the San Francisco Bay. The piling removal projects complement the Subtidal Habitat Goals Project, which recommended using a pilot project approach to remove artificial structures and creosote pilings at targeted sites in combination with active or passive restoration of natural habitats that provide environmental benefits with reduced engineering of hard structures (a "living shoreline").

PROJECT FINANCING

Coastal Conservancy

BCDC – Caltrans*	\$162,944
Chevron*	\$210,000
Water Emergency Transportation Authority*	\$1,230,000
Pacific Gas and Electric	\$1,080,000
City of Sausalito*	\$33,480
Port of San Francisco*	\$101,160
TransBay Cable LLC* (check pending)	\$19,602
Accumulated interest (estimate to-date)	162,814
San Francisco Bay Restoration Authority (unsecured)	\$3,000,000
Project Total	\$6,000,000

* mitigation funds – see specific descriptions below

Conservancy funds for this project will consist of mitigation funds paid to the Conservancy to satisfy conditions of regulatory permits, and settlement agreement funds, both of which have

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been placed in accounts within the Conservancy's Coastal Trust Fund that were established expressly for the Richmond Terminal Four Wharf Removal Project. The specific fund sources and purposes are as described below.

BCDC agreed to provide mitigation funds received from Caltrans in 2004 as permit condition for work on the Richmond-San Rafael Bridge. The Conservancy is using these funds with input from the City, BCDC, and NOAA.

Chevron agreed to provide mitigation funds in 2015 as a BCDC permit condition for work on the Chevron Long Wharf in Richmond. The Conservancy is using these funds with input from the City, BCDC, and the State Water Resources Control Board (SWRCB).

The Water Emergency Transportation Authority agreed to provide mitigation funds in 2015 as a BCDC permit condition for work on the San Francisco Ferry Terminal. The Conservancy is using these funds with input from the City, BCDC, and SWRCB.

Pacific Gas and Electric agreed to provide funds in 2018 as part of a legal settlement with the San Francisco Herring Association for federal Clean Water Act violations at former manufactured gas plants in San Francisco. The Conservancy is using these funds with input from the City, San Francisco Herring Association, and Pacific Gas and Electric.

The City of Sausalito agreed to provide mitigation funds in 2019 as a SWRCB permit condition for public access improvements at Dunphy Park in Sausalito. The Conservancy is using these funds with input from the City and SWRCB.

The Port of San Francisco agreed to provide mitigation funds in 2019 as a BCDC permit condition for work on the Mission Bay Ferry Terminal in San Francisco. The Conservancy is using these funds with input from the City, BCDC, and SWRCB.

TransBay Cable LLC agreed to provide mitigation funds in 2020 as a BCDC permit condition for work on the TransBay Cable in central San Francisco Bay. The Conservancy is using these funds with input from the City, BCDC, and SWRCB.

The City submitted an application for the remaining funding of approximately \$2.5 million to the San Francisco Bay Restoration Authority in October of 2020. If the City is not successful in obtaining the remaining funding from the Restoration Authority, Conservancy staff will assist the City in identifying other sources of funding.

Finally, as described in the "Project History" section above, prior funds (\$364,782 of BCDC Caltrans Mitigation Funds and \$276,000 of the NOAA PSMFC grant funds) have already been expended on project design, permitting, and environmental review.

CONSISTENCY WITH CONSERVANCY'S ENABLING LEGISLATION:

The proposed project is consistent with the requirements to Chapter 4.5, Sections 31160-31165, of Division 21 of the Public Resources Code regarding resource goals in the San Francisco Bay Area.

Under Section 31162(b), the Conservancy may undertake projects and award grants in the nine-county San Francisco Bay Area to achieve the goal of protecting, restoring and enhancing

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natural habitats. Consistent with this section, the proposed project will demolish pilings that are adversely impacting subtidal habitat, and conduct post-construction monitoring. The project will protect, restore and enhance subtidal habitats in an estuary of regional importance within the Bay Area.

Under Section 31163(a), the Conservancy is required to cooperate with BCDC, other regional government bodies, and other interested parties in identifying and adopting long-term resource goals for San Francisco Bay area. This project is part of a program of activities that came about from the collaborative planning of four primary agencies that developed the San Francisco Bay Subtidal Habitat Goals: the Conservancy, BCDC, NOAA, and SFEP.

The proposed project is appropriate for prioritization under the selection criteria set forth in Section 31163(c) in that: (1) it is consistent with the San Francisco Bay Plan (“Bay Plan”), as described below, and the Subtidal Habitat Goals report; (2) it involves the coordination of environmental solutions across several different agencies and many different jurisdictions within the San Francisco Bay Area; (3) it will be implemented in a timely manner, as construction is anticipated to begin summer 2022 if possible; (4) the availability of grant and mitigation funds to restore subtidal habitat provides an opportunity for restoration activities that could be lost if the Project is not quickly implemented; and (5) includes matching funds.

In addition, under Section 31165, the Conservancy may undertake projects and award grants for activities that are compatible with the preservation, restoration, or enhancement of ocean, coastal and bay resources. Undertaking the proposed project is consistent with and helps to achieve these goals by providing design, planning, and restoration project implementation for habitat protection, restoration and enhancement projects involving subtidal habitats in the Bay.

CONSISTENCY WITH CONSERVANCY’S 2018-2022 STRATEGIC PLAN GOAL(S) & OBJECTIVE(S):

Consistent with the objectives listed below for the Conservancy’s 2018-2022 Strategic Plan, the proposed project will further the enhancement of San Francisco Bay by removing derelict fill and marine debris, and promoting monitoring and management by landowners and other partners.

Consistent with **Goal 8, Objective B**, the proposed project will plan a debris removal and habitat enhancement project in San Francisco Bay, advancing the planning and design of adaptation projects to increase resilience to sea level rise and other climate change impacts. Consistent with **Objective C**, the project will implement these projects to increase resilience to sea level rise or other climate change impacts using nature-based solutions and other multi-benefit strategies.

Consistent with **Goal 12**, the project will contribute to “protect and enhance natural habitats and connecting corridors, watersheds, scenic areas, and other open-space resources of regional importance in the Bay Area,” and the project meets **Objective 12D**, “enhance tidal wetlands, managed wetlands, seasonal wetlands, upland habitat, and subtidal habitat.”

Consistent with **Goal 15, Objective C**, the project involves working “with partner organizations to achieve conservation, climate adaptation, and public access objectives through project

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facilitation, technical assistance, grant writing, workshops, webinars, and the development and sharing of scientific and management resources, including lessons learned from innovative, multi-objective projects.”

