

CITY OF RICHMOND, CALIFORNIA

# **Svendsen's Bay Marine West Yard**

INITIAL STUDY &  
MITIGATED NEGATIVE DECLARATION

AUGUST 2022



# California Environmental Quality Act (CEQA) Environmental Checklist Form

**1. Project Title:** Svendsen's Bay Marine West Yard

**2. Lead Agency Name and Address:**

City of Richmond  
Planning and Building Services Department  
450 Civic Center Plaza, Second Floor  
Richmond, CA 94804-1630

**3. Contact Person and Phone Number:**

Jonelyn Whales, Senior Planner  
(510) 620-6785  
[Jonelyn\\_Whales@ci.richmond.ca.us](mailto:Jonelyn_Whales@ci.richmond.ca.us)

**4. Project Location:**

320 West Cutting Boulevard  
Richmond, CA 94804

Assessor's Parcel Number (APN): 560-300-003-4

The project site is located on the south side of West Cutting Boulevard, one-quarter mile east of Canal Boulevard, on the southern shoreline of the City of Richmond. The site is located on the northern terminus of Santa Fe Channel, adjacent to the Richmond Inner Harbor via Harbor Channel on San Francisco Bay. It is approximately 700 feet south of Interstate 580 and 2.9 miles west of Interstate 80.

**5. Project Sponsor's Name and Address:**

Svendsen's Bay Marine, Inc.  
310 West Cutting Boulevard  
Richmond, CA 94804

Contact: Bill Elliott, President  
(510) 337-9122  
[belliott@bay-ship.com](mailto:belliott@bay-ship.com)

**6. General Plan Designation:**

Port

**7. Zoning:**

IW – Water-Related Industrial

## 8. Introduction

Pursuant to the California Environmental Quality Act (CEQA), this document is a focused Initial Study (IS) to support a Mitigated Negative Declaration (MND), prepared in accordance with Article 6 of the *CEQA Guidelines*. The project evaluated in this document, consisting of the replacement of docks at an existing boat yard facility, would normally be exempt from review under CEQA, pursuant to Section 15302 of the *CEQA Guidelines*. Section 15302 provides for a Class 2 categorical exemption for projects consisting of replacement or reconstruction of existing structures and facilities where the new structure will be located on the same site as the structure replaced and will have substantially the same purpose and capacity as the structure replaced. However, Section 15300.2(c) of the *CEQA Guidelines* states that a categorical exemption shall not be used for an activity where there is a reasonable possibility that the activity will have a significant effect on the environment due to unusual circumstances.

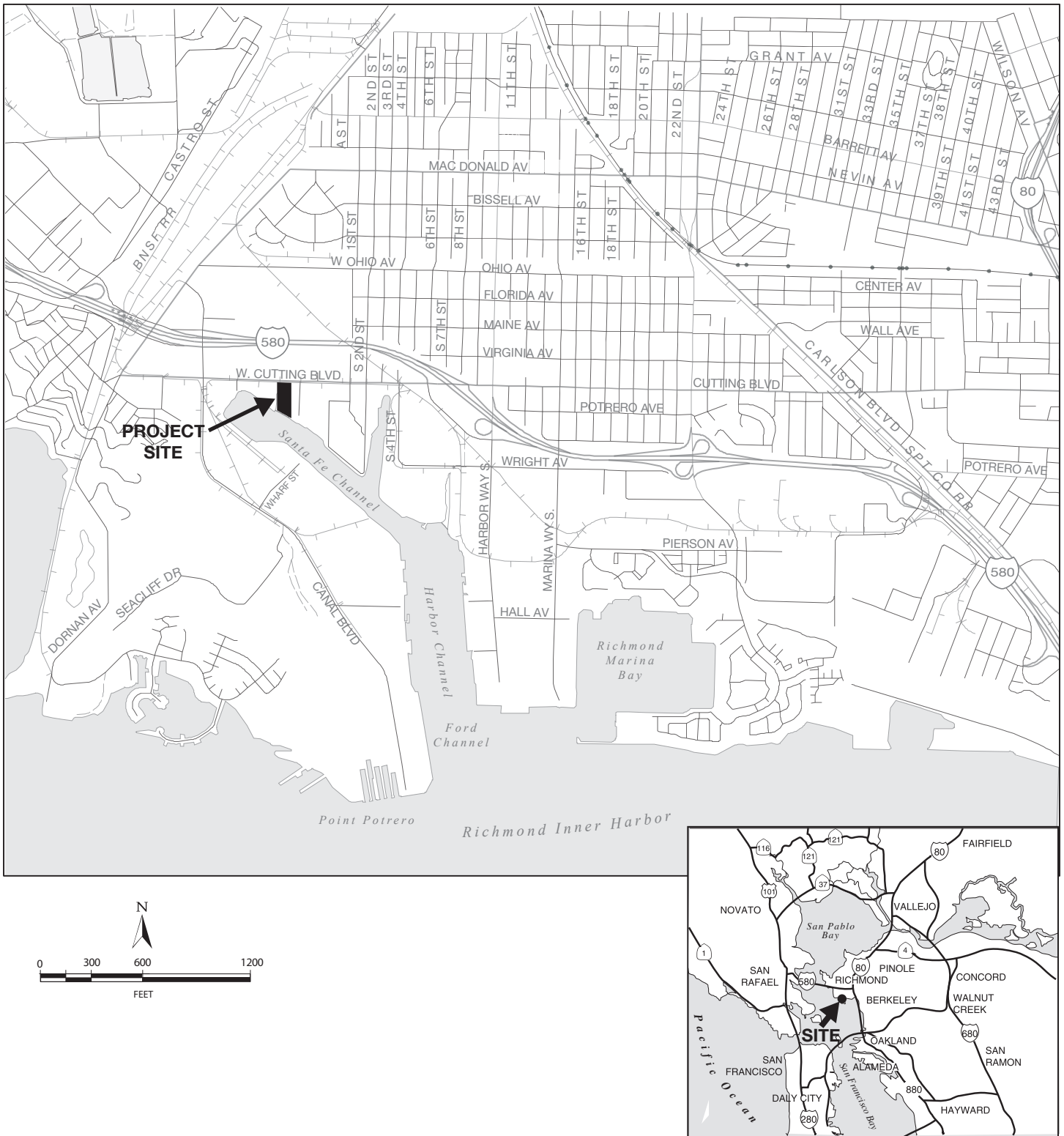
This exception is applicable to the proposed project. As discussed in detail in Section IV, Biological Resources, of this Initial Study, the use of pile-driving to install new piles to support the replacement docks could kill or injure fish—including special-status fish—present in the Bay channel in which the docks would be located, which would be a potentially significant impact. There is also potential for construction activities to result in increased water turbidity that could adversely affect spawning California herring if they were present in the project area during project construction. Because California herring is considered a special-status species that is managed by the California Department of Fish and Wildlife, this would also be a potentially significant impact.