CONSISTENCY WITH CONSERVANCY’S PROJECT SELECTION CRITERIA & GUIDELINES:

The proposed project is consistent with the Conservancy’s Project Selection Criteria and Guidelines, last updated on October 2, 2014, in the following respects:

Required Criteria

1. **Promotion of the Conservancy’s statutory programs and purposes:** See the “Consistency with Conservancy’s Enabling Legislation” section above.
2. **Consistency with purposes of the funding source:** See the “Project Financing” section above.
3. **Promotion and implementation of state plans and policies:** The proposed Project will promote and implement the following state plans and policies:
 - a. *San Francisco Bay Subtidal Habitat Goals Report* (2010, jointly authored by the State Coastal Conservancy, California Ocean Protection Council, NOAA NMFS and Restoration Center, San Francisco Bay Conservation and Development Commission, and San Francisco Estuary Partnership), which is a 50-year Conservation Plan for submerged habitats in San Francisco Bay and which recommends the removal of derelict piling structures in San Francisco Bay.
4. **Support of the public:** The project is supported by NOAA, BCDC, and the City of Richmond. The Project also has broad public support from non-governmental organizations such as Baykeeper and others.
5. **Location:** The project is located in Richmond, Contra Costa County within the San Francisco Bay Area, and will be carried out within known creosote hotspot locations and within Pacific herring spawning areas within the central portion of the Bay, consistent with Section 31162 of the Public Resources Code.
6. **Need:** The proposed project would not occur without Conservancy participation, including administration of the funding from BCDC, Chevron, WETA, PG&E, City of Sausalito, Port of San Francisco, and TransBay Cable LLC.
7. **Greater-than-local interest:** In creating the San Francisco Bay Area Conservancy Program, the legislature identified San Francisco Bay as the central feature in an interconnected open-space system of watersheds, natural habitats, scenic areas, agricultural lands and regional trails of statewide importance. This project will help develop new approaches to removing creosote pilings from the Bay system and new techniques for restoration of shoreline and subtidal habitats in San Francisco Bay. The techniques and designs resulting from the project may have applicability at other sites in San Francisco Bay and in other estuarine systems on the Pacific Coast.

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- 8. Sea level rise vulnerability:** This project helps to improve resiliency of natural habitats, which is one of the overarching recommendations in climate change adaptation planning. The Project itself involves the removal of vulnerable structures and will not result in increased vulnerability to sea level rise.

Additional Criteria

- 9. Urgency:** Without Conservancy involvement, and funding from BCDC, Chevron, WETA, PG&E, City of Sausalito, Port of San Francisco, and TransBay Cable LLC, the project would not occur at this time in San Francisco Bay.
- 10. Resolution of more than one issue:** The project will remove toxic pollutants from the Bay ecosystem, remove navigational hazards, implement subtidal habitat restoration designs, and will result in lessons learned that can be applied to additional sites.
- 11. Leverage:** The funding from BCDC, Chevron, WETA, PG&E, City of Sausalito, Port of San Francisco, and TransBay Cable LLC will help cover Conservancy staff time, maximizing leverage of staff resources with minimal Conservancy fiscal outlay. Furthermore, no Conservancy funds are proposed in this authorization, which leverages funds provided by the Conservancy for earlier planning stages.
- 13. Innovation:** The project will implement recommendations in the San Francisco Bay Subtidal Habitat Goals Report and continue to build on new, innovative techniques used on earlier creosote piling removal and subtidal habitat restoration projects within San Francisco Bay.
- 15. Realization of prior Conservancy goals:** See “Project History” section above.
- 16. Cooperation:** The project is a collaborative project involving many agencies. The Conservancy is the lead agency, and supporting partners include PSFMC, NOAA, City of Richmond, Department of Fish and Wildlife, BCDC, San Francisco BayKeeper, The Watershed Project, Chevron, WETA, PG&E, City of Sausalito, Port of San Francisco, and TransBay Cable LLC and many others.
- 17. Minimization of Greenhouse Gas Emissions:** The proposed project will consider measures during the planning process and in the environmental analysis to minimize emissions throughout implementation of the project. These measures will be considered and applied as possible: a) work to be undertaken by local staff, contractors and grantees; b) use of recommended regional construction best management practices; and c) use of materials and equipment for the project that are purchased from local vendors, where feasible.

CONSISTENCY WITH SAN FRANCISCO BAY PLAN:

The San Francisco Bay Plan (“Bay Plan”) was completed and adopted by BCDC in 1968 pursuant to the McAteer-Petris Act of 1965 and last amended in October 2011. The Bay Plan guides BCDC’s management and permitting decisions in the Bay. The project is consistent with the following policies articulated in Part III, Findings and Policy Section of the Bay Plan:

Subtidal Areas Policy 5 (adopted April 2002): “The [BCDC] should continue to support and encourage expansion of scientific information on the Bay’s subtidal areas, including:

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(a) inventory and description of the Bay's subtidal areas; (b) the relationship between the Bay's physical regime and biological populations; ... (e) where and how restoration should occur.”

The proposed project will assist in implementation of this policy by providing additional data on best techniques for restoration at a specific site, describe the densities, locations, and species associated with subtidal habitats at that site, and conduct five years of monitoring on herring presence before and after construction.

Fish, Other Aquatic Organisms and Wildlife Policy 1 (amended April 2002): “To assure the benefits of fish, other aquatic organisms and wildlife for future generations, to the greatest extent feasible, the Bay's tidal marshes, tidal flats, and subtidal habitat should be conserved, restored and increased.”

The project is consistent with this policy because it will restore and increase subtidal habitat in San Francisco Bay.

COMPLIANCE WITH CEQA:

The Conservancy, as lead agency under the California Environmental Quality Act (“CEQA”) has prepared an mitigated negative declaration for the project titled the Terminal Four Wharf, Warehouse, and Piling Removal Project Initial Study and Mitigated Negative Declaration (“MND”). The MND describes the proposed project and provides an assessment of the project’s potential significant adverse impacts on the environment. The MND concludes that the proposed project will not have any significant effects on the environment after implementation of project design features, conservation measures, avoidance and minimization and mitigation measures, and best management practices.

The MND was prepared in accordance with CEQA (Public Resources Code § 21000 et seq.) and the CEQA Guidelines (California Code of Regulations Title 14, section 15000 et seq.). The Conservancy released the proposed MND for public review on April 9, 2020.