Consequently, the proposed project is not eligible for a Class 2 categorical exemption from CEQA. This Initial Study provides a detailed analysis of the potential impacts to biological resources and water quality that could result from implementation of the proposed project. Because the project would otherwise qualify for a categorical exemption, which applies to classes of projects which the California Secretary for Resources has determined do not significantly affect the environment, this Initial Study focuses on the potential biological and water quality impacts of the project, and does not provide a detailed analysis of the other environmental resources addressed in the Environmental Checklist that constitutes the Initial Study.

## 9. Description of Project:

Svendsen's Bay Marine, Inc., the project applicant, currently operates a boat yard on a 3.96-acre parcel located at the northern end of Santa Fe Channel, on the City of Richmond's southern shoreline along San Francisco Bay. This boat yard is associated with a marina that has occupied the site since the 1950s. The project site includes a small basin, or finger channel, extending from the larger Santa Fe Channel. The location of the project site is shown on Figure 1 and an aerial view of the site and the surrounding neighborhood is shown on Figure 2. The boat yard functions in conjunction with an existing boat repair yard operated by Svendsen's Bay Marine on the adjacent parcel to the east, at 310 Cutting Boulevard.

The boat yard is primarily dedicated to boat repair and maintenance, and includes a boat repair building and paved areas for mast repair and storage of marine equipment, boat trailers, storage



**Figure 1**

**Site Location**

Source: Douglas Herring & Associates





**Figure 2**

**Aerial Overview of Project Area**

Source: Douglas Herring & Associates; Base-Google Earth



containers, and boats. The floating docks in the channel are used for commercial boat berthage and as a staging area for boat repair. The wood docks are dilapidated and in need of replacement. The proposed project would consist almost exclusively of removal of the existing floating docks and associated creosote-treated wood pilings, as well as a wharf extending along the east side of the finger channel, and their replacement with new aluminum or wood floats. The new docks would be smaller than the facilities that existed in 2004, when a sizable amount of then-existing floats were removed, and marginally smaller than the remaining facilities still extant today. The only other project component would consist of construction of new and replacement pavements within the boat yard.

The existing wharf occupies an area of 1,700 square feet, considered to be Bay fill, and would be replaced by a new wharf occupying the same footprint and area. The floating docks currently total 2,980 square feet; 5,380 square feet of docks were previously removed in 2004. New floats providing 2,968 square feet of dock area would be placed in essentially the same location as the ones being replaced. Each dock would be 30 feet long and 8 feet wide. A 100-square-foot gangway to the docks would also be replaced, and a second gangway would be removed without replacement. The locations of the existing and proposed replacement facilities are shown on the site plan depicted on Figure 3. They would result in a net decrease in Bay fill of 12 square feet in comparison with existing conditions, and a decrease of 5,392 square feet in comparison with 2004 conditions.

A total of 51 existing creosote-treated wood piles, covering an area of 82 square feet, would be removed by a derrick mounted on a barge or support boat. This would include 15 piles in the center of the basin that supported the floats removed in 2004. Twenty-eight piles would be removed from the wharf area and replaced with 25 new piles, while eight piles would be removed from the adjacent dock area and replaced with nine new piles.

All new piles would be constructed of pre-cast, pre-stressed concrete. The piles would be driven by a barge-mounted vibratory hammer, if feasible. If an impact hammer is required, a wood block cushion would be mounted between the hammer and the pile to reduce noise and vibration. The piles would not be load bearing, so there would be no need for heavy pile driving. The water piles barge-mounted rig would drive the 14-inch-diameter, 60-foot-long piles into the Bay mud to a depth of at least 20 feet, and up to 40 to 60 feet. Piles supporting the new wharf would be 12 inches in diameter and 50 feet long. Pile driving would only occur between June 1<sup>st</sup> and November 30<sup>th</sup> in order to avoid potential impacts to spawning herring fish. In order to minimize water turbidity induced by pile driving, all new piles and all existing piles being removed would be enclosed within a 24-inch-diameter steel tube that would contain sediment. They would be left in place for 24 hours following pile removal or installation to allow sediment to settle. No dredging of the channel would be required as part of the project.

New and replacement pavements would total 42,950 square feet, and would consist of both concrete and asphalt pavements, depending on the location and anticipated use. Because the existing pavements are scattered, broken, buried, or in general disorder, the square footage of the replacement pavements is unknown. However, for purposes of compliance with regional

stormwater treatment requirements (addressed in Section X, Hydrology and Water Quality, all of the proposed pavements are considered to be new pavements.

The proposed project would not include operational changes at the existing boat yard or any changes in the number of employees working at the site. Construction is anticipated to commence in late 2022 and to require three to six months to complete.

The project applicant has agreed to implement a Stormwater Pollution Prevention Plan (SWPPP) that will include specifications for best management practices (BMPs) to be implemented during demolition and construction, including measures to control degradation of surface water by preventing soil erosion or the discharge of pollutants from the construction area. Additionally, the SWPPP will describe measures to prevent or control runoff after construction is complete. A spill prevention and control plan will be prepared to specify restrictions and procedures for fuel storage location, fueling activities, and equipment maintenance. The requirement for the SWPPP is identified in the biological assessment (BA) prepared for the project that will be relied upon for the federal Endangered Species Act (FESA) consultation that the U.S. Army Corps of Engineers (USACE) will conduct with the National Marine Fisheries Service (NMFS) during the permitting of the project by USACE. Because the applicant has agreed to prepare and implement a SWPPP, this is identified as a component of the proposed project.

### ***Planning Approvals***

Design Review Approval: The project will require design review approval by the Zoning Administrator or Design Review Board, pursuant to Richmond Municipal Code Article 15.04.805.

### ***Other Approvals***

San Francisco Bay Conservation and Development Commission (BCDC): The project will require a development permit and fill permit from the San Francisco Bay Conservation and Development Commission (BCDC) for new construction along the San Francisco Bay shoreline.

San Francisco Bay Regional Water Quality Control Board (RWQCB): The project will require coverage under the National Pollutant Discharge Elimination System (NPDES) Municipal Regional Stormwater Permit (MRP) administered by the RWQCB. This also requires preparation and implementation of a Stormwater Pollution Prevention Plan (SWPPP) that addresses control of stormwater pollution through implementation of best management practices (BMPs). See Section X, Hydrology and Water Quality, for additional information. The project will also require Section 401 Water Quality Certification from the RWQCB, pursuant to the federal Clean Water Act (1972), as a prerequisite to a permit from the U.S. Army Corps of Engineers (see below).