The MND indicates that the proposed project will not have a significant effect on the environment with incorporation of certain mitigation measures. The only potential effects, for which mitigation is proposed, are in the areas of Aesthetics, Air Quality, Biological Resources, Cultural Resources, Noise, Tribal Cultural Resources, and Mandatory Findings of Significance. The Conservancy’s grantee will be responsible for compliance with the mitigation measures. The potential significant effects and the mitigation measures are described below.

Aesthetics

Portions of work in the tidal zone may require intermittent nighttime construction work (i.e., between the hours of 5:00 p.m. and 7:00 a.m.), which would require lighting at the working face. Construction-related lighting would occur intermittently during the six-month construction period. There is no public access to the project site, and the intervening topography shields the site from publicly accessible views from the landward direction. The nearest receptor that could be adversely affected by construction lighting is the East Brother Light Station, a Victorian-era lighthouse that also serves as a bed and breakfast inn, located

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approximately 1,000 feet to the west. To ensure that nighttime lighting does not adversely affect receptors at the East Brother Light Station, SCC would implement **Mitigation Measure AES-1, Construction Lighting**.

After demolition and construction activities are complete, there would be no operations-related lighting. For these reasons, the project would not create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area, and the impact would be less than significant.

Mitigation Measure AES-1: Construction Lighting.

SCC will require the contractor to direct nighttime lighting used during construction toward the work face and away from the East Brother Light Station to the extent possible.

Air Quality

Demolition and construction activities would result in emissions of ozone precursors and criteria pollutants from the operation of off-road construction equipment (listed in Table 2-2 in the Project Description) and vehicle exhaust from vehicles transporting workers, construction materials and debris. In addition, water-based sources such as tugboats used to steer barges and work skiffs also produce air pollutants. Criteria pollutant emissions from off-road demolition and construction equipment as well as worker and truck trips were estimated using the most recent version of the California Emissions Estimator Model (CalEEMod version 2016.3.2) using data on construction schedule and phasing, types and number of construction equipment used in each phase, and truck trips generated based on material and debris volumes estimated to be transported. Based on estimates of potential debris volumes that may need to be removed from the site, this analysis assumes that pile removal would require approximately 18 barge trips from the project site to the Port of Richmond's Terminal 3 sorting facility, the Port of San Francisco's Pier 96, or another facility determined by the contractor, and approximately 350 truck trips from Terminal 3 or Pier 96 to one of the four planned disposal sites (assumed to be Potrero Hills Landfill in Suisun City for this analysis). In addition, approximately 230 haul truck trips would be needed to transport spoils from the project site (again, the assumed disposal site is the Potrero Hills Landfill) and approximately 330 truck trips to transport ESRP construction materials to the project site (refer to Table 2-3 for average and peak daily truck trips). The analysis assumes a one-way trip length of 39 miles from the Port of Richmond to the Potrero Landfill and 46 miles from the project site to the Potrero Landfill. CalEEMod default trip lengths for Contra Costa County were assumed for other hauling trips.

Emissions from tugboats that would steer barges and work skiffs were estimated using marine diesel and gasoline engine emission factors, respectively, from the U.S. Environmental Protection Agency (U.S. EPA). Details of the calculations, including construction schedule and phases, equipment types and numbers used in each construction phase, worker vehicle and truck trips, number of working days, etc., are presented in Appendix B. The average daily emissions were calculated by adding the emissions from all the construction phases and dividing the total by the number of construction workdays (after taking into account any overlapping of phases). Table 3-1 presents estimated project construction emissions.

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**TABLE 3-1
DEBRIS REMOVAL ACTIVITIES EMISSIONS^a**

Source	Average Daily Emissions (pounds/day)			
	ROG	NOx	Exhaust PM ₁₀	Exhaust PM _{2.5}
Off-road Construction Equipment - Unmitigated^b	4.8	47.5	2.0	1.9
Work skiffs – Gasoline engines^c	6.1	10.1	0.1	0.1
Tugboats – Tier 4F Diesel Engines^d	0.8	7.7	0.2	0.2
Total Average Daily Emissions	11.7	64.3	2.3	2.2
BAAQMD Average Daily Significance Thresholds	54	54	82	54
Significant?	No	Yes	No	No
Off-road Construction Equipment – Tier 4 Engines	1.2	12.2	0.1	0.1
Work skiffs – Gasoline Engines	6.1	10.1	0.1	0.1
Tugboats – Diesel Tier 4F Engines	0.8	7.7	0.2	0.2
Total Average Daily Emissions	8.1	30.0	0.4	0.4
BAAQMD Average Daily Significance Thresholds	54	54	82	54
Significant?	No	No	No	No

NOTES:

^a For purposes of modeling, emissions were assumed to occur over a total of 5 months from August 2020 to early January 2021 (110 workdays), although the construction start date has not yet been determined.

^b Emissions were calculated using CalEEMod assuming 8 hours per day of activity for each equipment listed under each phase.

^c Assumes 8 hours of operation per day. Total hours were calculated as the total sum of the product of the number of work skiffs used in each construction phase and the number of workdays in that phase times 8 hours per day.

^d Emissions assume engines meeting Tier 4 Final standards.

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ROG = reactive organic gases

NO_x = oxides of nitrogen

PM₁₀ = particulate matter 10 micrometers in diameter or smaller

PM_{2.5} = particulate matter 2.5 micrometers in diameter or smaller

The project's emissions were evaluated against the thresholds of significance included in the BAAQMD's 2017 CEQA Air Quality Guidelines.¹ As shown in Table 3-1, average daily emissions from debris removal activities would exceed the BAAQMD significance thresholds. This unmitigated scenario assumes no emission controls from off-road equipment (e.g., back hoes, excavators and cranes; see Table 2-2 in Chapter 2). However, based on information that Tier 4 engines (i.e., engines meeting the U.S. EPA's Tier 4 Final standards) were already in use for tugboats, emission factors for tugboats reflect this standard. Implementation of Mitigation Measure AQ-1 would reduce emissions to a less-than-significant level by requiring that all off-road construction equipment also be equipped with engines meeting the U.S. EPA's Tier 4 Final standards. Table 3-1 shows these mitigated emissions.

BAAQMD has not developed quantitative mass emissions thresholds for fugitive dust emissions of particulate matter from earthmoving activities, but instead recommends implementation of Best Management Practices (BMPs), such as those listed as Basic Construction Mitigation Measures Recommended for All Proposed Projects in BAAQMD's 2017 CEQA Air Guidelines, to reduce fugitive dust emissions. Project activities would primarily occur along a portion of the San Francisco Bay shoreline and would not involve intense earthmoving activities on dry land. As such, fugitive dust emissions would be minimal. Nevertheless, all landside activities with the potential for ground disturbance will be subject to the best management practices for air quality described in Section 2.5.1 of the Project Description, which are based on BAAQMD recommended dust control measures to ensure that significant impacts related to dust would be avoided.

With mitigation and implementation of the referenced best management practices, project emissions would not exceed BAAQMD significance thresholds and adequate fugitive dust reduction measures would be implemented consistent with BAAQMD's BMPs, and potential impacts related to the project's individual emissions would be reduced to less than significant.

In developing the thresholds of significance for air pollutants, the BAAQMD considered the emission levels for which a project's individual emissions would be cumulatively considerable. If a project exceeds the identified significance thresholds, its emissions would be cumulatively considerable, resulting in significant adverse air quality impacts on the region's existing air quality conditions. Therefore, additional analysis to assess cumulative impacts is unnecessary.

¹ BAAQMD, *California Environmental Quality Act: Air Quality Guidelines*, 2017. Available online at http://www.baaqmd.gov/~media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en. Accessed on September 4, 2018.

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As described above, project construction emissions would not be anticipated to exceed BAAQMD significance thresholds with the implementation of Mitigation Measure AQ-1 in addition to the best management practices for air quality described in Section 2.5.1. Therefore, the project would result in a less-than-significant cumulative impact with mitigation.

Mitigation Measure AQ-1: Construction Equipment Diesel Emissions Control. All heavy-duty off-road equipment used for construction activities shall be equipped with the most effective Verified Diesel Emissions Control Strategies (VDECS) available for the engine type. In this case, the best available VDECS would be implementation of Tier 4F engines as certified by California Air Resources Board and U.S. EPA. The equipment shall be properly maintained and tuned in accordance with manufacturers specifications.

Biological Resources

Special-Status Wildlife

Western Bumble Bee

Although western bumble bee could be present in the project area based its association with the Asteraceae and Fabaceae plant families, vegetation removal is not planned in the areas where coyote brush, Italian thistle, and French broom were observed. Furthermore, although coyote brush is a native plant, Italian thistle and French broom are non-native species. French broom is rated as highly invasive, and Italian thistle as moderately invasive, by the California Invasive Plant Council;² therefore, while these plants may or may not provide resources to western bumble bee, the presence of these species is a detriment to the local vegetative community in general. In addition, the installation of the enhanced rock slope protection (ERSP) includes planting native plants of the Point San Pablo ecotone along the crown of the 350-foot long ERSP. Vegetation that is proposed for the living crown includes potential host plants for western bumble bee, including coastal (=California) sage brush, marsh gumplant (*Grindelia stricta* var. *angustifolia*), and marsh jaumea from the Asteraceae family, and silver bush lupine, from the Fabaceae family. Because potential host plants for western bumble bee are not planned for removal, but are planned for planting on the living crown of the ESRP, there would be no impact to western bumble bee.

Western Burrowing Owl

Construction-related impacts to western burrowing owls would primarily include crushing burrows in use by owls for either breeding or wintering. In addition, noise, vibration, increased vehicular traffic and human presence during demolition activities, project staging and access could result in nest failure (disturbance, avoidance, or abandonment that leads to unsuccessful reproduction), or cause flight behavior that exposes an adult or its young to predators during the breeding season. These activities could also cause wintering birds to flush, expending energy or interrupting foraging and roosting, and potentially exposing an owl to predators. These would be significant impacts. Implementation of Mitigation Measure BIO-1, Avoidance

² California Invasive Plant Council (Cal-IPC), 2019. Cal-IPC Inventory of invasive plants. <https://www.cal-ipc.org/plants/profiles/>. Accessed November 13, 2019.

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and Minimization of Impacts to Western Burrowing Owl, would mitigate potential impacts to burrowing owls to a less-than-significant level.

Mitigation Measure BIO-1: Avoidance and Minimization of Impacts to Western Burrowing Owl. Prior to commencement of on-shore construction activities for the project, including materials staging and/or increased vehicular traffic, SCC will implement the following measures:

- **Preconstruction Surveys.** Preconstruction surveys for suitable burrowing owl habitat and/or burrowing owls will be conducted no fewer than 14 days prior to the initiation of project activities (including equipment and materials staging) within the project area. Surveys will be conducted by a qualified biologist in conformance with the most recent requirements and guidelines of the California Department of Fish and Wildlife (CDFW). The biologist will determine the number and time frame (prior to construction) of surveys to be conducted. If no burrowing owls are detected, no additional action is necessary.
- **Monitoring.** In areas positive for burrowing owl presence, the Lead Biologist or qualified biological monitor will be onsite during all construction activities in areas where burrowing owls are determined to be present.
- **Passive Relocation.** If burrowing owls cannot be avoided by the project, then additional measures, such as passive relocation during the nonbreeding season, would be implemented to reduce any potential impacts. Measures for successful relocation will be recommended by a qualified biologist and will be in conformance with CDFW requirements and guidelines.
- **Resumption of Construction Activities.** When a qualified biologist is able to determine that burrowing owls are no longer occupying the site and passive relocation is deemed successful, construction activities may continue.

Special-Status Bats

Impacts to special-status bats could occur if building demolition were to occur during periods of winter torpor; any bats present would likely not survive the disturbance.³ Disturbance to maternity roosts could impact survival of young. These disturbances would be a significant impact. Implementation of Mitigation Measure BIO-2, Avoidance and Minimization of Impacts to Roosting Bats, would reduce this impact to a less-than-significant level.

Mitigation Measure BIO-2: Avoidance and Minimization of Impacts to Roosting Bats. In advance of building removal, a pre-construction survey for special-status bats will be conducted by a qualified biologist to characterize potential bat habitat and identify active roost sites within buildings to be removed. Should potential roosting habitat or active bat roosts be found in buildings to be removed under the project, the following measures will be implemented:

³ Tuttle, M., 1991. *How North America Bats are at Their Most Vulnerable During Hibernation and Migration*, *BATS Magazine*, Volume 9, No. 3. Fall 1991, http://www.batcon.org/resources/media-education/bats-magazine/bat_article/492, accessed January 5, 2018.

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- Removal of buildings with active roosts will occur when bats are active, approximately between the periods of March 1–April 15 and August 15–October 15; outside of bat maternity roosting season (approximately April 15–August 15) and outside of months of winter torpor (approximately October 15–February 28), to the extent feasible.
- If removal of buildings during the periods when bats are active is not feasible and active bat roosts being used for maternity or hibernation purposes are found on or in the immediate vicinity of the project area where building removal is planned, a no-disturbance buffer of 100 feet will be established around these roost sites until they are determined to be no longer active by the qualified biologist.
- The qualified biologist will be present during building removal if active bat roosts, which are not being used for maternity or hibernation purposes, are present. Buildings with active roosts will be removed only when no rain is occurring or is forecast to occur for 3 days and when daytime temperatures are at least 50°F.