U.S. Army Corps of Engineers (Corps): Construction of the proposed replacement wharf and docks, requiring installation of new in-water support piles, will require a Section 404 fill permit from the Corps, in compliance with the federal Clean Water Act. The applicant is applying to the Corps for coverage under Nationwide Permit 39 (Commercial and Institutional).

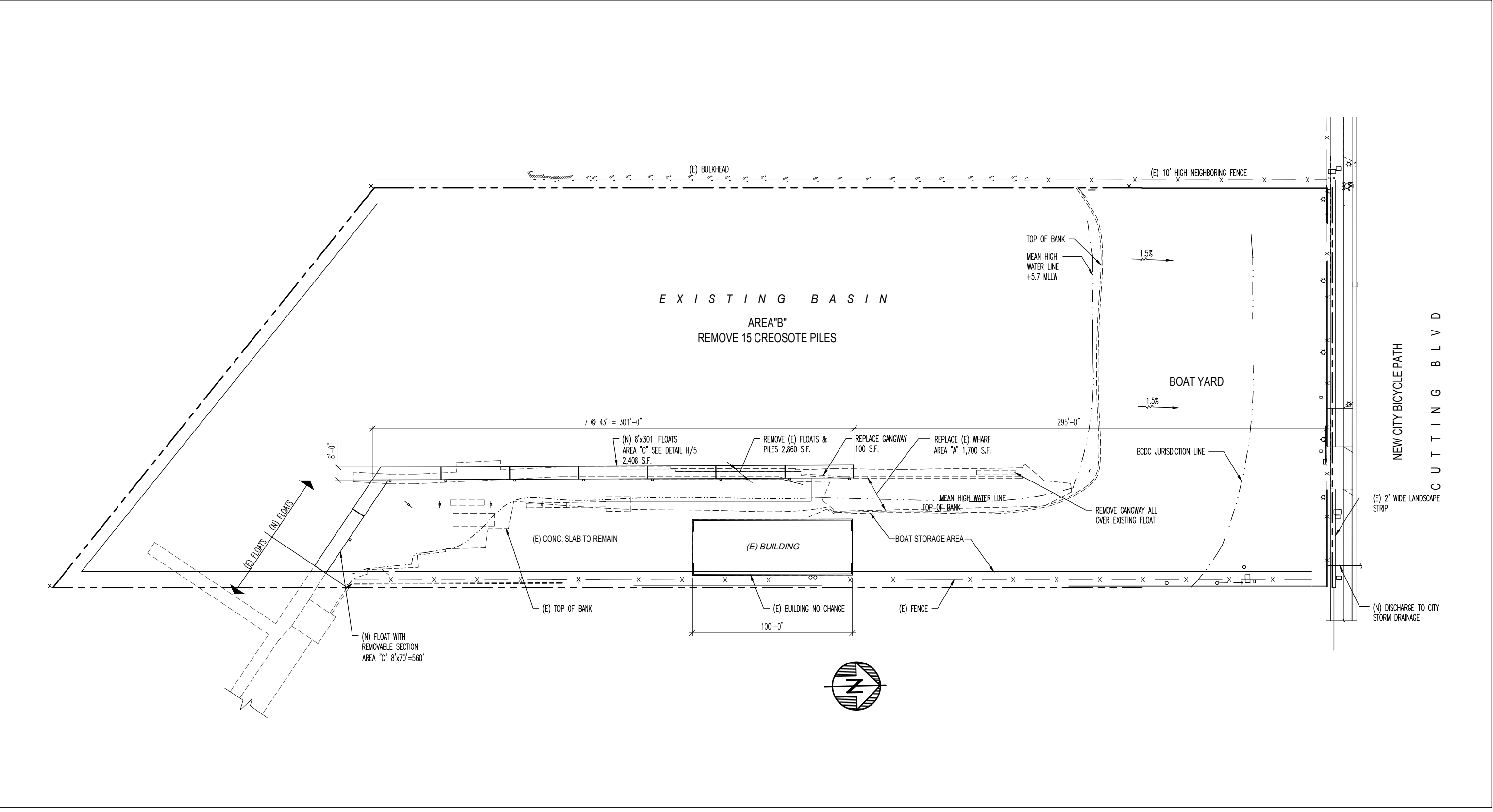


Figure 3

Site Plan

## 10. Project Setting

The project site consists of a small inlet at the northern end of the Santa Fe Channel with a narrow strip of land extending along the east side of the inlet and a rectangular parcel of land abutting the northern end of the channel inlet. The site is an industrial waterfront property that has been used for boat mooring for at least 70 years. The former docks were removed from the water portion of the site between 2004 and 2015.

With the exception of the Boat Shed on the eastern strip of land, the 1.16 acres of land area is currently vacant, with a surface of exposed dirt on the majority of the site. The area south of the Boat Shed is paved with concrete, and areas surfaced with wood decking are located northwest of the Boat Shed and at the southern end of the easterly strip of land. The boat shed and an outdoor layout area south of the building are currently in use by the adjacent existing boat yard to the east, while the unpaved northern portion of the site is being used to store boats, boat trailers and racks, trucks, and other miscellaneous materials. The remainder of the site consists of 2.8 acres of Bay waters.

The project site is surrounded by industrial properties. The KKMI Boat Yard, which provides boat storage and repair, abuts the project site to the west, and a ship repair and boat storage yard operated by the project applicant occupies the adjacent parcel to the east. The Point San Pablo Yacht Club is located west of the KKMI Boat Yard, at the northwestern end of Santa Fe Channel. West of the yacht club is a large automobile rail distribution center consisting primarily of rail lines and extensive areas of asphalt pavement for temporary storage of new automobiles. The Point Richmond Tech Center II, a small business park housing a variety of businesses, is located west of the auto distribution center, on the west side of Canal Boulevard. Further east of the project site are a lumber yard and a bulk liquid storage terminal facility operated by IMTT.

A large distribution warehouse is located immediately to the north of the site. To the west of this facility is Airgas, which manufactures and sells industrial gases. To the east of the warehouse is a self-storage facility. Interstate 580 (I-580) runs along the rear of these industrial properties in an east-west direction. Single-family residential development is located about 2,000 feet northwest of the project site, on the north side of I-580. Miller/Knox Regional Park, occupying much of the Point Potrero peninsula, is located about one-half mile southwest of the project site. A large Burlington Northern Santa Fe Railroad switching yard is located approximately one-half mile to the northwest.

To the south of the project site, the west side of Santa Fe Channel (the east side of the peninsula) is developed entirely with industrial uses, most of which utilize the port facilities on the Harbor Channel/Santa Fe Channel for transport of products and materials. Companies in this area include Arco (petroleum), Conoco/Phillips (petroleum), Kinder Morgan (natural gas), National Gypsum (drywall, cement board), BP Castrol (petroleum), and Burlington Northern Santa Fe Railroad (BNSF). The southern end of Point Potrero is developed with the Point Potrero Marine

Terminal, which is used to import and distribute automobiles from Asia, including Honda, Hyundai, and Kia brands.

## ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a “Potentially Significant Impact” as indicated by the checklist on the following pages.

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

## DETERMINATION:

On the basis of the initial evaluation:

- ☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- ☒ I find that although the 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 proposed 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 the 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 proposed 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 proposed project, nothing further is required.

  
Signature

JONELYN WHALES  
Printed name

8-9-22  
Date



## EVALUATION OF ENVIRONMENTAL IMPACTS:

### **I. AESTHETICS** — *Would the project:*

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) <i>Have a substantial adverse effect on a scenic vista?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: The project would have no impact on a scenic vista.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
b) <i>Substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: The project would have no impact on scenic resources.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
c) <i>Substantially degrade the existing visual character or quality of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage points.) If the project is in an urban area, would the project conflict with applicable zoning and other regulations governing scenic quality?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: The project would not degrade the existing visual quality of the project site.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
d) <i>Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: The project would not introduce new sources of glare or nighttime lighting.

**II. AGRICULTURAL RESOURCES** — *In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California 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 Forestry Legacy Assessment project, and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:*

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) <i>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?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: There is no farmland on the project site.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
b) <i>Conflict with existing zoning for agricultural use, or a Williamson Act contract?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: The project site is not zoned for agricultural use; it is zoned for commercial use and is not under a Williamson Act contract.<sup>1</sup>

<sup>1</sup> City of Richmond, City of Richmond GIS Viewer: Zoning Information, accessed September 27, 2021 at: <http://geoweb02.ci.richmond.ca.us/Html5Viewer/Index.html?configBase=http://geoweb02.ci.richmond.ca.us/Geocortex/Essentials/REST/sites/ZoningInfoINTERNET/viewers/html5/virtualdirectory/Resources/Config/Default>.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
c) <i>Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined in Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: There are no forest or timber resources on the project site.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
d) <i>Result in the loss of forest land or conversion of forest land to a non-forest use?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: There is no forest land on the project site.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
e) <i>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?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: As discussed above, the project site does not contain farmland or forest land.

**III. AIR QUALITY** — 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:

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) <i>Conflict with or obstruct implementation of the applicable air quality plan?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: There is no potential for the project to conflict with the *2017 Clean Air Plan*, the applicable air quality plan.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
b) <i>Result in a cumulatively considerable net increase of any criteria pollutant for which the region is non-attainment under an applicable federal or state ambient air quality standard?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: Although there would be short-term emissions of criteria air pollutants during project construction, given the small scope of the project, there is no potential for the construction activity to exceed the applicable thresholds of significance. Following completion of construction, there would be no effect on air quality because there would be no changes in existing boat yard operations.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
c) <i>Expose sensitive receptors to substantial pollutant concentrations?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Explanation: Sensitive receptors are particularly susceptible to the adverse health effects of toxic air contaminants (TACs), which are a broad class of compounds known to cause morbidity or mortality. Among other sources, TACs are emitted by heavy-duty diesel-fueled construction equipment. Therefore, TACs would be generated during project construction but the emissions would be short-term in duration and limited in scope, and there are no sensitive receptors in proximity to the project site. This would be a less-than-significant impact.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
d) <i>Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Explanation:** During the short-term construction of the project, diesel-fueled equipment exhaust would generate some odors. However, these emissions typically dissipate quickly and would be unlikely to affect a substantial number of people. Given the waterfront location of the site, such atmospheric dispersion is usually more pronounced than at inland locations, further reducing the potential for odors to accumulate or concentrate. Due to the project site's proximity to San Francisco Bay, average wind speeds at the project site are expected to be higher than the average wind speeds reported for the City of Richmond, and upward dissipation of construction odors would be expected to occur more rapidly than at a more protected site. There is no concentration of people on or in proximity to the project site, so construction odors would not affect a substantial number of people. There would be no operational changes at the boat yard; therefore, the project would not generate operational odors.

#### **IV. BIOLOGICAL RESOURCES** — *Would the project:*

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) <i>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?</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Explanation:**

#### ***Background Information***

H. T. Harvey & Associates ecologists reviewed background information on the biological resources potentially present on the project site. For plants, the information reviewed included records from the California Natural Diversity Database's (CNDDB's) RareFind and the California Native Plant Society's (CNPS's) Online Rare Plant Inventory (2022), focused in the Richmond, California U.S. Geological Survey (USGS) 7.5-minute quadrangle (where the project site occurs) and the surrounding eight quadrangles: Petaluma Point, Mare Island, Benicia, San Quentin, Briones Valley, San Francisco North, Oakland West, and Oakland East. Searches focused on the distribution and habitats of vascular plants designated as California Rare Plant Rank (CRPR) 1A, 1B, 2A, 2B, or 3 that occur in any of the USGS quadrangles listed above. H. T. Harvey also considered the CNPS plant list for Contra Costa County, as the CNPS does not maintain quadrangle-level records for CRPR 4 species. For animals, the information reviewed included records from CNDDB's RareFind (2022), focused in the Richmond, California USGS 7.5-minute

quadrangle. The U.S. Fish and Wildlife Service's (USFWS's) National Wetland Inventory Wetlands Mapper was used to assess aquatic features (USFWS 2022). Historical aerial imagery of the project site obtained from Google Earth Pro (Google, Inc. 2022) was also evaluated. For Essential Fish Habitat (EFH), H. T. Harvey used the National Oceanic and Atmospheric Administration (NOAA) Fisheries' Essential Fish Habitat Mapper (NOAA 2022). Other information reviewed included various technical publications available through the USFWS, California Department of Fish and Wildlife (CDFW), and other sources.