Removal of buildings containing or suspected to contain active bat roosts, which are not being used for maternity or hibernation purposes, will be dismantled under the supervision of the qualified biologist. Buildings will be partially dismantled to significantly change the roost conditions, causing bats to abandon and not return to the roost.

Special-Status Plants

Suisun marsh aster has not been confirmed in the project area, though potential habitat that could support this species occurs on-site. Construction-related impacts to Suisun marsh aster could occur due to: vegetation removal activities within and adjacent to rip-rap; damage during removal of railroad remnants, steel holding tank, concrete box or utilities and pipes, which are located in or on rip-rap; or direct crushing by materials or vehicles using the potential staging areas and roads adjacent to rip-rap. Implementation of **Mitigation Measure BIO-3**, Avoidance and Minimization of Impacts to Special-Status Plants, would reduce this impact to a less-than-significant level.

Mitigation Measure BIO-3: Avoidance and Minimization of Impacts to Suisun Marsh Aster.

Prior to conducting demolition, the SCC will implement the following measures:

- Prior to the start of construction, a qualified biologist will conduct a special-status plant survey for Suisun marsh aster within the species' suitable habitat within the project work limits and during a time when the plant can be identified to species. The survey will follow the CDFW *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities*.⁴ If special-status plant species occur within the project work limits, then the biologist will establish an adequate buffer area for each plant population to exclude activities that directly remove or alter the habitat of, or result in indirect adverse impacts on, the special-status plant species. A qualified biologist will oversee installation of a temporary, plastic mesh-type construction fence (Tensor Polygrid or equivalent) at least 4 feet (1.2 meters) tall around

⁴ California Department of Fish and Wildlife (CDFW). 2018. *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities*. Revised March 20, 2018.

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any established buffer areas to prevent encroachment by construction vehicles and personnel. The qualified biologist will determine the exact location of the fencing. The fencing will be strung tightly on posts set at maximum intervals of 10 feet (3 meters) and will be checked and maintained weekly until all construction is complete. The buffer zone established by the fencing will be marked by a sign stating, "This is habitat of Suisun marsh aster, and must not be disturbed. No construction activity, including grading, will be allowed."

- If impacts to Suisun marsh aster cannot be avoided, plants within the construction impact area will be relocated to suitable habitat at similar tidal elevation as the source site, and outside of the construction impact area. Suisun marsh aster rhizomes will be transplanted immediately within the relocation site(s). Relocation site(s) will be identified by a botanist and transplant material will be replanted immediately after being removed.
- Location of transplanted material will be recorded using a submeter accuracy GPS unit (e.g., Trimble GPS) to enable finding the relocation plantings for monitoring. Annual mitigation monitoring of relocated plants will be conducted during the flowering period for the Suisun marsh aster and will include information on the number of surviving plants and/or patch size, vigor of plantings, plant associates, any observed population threats, and photographs of transplanted material. A monitoring period of at least three years or until the success criteria of 1:1 mitigation has been achieved will be required, up to a maximum of five years.
- If Suisun marsh aster cannot be relocated, individual plants will be replaced at a 3:1 ratio within the project site, or as close to the project site as possible, in suitable habitat at similar elevation as the source site(s). The planting site(s) will be identified by a botanist. Location of transplanted material will be recorded using a submeter accuracy GPS unit (e.g., Trimble GPS) to enable finding the mitigation plantings for monitoring. Annual mitigation monitoring of relocated plants will be conducted during the flowering period for the Suisun marsh aster and will include information on the number of surviving plants and/or patch size, vigor of plantings, plant associates, any observed population threats, and photographs of transplanted material. A monitoring period of at least three years or until the success criteria of 3:1 mitigation has been achieved will be required, up to a maximum of five years.
- If monitoring indicates the performance criteria are met or exceeded prior to the end of the five year monitoring period, then the SCC will have fulfilled its mitigation obligation for Suisun marsh aster, and will notify CDFW. If monitoring indicates the performance criteria is not being met (or is unlikely to be met), then the SCC will initiate consultation with CDFW to determine an alternative course of action, including possible additional transplants or seed collection for off-site propagation and outplanting, or donation to a seed conservation bank to preserve the population genes.

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Marine Mammals

Hydroacoustic Impacts

- Vibratory hammers may be required to remove creosote-contaminated piles. Use of a vibratory hammer has the potential to generate increased underwater sound levels that are dangerous to aquatic species, marine mammals in particular.
- Vibratory pile drivers work on a different principal than impact pile-driving hammers and therein produce a different sound profile. A vibratory driver works by inducing particle motion to the substrate immediately below and around the pile, causing liquefaction of the immediately adjacent sediment, allowing the pile to be removed. While vibratory pile driving typically generates sound profiles 10-20 decibels (dB)⁵ lower in intensity, relative to impact hammers, noise generated from these activities can have deleterious effects on marine mammals. As such, the National Oceanic and Atmospheric Association enforces underwater noise thresholds to prevent such an impact.⁶
- If vibratory hammers are used to remove piles, implementation of **Mitigation Measure BIO-4** would ensure hydroacoustic impacts on marine mammals occur at less-than-significant levels.

Mitigation Measure BIO-4: Use of Vibratory Pile Hammers. If use of a vibratory hammer is required for pile removal the following marine mammal protection criteria will be implemented:

- The contractor will monitor marine mammal presence when vibratory hammers are used. Marine mammal monitoring will include, at a minimum, the following conditions:
 - A 50-meter marine mammal monitoring zone will be established around each pile removal location.
 - A qualified biological monitor(s) would be located at the best vantage point(s) in order to properly see as much of the monitoring zone as possible.
 - During all observation periods, the monitor(s) will use binoculars and the naked eye to search continuously for marine mammals.
 - If the monitoring zone is obscured by fog or poor lighting conditions, pile removal at that location will not be initiated until that zone is visible. Should such conditions arise while installation is underway, the activity would be paused.
 - The monitoring zone around the pile will be monitored for the presence of marine mammals 30 minutes before, during, and 15 minutes after any pile driving activity.

⁵ Noise is unwanted sound. Sound, traveling in the form of waves from a source, exerts a pressure level (referred to as sound level) that is measured in decibels (dB), with zero dB corresponding roughly to the threshold of human hearing and 120 to 140 dB corresponding to the threshold of pain.

⁶Vibratory hammer effects appear to be less impactful to fish, therefore thresholds have not been developed for fish at this time.

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- Work activities would be halted when a marine mammal enters the monitoring zone and resume only after the animal has been gone from the area for a minimum of 15 minutes.
- Airborne sound levels below 90 dB when harbor seals are present, 100 dB for other pinnipeds, will be maintained.

“Waters of the United States,” are defined in the Code of Federal Regulations (33 CFR 328.3[a]; 40 CFR 230.3[s]) as rivers, streams, mud flats, sand flats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation, or destruction of which could affect interstate or foreign commerce including any such waters. These waters fall under the jurisdiction of the U.S. Army Corps of Engineers (Corps) under Section 404 of the Clean Water Act (CWA). Additionally, the Corp regulates navigable waters under Section 10 of the Rivers and Harbors Act (R&HA). Navigable waters are defined as those waters that are subject to the ebb and flow of the tide or that are presently used, have been used in the past, or may be susceptible for use to transport interstate or foreign commerce. The San Francisco Bay Regional Water Quality Control Board (RWQCB) regulates CWA Section 404 waters and R&HA Section 10 waters under Section 401 of the CWA. The RWQCB also regulates waters of the state under the Porter-Cologne Water Quality Control Act. Waters of the state are broadly defined as “any surface water or groundwater, including saline waters, within the boundaries of the state.”

A wetland delineation was conducted by Environmental Science Associates on August 14, 2019. The delineation used the “Routine Determination Method” as described in the *1987 Corps of Engineers Wetland Delineation Manual*.⁷ The 1987 Manual was used in conjunction with the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)*.⁸ For areas where the 1987 Manual and the Arid West Supplement differ, the Arid West Supplement was followed. Wetlands and waters were classified using commonly accepted habitat types. All areas identified in the Preliminary Delineation of Waters of the U.S.⁹ are preliminary and subject to review and verification by ACOE.

Potentially jurisdictional features within the project study area that could be affected by the project include a freshwater seep and tidal waters.¹⁰ The freshwater seep, (identified as FWS-1 on Figure BIO-3 in Appendix C), which is located at the eastern edge of a potential staging area in the northern portion of the site, could be adversely affected by vehicles or placement of equipment or materials; however, implementation of **Mitigation Measure BIO-5, Avoid Impacts to Terrestrial Wetlands**, would reduce this impact to a less-than-significant level. Tidal waters

⁷ Environmental Laboratory, Department of the Army, 1987. Corps of Engineers Wetland Delineation Manual (Technical Report Y-87-1). U.S. Army Corps of Engineers. Waterways Experimental Station. Vicksburg, Mississippi.

⁸U.S. Army Corps of Engineers, 2008. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0) ed. J.S. Wakeley, R.W. Lichvar, and C.V. Noble. ERDC/EL TR-06-16. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

⁹Environmental Science Associates (ESA), 2017. San José-Santa Clara Regional Wastewater Facility Pond A18 South Structure Preliminary Delineation of Waters of the U.S. July, 2017.

¹⁰ The seasonal wetland swale that was identified within the wetland delineation study area, shown in Table 3-2 and identified as SWS-1 in Figure BIO-3 in Appendix C, is outside of the project area and would not be adversely affected by the project.

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include all open tidal waters in the project area up to the high tide line (approximately 7.59 ft NAVD88) on the shoreline. The project would remove approximately 4,150 cubic yards of pilings, approximately 5,400 cubic yards of debris from the bay floor,¹¹ and the ERSP would remove approximately 1,950 cubic yards of material (i.e., concrete headwall and soil) along 350 feet of shoreline, for a total of approximately 11,500 cubic yards of fill removed from tidal waters in the bay. The ERSP would include installation of approximately 2,400 cubic yards of reused rock fill, backing rock fill, quarter-ton to one-ton rock boulders, and oyster reef balls. Overall, the project would result in a net removal of approximately 9,100 cubic yards of fill from tidal waters (**Table 3-3**). Therefore, there would be no loss of jurisdictional waters and no negative impacts to tidal waters.

Mitigation Measure BIO-5: Avoid Impacts to Terrestrial Wetlands. The freshwater seep identified as FWS-1 will be clearly delineated and separated from the project limits (i.e., staging area) through the installation of environmentally sensitive area fencing to avoid accidental incursion. Fencing will be installed under supervision of a qualified biologist.

Cultural Resources

As a result of archival review, field survey, distribution of nearby archaeological sites, and the geologic and environmental setting, the archaeological sensitivity of the project site is considered low. While unlikely, given the general sensitivity of the project vicinity, the inadvertent discovery of redeposited archaeological resources cannot be entirely discounted, including in areas of artificial fill. Impacts to archaeological resources would be potentially significant. In the event that archaeological resources are encountered during ground disturbing activities, **Mitigation Measure CUL-1, Inadvertent Discovery of Archaeological Resource**, would reduce impacts to a less-than-significant level.

Mitigation Measure CUL-1: Inadvertent Discovery of Archaeological Resources. If prehistoric or historic-era archaeological resources are encountered by construction personnel during project implementation, all construction activities within 100 feet shall halt until a qualified archaeologist, defined as one meeting the Secretary of the Interior's Professional Qualification Standards for archaeology, can assess the significance of the find. Prehistoric archaeological materials might include obsidian and chert flaked-stone tools (e.g., projectile points, knives, scrapers) or toolmaking debris; culturally darkened soil ("midden") containing heat-affected rocks, artifacts, or shellfish remains; and stone milling equipment (e.g., mortars, pestles, hand stones, or milling slabs); and/or battered stone tools, such as hammer stones and pitted stones. Historic-era materials might include stone, concrete, or adobe footings and walls; filled wells or privies; and deposits of metal, glass, and/or ceramic refuse.

The mitigation for archaeological resources shall include preservation in place, or, if preservation in place is not feasible, data recovery through excavation. If preservation in place is feasible, this may be accomplished through one of the following means: (1) modifying the construction plan to avoid the resource; (2) incorporating the resource within

¹¹ An estimated 2,700 tons of debris would be removed from the bay floor. This is equivalent to approximately 5,400 yd³ of debris.

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open space; (3) capping and covering the resource before building appropriate facilities on the resource site; or (4) deeding the resource site into a permanent conservation easement.

If preservation in place is not feasible, a qualified archaeologist shall prepare and implement a detailed treatment plan to recover the scientifically consequential information from and about the resource, prior to any excavation at the resource site. Treatment for most resources would consist of (but would not necessarily be not limited to) sample excavation, artifact collection, site documentation, and historical research, with the aim to target the recovery of important scientific data contained in the portion(s) of the significant resource to be affected by the project. The treatment plan shall include provisions for analysis of data in a regional context, reporting of results within a timely manner, curation of artifacts and data at an approved facility, and dissemination of reports to local and state repositories, libraries, and interested professionals.