### **Field Survey**

H. T. Harvey & Associates marine ecologist Peter Nelson, Ph.D., and plant and wetland ecologist, Gregory Sproull, M.S., conducted a reconnaissance-level field survey of the project site on February 7, 2018. This survey was followed up by a second reconnaissance-level survey by H. T. Harvey & Associates ecologist Jeff Wilkinson, Ph.D. on September 9, 2021. The purpose of these surveys was to (1) assess existing biotic communities and plant and animal resources on the project site, (2) assess the site for its potential to support special-status species and their habitats, and (3) identify potential jurisdictional habitats (such as Waters of the U.S./State), although a formal wetland delineation was not conducted.

H. T. Harvey & Associates mapped biotic habitats on the project site using a combination of field observations (recorded via the Apple iPad GIS Kit Pro application), aerial imagery signatures (Google, Inc. 2022), and CAD drawings of the site and project plans provided by Clausen Engineers. Habitat types were distinguished using natural community descriptions discussed in Holland (1986) and Sawyer et al. (2009). Plant species within each habitat were identified using Baldwin et al. (2012). Habitat acreages were calculated using geographic information systems (GIS) and aerial imagery interpretation. Jurisdictional boundaries (such as the high tide line [HTL]) were mapped using a Trimble GeoXTTM GPS unit with sub-meter accuracy. The project is located on an offshoot of a small inlet (Santa Fe Channel) formed by Point Potrero adjacent to Point Richmond in San Francisco Bay. Additional subtidal habitat information was obtained from the San Francisco Bay Subtidal Habitat Goals project (SFBSHG 2022) interactive mapping tool.

### **Existing Conditions**

The project site consists of 1.37 acres of terrestrial habitats and 2.65 acres of aquatic habitat, as shown on Figure BIO-1. A total of 0.986 acres of terrestrial habitats would be disturbed by construction activities. The northern portion of the land area, which is proposed to be paved, is currently a surface of exposed dirt occupied by storage containers and drums along the west side and concrete beams stacked along the south shoreline. This area was considered "developed" for habitat mapping purposes. Vehicles, boat trailers, racks, and boats are parked or stored along a 5-foot-tall cyclone fence with painted wood slats for privacy extends along the site frontage on West Cutting Boulevard. The strip of land extending along the east side of the site is occupied by a 4,000-square-foot boat shed used for repair, preparation, and painting of boat hulls. The boat shed would remain in place and would continue to be used for the same purpose. An existing concrete slab to the south of the boat shed would remain and would be used as a mast laydown area and for related outdoor work. The aquatic portion of the site consists of tidal aquatic habitat, and approximately 0.135 acre of this would be affected by the proposed project. The terrestrial portion of the site is mostly developed (1.24 acres), but includes 0.13 acres of ruderal grassland dominated by non-native grasses and forbs and <0.01 acre of ruderal saline wetland dominated by Pacific pickleweed (*Salicornia pacifica*) and marsh gumplant (*Grindelia stricta*) that is not anticipated to be disturbed by the proposed paving.





**Figure BIO-1**

## Biotic Habitats and Impacts Map

Source: H.T. Harvey & Associates

The USFWS (2022) has mapped the aquatic portion of the project site (i.e., the San Francisco Bay) as estuarine, subtidal, unconsolidated bottom, subtidal (E1UBL). No other waters or wetlands are mapped by the USFWS as occurring on the project site. According to PRISM Climate Group's 30-year normals dataset, the project site typically receives approximately 24 inches of precipitation per year and ranges from 50 °F to 66 °F, with a mean temperature of 58 °F (PRISM Climate Group 2022). The landward portion of the project site has been developed since at least 1939 (Google, Inc. 2022). The elevation on the project site ranges from 1 to 9 feet WGS84 (Google, Inc. 2022).

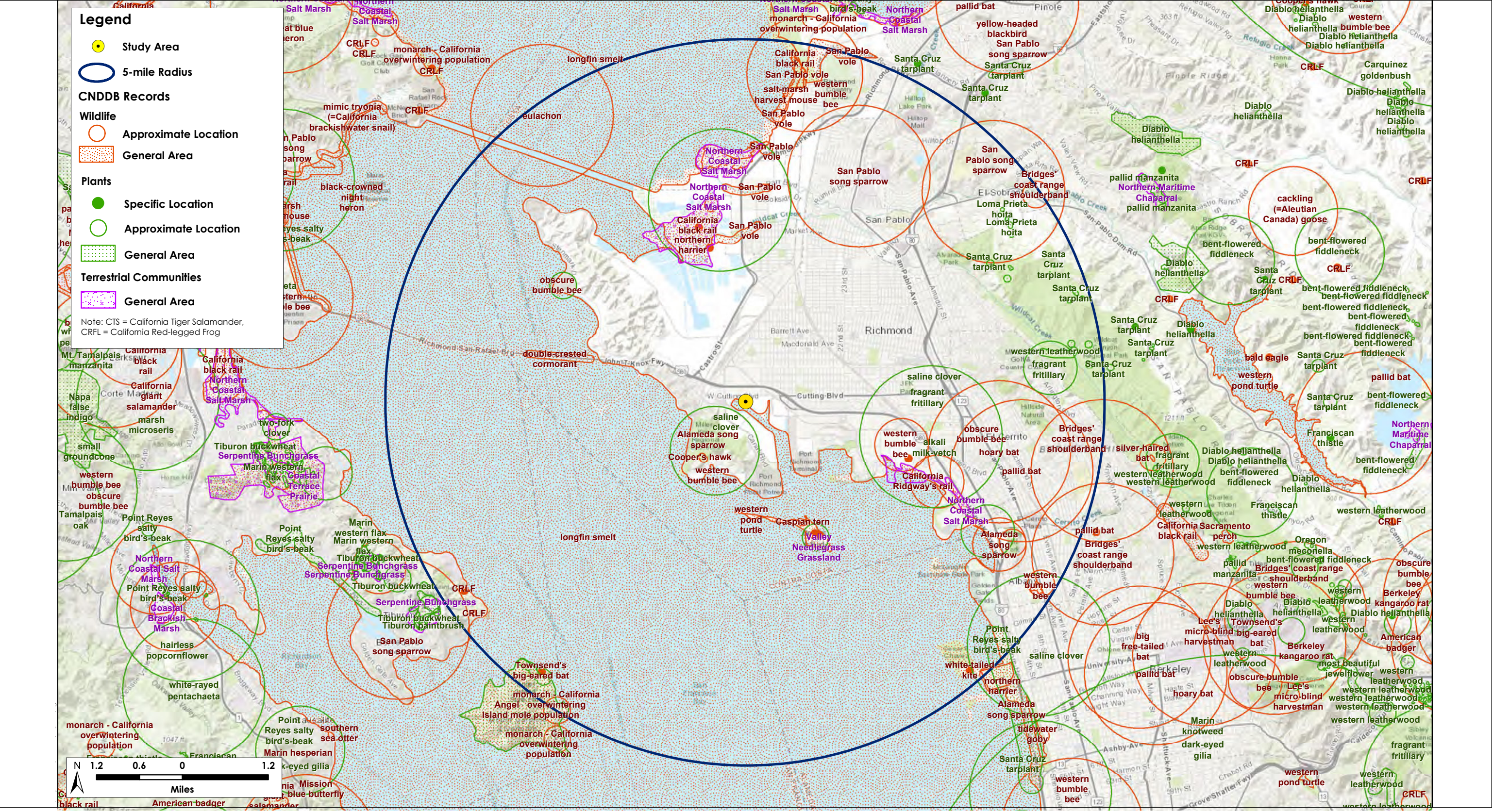
The shoreline near the southeast corner of the project area, extending north, below the existing wharf and paralleling the current dock is poured concrete with additional concrete rubble. All surfaces are covered in barnacles (*Balanus* sp.) and filamentous algae. Small (< 0.25 square meters) clumps of mussels (*Mytilus galloprovincialis* or *M. trossulus*) are found along the more protected sides and beneath overhangs formed by concrete rubble. Close to the southeast corner, a few copepods (*Tigriopus californicus*) and a single grapsid crab were found high in the intertidal zone. The intertidal zone along the northern shoreline was similar, with poured concrete and rubble, but more broken and with small areas of sandy mud (usually <2 square meters). A few fragments of clam shell were found in the muddy patches, but no living macroinvertebrates were evident. The western margin of the project site is enclosed by a retaining wall of creosote-treated wood pilings, probably with fill behind them. Consistent with the SFBShg information, there was no evidence of native oysters (*Ostrea lurida*) present.

From the shoreline and the dock, the water was clear enough to allow the bottom to be seen at 1-1.5 meters depth. The substratum was mud at 0-0.5 meters depth and appeared to be homogenous throughout the subtidal portion of the project area, consistent with the mapping data from SFBShg. No submerged aquatic vegetation (including eelgrass, *Zostera marina*) was observed apart from three clumps of *Fucus* sp. attached to isolated pieces of concrete rubble at 0.5-1 meters depth along the eastern margin.

### **Impacts on Special-Status Plants**

A list of 104 special-status plant species thought to have some potential for occurrence in the project site vicinity was compiled using CNPS lists (CNPS 2022) and CNDDb records (CNDDb 2022, Figure BIO-2). Analysis of the documented habitat requirements and occurrence records associated with all of the species considered allowed H. T. Harvey to reject all 104 species as not having a reasonable potential to occur in or immediately adjacent to the project site for at least one of the following reasons: (1) lack of suitable habitat types; (2) absence of specific microhabitat or edaphic requirements, such as serpentine soils; (3) the elevation range of the species is outside of the range on the study area; and/or (4) the species is presumed extirpated. As the project site is largely composed of tidal aquatic and developed habitat (with small patches of ruderal grassland), the project site does not have the capacity to support special-status plants. Though the pockets of ruderal grassland habitat on the site could potentially support special-status species that prefer disturbed grasslands, such as Congdon's tarplant (*Centromadia parryi* ssp. *congdonii*), these areas are isolated, small, and do not contain alkaline soils (which Congdon's tarplant prefers). Moreover, the CNDDb (2022) has no record of Congdon's tarplant occurring within the project vicinity. As such, the limitations associated with the project site prevent the establishment of all special-status plant species that occur within the Richmond USGS 7.5-minute quadrangle and its surrounding eight quadrangles. The project would result in no impact on special-status plants.





**Figure BIO-2**

**CNDDDB Plant & Wildlife Records**

Source: H.T. Harvey & Associates



### **Impacts on Special-Status Salt Marsh Animals**

Similarly, special-status animals associated with salt marsh habitats around San Francisco Bay are absent from the project site. Species such as the California black rail (*Laterallus jamaicensis coturniculus*), California Ridgway's rail (*Rallus obsoletus obsoletus*), and salt marsh harvest mouse (*Reithrodontomys raviventris*) are associated with vegetated salt marsh. The closest marsh habitat is more than 2 miles to the east-southeast. The very small patch of non-tidal saline wetland on the project site is much too small, and too isolated (by distance and developed areas) from more extensive salt marsh, to support these special-status species. The project would result in no impact on special-status terrestrial or salt marsh-associated animals.

### **Impacts on Marine Mammals and Waterbirds**

Both harbor seals (*Phoca vitulina*) and California sea lions (*Zalophus californianus*) are common in San Francisco Bay and are protected by the Marine Mammal Protection Act. Waterbirds, including a variety of sea ducks, grebes, gulls, terns, and other birds, are common throughout the San Francisco Bay estuary.

There is no evidence that the project area supports haul-out sites for either pinniped species or supports large numbers of waterbirds. Given the disturbance associated with the Richmond waterfront and the low-quality aquatic habitat present in the project area, the number of individuals of these species that may occur in the project vicinity, and the frequency of their occurrence, are low. If an individual harbor seal or California sea lion, or small groups of waterbirds, were to occur in the project area when construction occurs, noise and underwater vibrations could disturb these animals, causing them to move away from the disturbance. However, such animals occurring in the project vicinity are a) likely to be highly familiar with and undisturbed by the sights and sounds of construction activity by virtue of the frequency of these activities in the Richmond Harbor area, and b) able to avoid or modulate their exposure to such activities by moving out of the area. As a result, there is no expectation that noise levels would injure marine mammals or result in the loss of use of extensive/important aquatic habitat.

Because the new docks would support approximately the same number of boats as the existing site conditions, the project would not result in an increase in boat traffic from the marina that might disturb aquatic species in the Bay, including marine mammals and waterbirds. Thus, there is no expectation that boat traffic from the proposed project would result in any increase in impacts on populations of pinnipeds or waterbirds as a result of disturbance. Impacts of the project on marine mammals and waterbirds are therefore considered less than significant.