There is no indication that the project site has been used for burial purposes in the recent or distant past. While unlikely, the inadvertent discovery of redeposited human remains cannot be entirely discounted, including in areas of artificial fill. Impacts to human remains would be potentially significant. In the event that human remains are encountered during ground disturbing activities, Mitigation Measure CUL-2, Inadvertent Discovery of Human Remains, would reduce impacts to a less-than-significant level.

Mitigation Measure CUL-2: Inadvertent Discovery of Human Remains. If potential human remains are encountered, all work will halt within 100 feet of the find and the on-site construction crew will immediately contact the City. The City will contact the Contra Costa County coroner in accordance with PRC Section 5097.98 and Health and Safety Code Section 7050.5. If the coroner determines the remains are Native American, the coroner will contact the Native American Heritage Commission (NAHC). As provided in PRC Section 5097.98, the NAHC will identify the person or persons believed most likely to be descended from the deceased Native American. The most likely descendent will make recommendations for means of treating, with appropriate dignity, the human remains and any associated grave goods as provided in PRC Section 5097.98.

Noise

Noise Reduction Techniques for Equipment Used in Nighttime Construction Activity, would reduce this impact to a less-than-significant level. With mitigation, project construction would not result in the 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. Therefore, construction-related impacts would be less than significant with mitigation.

There would be no permanent project components added to the environment with the ability to produce noise. Therefore, no operational impact would occur.

Mitigation Measure NOI-1: Noise Reduction Techniques for Equipment Used in Nighttime Construction Activity. One or a combination of the following noise reduction techniques shall be implemented to reduce noise from nighttime construction activities to below 50 dBA at the East Brother Light Station:

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- Directionally position construction equipment such that the exhaust faces away from the receptors of the East Brother Light Station. This measure would be expected to reduce noise levels by 2 to 3 dBA.
- Provide acoustically rated shielding around engines of construction equipment. This measure would be expected to reduce noise levels by 5 to 12 dBA depending on the proximity of shielding to the engines.
- Cranes shall be operated in ECO silent mode¹² during nighttime hours, as available. This measure would be expected to reduce noise levels by 3 to 5 dBA.

Tribal Cultural Resources

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

On May 9, 2018, ESA contacted the Native American Heritage Commission (NAHC) to request a search of their Sacred Lands files and a list of local Native Americans who might have knowledge of cultural resources in the vicinity of the project site. In a letter response on May 15, 2018, the NAHC did not identify sacred lands within or near the project site and provided a list of six contacts who might have additional information about the project location. On June 28, 2018, on behalf of the SCC, ESA sent letters, via certified mail, to the six Native American representatives identified by the NAHC. The letters provided a brief description of the project and maps of the project site, and requested that the recipients share any information regarding potential project impacts to historical resources, if they so desired. Kathy Perez from the Northern Valley Yokuts tribe responded by telephone that she would like a Native American monitor during excavation in native, undisturbed areas, if applicable.

As described in the Cultural Resources section above, ESA completed a records search at the Northwest Information Center (NWIC) on May 10, 2018 (File No. 17-2669)¹³ and a pedestrian survey on May 10, 2018.¹⁴ As a result of archival review, field survey, distribution of nearby

¹³ Northwest Information Center (NWIC), California Historical Resources Information System at Sonoma State University, File No. 17-2669. On file at ESA, May 10, 2018

¹⁴ ESA, Terminal 4 Wharf, Warehouse, and Pile Removal Project Point San Pablo, City of Richmond, Contra Costa County, Cultural Resources Survey Report. Prepared on behalf of California State Coastal Conservancy. October 2019.

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archaeological sites, and the geologic and environmental setting, the archaeological sensitivity of the project site is considered low.

Based on the results of correspondence with the NAHC and the NWIC records search, no known tribal cultural resources listed or determined eligible for listing in the California Register, included in a local register of historical resources, or determined by the lead agency to be significant would be adversely affected by the project. However, if any previously unrecorded archaeological resources are identified during project implementation, particularly ground-disturbing construction activities, and are found to qualify as a tribal cultural resource pursuant to PRC Section 21074(a)(2), any impacts to the resource resulting from the project could be potentially significant. Any such potential significant impacts would be reduced to a less-than-significant level through implementation of **Mitigation Measure CUL-1**, Inadvertent Discovery of Archaeological Resources, and **Mitigation Measure CUL-2**, Inadvertent Discovery of Human Remains.

Mitigation Measure CUL-1: Inadvertent Discovery of Archaeological Resources. (refer to Section 3.2.5, Cultural Resources)

Mitigation Measure CUL-2: Inadvertent Discovery of Human Remains. (refer to Section 3.2.5, Cultural Resources)

Mandatory Findings of Significance

a) **Less than Significant with Mitigation.** As described in Section 3.2.4, Biological Resources, with implementation of best management practices described in Section 2.5 of Chapter 2, Project Description, and Mitigation Measures BIO-1 through BIO-5, the project would not adversely affect fish or wildlife habitat, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, or reduce the number or restrict the range of an endangered, rare, or threatened species. Through implementation of Mitigation Measures BIO-1 through BIO-5, in addition to the project designs and associated environmental protection measures, including construction BMPs, avoidance and minimization, seasonal avoidance, and biological monitoring during and after construction, the brief and localized potential impacts to special-status species and their habitats would be reduced to less-than-significant levels. In the longer term, the removal of derelict structures and enhancing the subtidal and intertidal habitat in the San Francisco Bay would improve conditions for a range of species using the subtidal and intertidal habitats within and around the project area.

The project's potential effects on historic and archaeological resources are described in Section 3.2.5, Cultural Resources; three cultural resources were identified and recorded in the project site (Point San Pablo Terminal Four Wharf, Unnamed Sunken Hulk, Richmond Belt Railroad Segment). Archival review determined that none of the three resources are recommended eligible for listing in the California Register, due to their lack of significant associations with events (criterion 1), individuals (criterion 2), architectural distinction (criterion 3), or information potential (criterion 4). As such, none of these resources is considered a historical resource for the purposes of CEQA. Additionally, as a result of archival review, field survey, distribution of nearby archaeological sites, and the geologic and environmental setting, the

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archaeological sensitivity of the project site is considered low, and there is no indication that the project site has been used for burial purposes. While unlikely, in the event that archaeological resources or human remains are encountered during ground disturbing activities, Mitigation Measures CUL-1 and CUL-2 would reduce impacts to a less-than-significant level, and the project would not eliminate important examples of the major periods of California history or prehistory.

Mitigation Measures BIO-1: Avoidance and Minimization of Impacts to Western Burrowing Owl, BIO-2: Avoidance and Minimization of Impacts to Roosting Bats, BIO-3: Avoidance and Minimization of Impacts to Suisun Marsh Aster, BIO-4: Use of Vibratory Pile Hammers, BIO-5: Avoid Impacts to Terrestrial Wetlands. (refer to Section 3.2.4, Biological Resources)

Mitigation Measures CUL-1: Inadvertent Discovery of Archaeological Resources, CUL-2: Inadvertent Discovery of Human Remains. (refer to Section 3.2.5, Cultural Resources)

b) **Less than Significant with Mitigation.** As described in the preceding sections, the project has the potential to cause significant impacts related to aesthetics, air quality, biological resources, cultural resources, tribal cultural resources, and noise. Mitigation measures have been identified that would reduce these impacts to less-than-significant levels. Overall, the project has limited impacts on the physical environment and most of the impacts associated with implementation of the project would occur during construction, which is anticipated to take six months or less, and thus would be short-term.

The potential for project-generated impacts to contribute to a significant cumulative impact would arise if they occur within the same geographic area. In addition to the geographic scope, cumulative impacts can be determined by the timing of the other projects relative to the project. Schedule is particularly important for construction-related impacts. For a group of projects to generate cumulative construction impacts, they must be temporally as well as spatially proximate.

The Point Molate Mixed-Use Development Project (Point Molate Project) is proposed by Winehaven LLC approximately one mile south of the project site. The Point Molate Project consists of the mixed-use development of approximately 80 acres of the approximately 413-acre Point Molate Site (of which approximately 271 acres is above water and 142 acres are submerged in the Bay) that includes a variety of residential and commercial uses, as well as supporting road and utility infrastructure. The mixed-use community would include open space, adaptive re-use of historic cottages, adaptive re-use of the historic Winehaven buildings, and residential development. Approximately 180 acres of the Point Molate Project site would remain as open space that is enhanced with the incorporation of natural trails. Construction of the Point Molate Project is expected to take seven to nine years, starting in early 2021.¹⁵

The dates for construction of the Terminal Four Project are not yet known. Nonetheless, due to the Point Molate Project's long construction schedule, there is a potential that the construction phase for the two projects would overlap. An overlap in the construction schedule would not

¹⁵ City of Richmond, Notice of Preparation of a Subsequent Environmental Impact Report (SEIR) and Public Scoping Meeting for the Point Molate Mixed-Use Development Project, July 12, 2019.

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have significant effects on sensitive receptors related to traffic and air quality as there is a general lack of sensitive receptors present on Point San Pablo and the areas surrounding the project sites. Additionally, the project would have a relatively low number of vehicle trips (refer to Table 2-3) and a short construction schedule. The only sensitive receptor affected by noise from construction of the Terminal Four Project is the East Brother Light Station. That impact is associated with nighttime construction noise. It is unknown whether the Point Molate Project would involve nighttime construction; however, East Brother Light Station is over one mile away from the Point Molate Project site, a distance that would attenuate construction noise impacts. Consequently, the likelihood that the two projects could create significant cumulative noise impacts is considered low. Mitigation Measure NOI-1 would be implemented to reduce noise related to nighttime construction activities, further reducing the potential for cumulative noise impacts.

The project's potentially significant impacts on aesthetics, biological, cultural, and tribal cultural resources would not be exacerbated by the Point Molate Project as they do not spatially overlap. Any potentially cumulative impacts would occur during construction as there are minimal operations and maintenance activities anticipated for the project.

Regarding cumulative air quality impacts, as stated in Section 3.2.3, Air Quality, in developing the thresholds of significance for air pollutants, the BAAQMD considered the emission levels for which a project's individual emissions would be cumulatively considerable. If a project exceeds the identified significance thresholds, its emissions would be cumulatively considerable, resulting in significant adverse air quality impacts on the region's existing air quality conditions. Project construction emissions would not be anticipated to exceed BAAQMD significance thresholds with the implementation of air quality best management practices described in Section 2.5.1 and Mitigation Measure AQ-1. Therefore, the project would result in a less-than-significant cumulative impact with mitigation.

Mitigation Measure AQ-1: Construction Equipment Diesel Emissions Control. (refer to Section 3.2.3, Air Quality)

Mitigation Measure NOI-1: Noise Reduction Techniques for Equipment Used in Nighttime Construction Activity. (refer to Section 3.2.13, Noise)

c) **Less than significant with Mitigation.** As described above, the project has the potential to cause significant impacts related to aesthetics, air quality, biological, cultural, tribal cultural resources. Mitigation measures have been identified to reduce these impacts to less-than-significant levels. The project's potential to impact human beings is addressed in various sections of this Initial Study, including those that affect resources used or enjoyed by the public, residents, and others in the project area (such as aesthetics, public services, and recreation); those that are protective of public safety and well-being (such as air quality, geology and soils, greenhouse gas emissions, hydrology and water quality, and noise); and those that address community character and essential infrastructure (such as land use and planning, population and housing, transportation, and utilities). Although the project has the potential to have adverse effects on human beings related to a new source of substantial light or glare and a cumulatively considerable net increase of criteria pollutants, these impacts could be avoided or minimized through project design features, compliance with standard regulatory requirements,

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and implementation of Mitigation Measures AES-1 and AQ-1. As such, project impacts to human beings would be less than significant with mitigation.

Mitigation Measure AES-1: Construction Lighting. (refer to Section 3.2.1, Aesthetics)

Mitigation Measure AQ-1: Construction Equipment Diesel Emissions Control. (refer to Section 3.2.3, Air Quality)

All mitigation measures proposed by the MND are contained in the Mitigation Monitoring and Reporting Program for the Project (Exhibit 5).

Based on the foregoing, Conservancy staff recommends that the Conservancy: (1) find that the project, as mitigated, avoids, reduces, or mitigates the possible effects of the project to a level of insignificance; (2) find that there is no substantial evidence that the project, as mitigated, may have a significant effect on the environment; (3) find that the MND reflects the Conservancy's independent judgment and analysis; and (4) adopt the MND and the Mitigation Monitoring and Reporting Program pursuant to 14 Cal. Code of Regulations Section 15074(d).

If the MND is adopted and the proposed authorization approved, Conservancy staff will file a Notice of Determination.