### **Impacts on Special-Status Fish and Essential Fish Habitat**

Several special-status fish species may occur in aquatic habitat on the project site. Special-status fish species regulated by the USFWS, National Marine Fisheries Service (NMFS), and CDFW that could potentially occur within the project area were identified by reviewing a number of sources, including the following:

- Listing notices and critical habitat notices published by USFWS and NMFS for listed fish species occurring in San Francisco Bay
- Species maps and data published by NMFS for salmon and steelhead distinct population segments (DPS) and evolutionarily significant units (ESU) and population data<sup>2</sup>

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<sup>2</sup> [http://www.westcoast.fisheries.noaa.gov/maps\\_data/Species\\_Maps\\_Data.html](http://www.westcoast.fisheries.noaa.gov/maps_data/Species_Maps_Data.html)

- *Inland Fishes of California* (Moyle 2002)

Based on review of the information described above, and the field survey by H. T. Harvey & Associates staff, it was determined that the following special-status fish species have some potential to occur in the project area:

- Green sturgeon (*Acipenser medirostris*) Southern DPS, federally listed as Threatened
- Steelhead (*Oncorhynchus mykiss*), Central California Coast (CCC) DPS, federally listed as Threatened
- Steelhead, California Central Valley (CCV) DPS, federally listed as Threatened
- Chinook salmon (*Oncorhynchus tshawytscha*) Sacramento River winter-run ESU, federally and State listed as Endangered
- Chinook salmon Central Valley spring-run ESU, federally and State listed as Threatened
- Chinook salmon Central Valley late fall-run ESU and Central Valley fall-run ESU, listed by the CDFW as Species of Special Concern
- Longfin smelt (*Spirinchus thaleichthys*), state-listed as Threatened, candidate for federal listing

Aquatic habitat in the project area has been designated as critical habitat for southern DPS green sturgeon, CCC steelhead, CCV steelhead, Sacramento River winter-run Chinook, and Central Valley spring-run Chinook. In addition, the Pacific herring (*Clupea pallasii*) is included as a special-status fish for the sake of this analysis because of the CDFW-managed Pacific herring fishery in San Francisco Bay. These special-status species are described below.

#### Green sturgeon, Southern DPS

Southern green sturgeon spawning habitat includes the Sacramento River and some of its tributaries, and the species is present in San Francisco Bay throughout the year (Kelly et al. 2007, Lindley et al. 2011, NMFS 2015a). Suitable spawning habitat, however, is not present in the project area, as this species spawns in freshwater rivers (Moyle 2002). Green sturgeon moving between spawning habitat in the Sacramento River and the Pacific Ocean must pass Point Richmond to access the Golden Gate, but telemetry results from Kelly et al. (2007), while based on data from only six individuals, give no indication that sturgeon utilize waters in the immediate project vicinity and suggest that the shallower northern portions of San Pablo Bay are more frequented (see also Lindley et al. 2011).

CDFW conducts monthly monitoring of fish assemblages at numerous sites in the San Francisco, San Pablo, and Suisun Bays using otter trawls and midwater trawls, and numerous green sturgeon have been tagged with acoustic telemetry devices and tracked through San Francisco Bay (e.g., Kelly et al. 2007, Lindley et al. 2011): Although green sturgeon are believed to be present in the Bay throughout the year, they are most common near the Golden Gate and north into San Pablo Bay—they are likely to be in the project area rarely and in small numbers. Green sturgeon populations are thought to have declined due to the degradation of freshwater and estuarine habitat, as well as barriers to upstream migration, and, possibly, historical over-fishing (Huff et al. 2012). Based on these factors, it is considered unlikely for juvenile, subadult, and non-spawning adult green sturgeon to be present during project construction activities, as these life stages of green sturgeon are more likely to be located in areas of the Bay that possess higher quality habitat and less frequent disturbance. In addition, the in-water disturbance areas in the

Richmond Harbor are very limited in extent. As a result, green sturgeon are expected to occur in the project area very infrequently and in low numbers.

All tidally influenced areas of the Bay, up to the elevation of mean higher high water, have been designated as critical habitat for the southern green sturgeon (NMFS 2009), which includes the project area. The primary constituent elements (PCEs) of critical habitat essential for the conservation of the southern green sturgeon that may occur in estuarine/marine habitats within the project area include (1) abundant prey items within such habitats and substrates for juvenile, sub-adult, and adult life stages; (2) water quality, including temperature, salinity, oxygen content, and other chemical characteristics, necessary for normal behavior, growth, and viability of all life stages; and (3) sediment quality (i.e., chemical characteristics) necessary for normal behavior, growth, and viability of all life stages. In the project area, however, these three PCEs are poorly developed as the action area is partially degraded and limited due to shoreline stabilization, non-native invasive species, discharge and accumulation of contaminants, and periodic dredging.

### Steelhead

#### *Central California Coast DPS*

#### *California Central Valley DPS*

Central California Coast (CCC) and California Central Valley (CCV) steelhead are distinct population segments of anadromous rainbow trout (*Oncorhynchus mykiss*) that spawn and rear in fresh water and spend much of their adult life in the Pacific Ocean. CCC steelhead spawn in coastal streams entering the San Francisco, San Pablo, and Suisun Bays,<sup>3</sup> including streams north and south of Point Richmond within San Francisco Bay, while CCV steelhead use the Sacramento and San Joaquin Rivers and their tributaries (Leidy et al. 2005, NMFS 2005, NMFS 2015b). Thus, CCC and CCV steelhead may occasionally occur in the project area as they migrate to or from the ocean. Adult CCC and CCV steelhead migrate through the Golden Gate and past Point Richmond on their way to their spawning grounds from August through early spring (NMFS 2015b). Juveniles, as well as some adult kelts after spawning, out-migrate from March through June (Busby et al. 1996, Fukushima and Lesh 1998, Moyle 2002). Migration of juvenile steelhead through the Bay to more productive feeding areas in the Pacific Ocean appears to be rapid and their migratory pathways appear to prioritize deeper water (Klimley et al. 2010).

Both DPSs of steelhead have declined due to loss and degradation of spawning habitat, upstream migration barriers, over-harvesting by recreational fishermen, and reductions in winter flows due to damming and spring flows due to water diversions (NMFS 1997). Suitable spawning habitat for CCC or CCV steelhead is not present within the project area, as steelhead spawn in nontidal, freshwater rivers and streams where the substrate is gravelly (Moyle 2002). H. T. Harvey & Associates ecologists noted that vegetation (habitat) and invertebrate populations (prey) that might be used by juvenile steelhead in the project areas are expected to be minimal at best due to the lack of suitable habitat.

Designated critical habitat for the CCC steelhead includes all river reaches and estuarine areas accessible to listed steelhead in coastal river basins from the Russian River to Aptos Creek, California (inclusive), and the drainages of San Francisco and San Pablo bays, while designated critical habitat for the CCV steelhead includes a number of Central Valley drainages as well as portions of northern San Francisco Bay between the Golden Gate and the Delta (NMFS 2005). Thus, the project area is within designated critical habitat for CCC and CCV steelhead. The PCEs

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<sup>3</sup> CCC steelhead DPS populations use additional streams, but those referenced in the text are most applicable here.

of critical habitat that are essential to the conservation of the species and that could occur in the estuarine/marine habitats of the project area include (1) natural cover such as aquatic vegetation and (2) juvenile and adult forage, including aquatic invertebrates and fishes, supporting growth and maturation. In the project area, however, these two PCEs are poorly developed or degraded. No submerged aquatic vegetation providing high-quality habitat is present within the project area; rather, areas west of Brooks Island and on the western margin of Point Richmond where eelgrass has been mapped are expected to provide much higher-quality habitat for foraging fish. In addition, essential features of estuarine PCEs in the action area are partially degraded and limited due to shoreline stabilization, non-native invasive species, discharge and accumulation of contaminants, and periodic dredging.

### Chinook salmon

*Sacramento River Winter-run ESU*

*Central Valley Spring-run ESU*

*Central Valley Late fall-run ESU*

*Central Valley Fall-run ESU*

Chinook salmon migrate through San Francisco Bay as they move between spawning and rearing habitat in the Sacramento and San Joaquin Rivers and their tributaries and the Pacific Ocean. The Chinook salmon found in the project vicinity are primarily (due to greater numbers) fall-run adults that generally migrate from the ocean to the northern San Francisco Bay and the Sacramento-San Joaquin system from late September through November, although individuals from spring-run and winter-run ESUs, which are much less numerous, may occasionally stray into the area.

Juvenile fall-run Chinook salmon migration downstream to the estuary usually occurs between mid-March and early May, though large storm events may displace them downstream in January or February. Juveniles exiting freshwater systems and heading for the ocean may move quickly through estuaries or reside there for months depending on the timing of the migration and on estuarine conditions. Freshwater inflow into estuaries is critical for providing adequate water temperatures, food production, and overall beneficial environmental conditions for juvenile outmigration. Chinook salmon fry prefer protected estuarine habitats with lower salinity, moving from the edges of marshes during high tide to protected tidal channels and creeks during low tide. Juveniles forage in the intertidal and shallow subtidal areas of tidal marsh mudflat, slough, and channel habitats, and open bay habitats of eelgrass and shallow sand shoal areas. As the fish grow larger, they are increasingly found in high-salinity waters and less-protected habitats.

Chinook salmon are not expected to spawn or rear in the project area, and there are no creeks or rivers that support spawning Chinook in the vicinity. Individuals may occasionally stray into the project area during migration to and from spawning grounds, though for reasons discussed for the CCC steelhead above, they are expected to occur in the project area very infrequently and in low numbers. Designated critical habitat for the Sacramento River winter-run Chinook and Central Valley spring-run Chinook includes a number of Central Valley drainages as well as portions of northern San Francisco Bay between the Golden Gate and the Delta (NMFS 2005), and thus, aquatic habitat on the project site is within designated habitat for these fish.

### Longfin smelt

Longfin smelt were formerly among the most common pelagic fishes of San Francisco Bay (Feyrer et al. 2007, Sommer et al. 2007), but their numbers have declined substantially in recent decades

(Baxter 1999, Moyle 2002). Several studies attribute these declines to physical and biological changes to the estuary (e.g., Kimmerer 2002, Moyle 2002, Rosenfield and Baxter 2007). Open water is the primary habitat for longfin smelt, and their presence is well-documented throughout the San Francisco Bay, where CDFW fall midwater trawl data suggest that they are more common in the deeper channels than in shallow water (Rosenfield and Baxter 2007). These smelt are anadromous, spawning in low salinity or freshwater habitat in coastal rivers primarily from January through March (Moyle 2002). Locally, spawning appears to be limited to the Sacramento and San Joaquin river deltas. Due to their preference for deeper, open waters, longfin smelt are unlikely to occur in the project area (California Department of Fish and Game 2009).

### Pacific herring

The Pacific herring is a CDFW Managed Fishery species. In California, Pacific herring spawn from November through March (Spratt 1981, Haegele and Schweigert 1985), and San Francisco Bay supports a substantial spawning population (Leet et al. 2001). Spawning in San Francisco Bay typically occurs between December 1 and the end of February. Spawning substrates are largely intertidal and shallow subtidal areas (Haegele and Schweigert 1985), but eggs have been found as deep as 18 meters (Leet et al. 2001). Spratt (1981) reports that, with the exception of mud, herring spawn on all types of substrate. The incubation period has been reported to be as short as 10 days and as long as 2-3 weeks (Leet et al. 2001, Lassuy & Simons 1989). During incubation, mortality is high and sediments associated with dredging and construction activities can be a factor in causing mortality (Leet et al. 2001).

Within San Francisco Bay, Pacific herring spawn primarily in rocky substrates in the Central and North Bay areas, including the Richmond area. Therefore, there is some potential for this species to spawn on the hardened shoreline of the project area.

### Essential Fish Habitat

Under Section 305(b)(2) of the Magnuson-Stevens Act, federal agencies are required to consult with NMFS on any actions that may adversely affect Essential Fish Habitat (EFH) designated for relevant commercial, federally-managed fisheries species within the project area. The Pacific Fisheries Management Council has designated EFH for the following three Fisheries Management Plans (FMPs) in the project area: Pacific Coast Groundfish, Coastal Pelagic Species, and Pacific Coast Salmon. Of these federally managed species, the following are expected to occur in the North-Central San Francisco Bay:

#### *Pacific Groundfish FMP*

- Leopard shark (*Triakis semifasciata*)
- Soupfin shark (*Galeorhinus galeus*)
- Spiny dogfish (*Squalus acanthias*)
- Big skate (*Raja binoculata*)
- Lingcod (*Ophiodon elongatus*)
- Brown rockfish (*Sebastes auriculatus*)
- English sole (*Parophrys vetulus*)
- Sand sole (*Psettichthys melanostictus*)
- Starry flounder (*Platichthys stellatus*)
- Cabezon (*Scorpaenichthys marmoratus*)

### *Coastal Pelagic FMP*

- Northern anchovy (*Engraulis mordax*)
- Pacific sardine (*Sardinops sagax*)

### *Pacific Salmon FMP*

- Chinook salmon (*Oncorhynchus tshawytscha*)

Of these, only leopard sharks, soupfin sharks, brown rockfish, English sole, and starry flounder are typical inhabitants of the protected, shallow habitat present at the project site; the presence of any of the remaining species would be a rare occurrence, as their usual habitats are substantially different from those at the project site.

In general, the project is expected to have a low impact on special-status fish, EFH for FMP fish species, and Pacific herring (collectively referred to as “sensitive fish” below). Most importantly, the project area provides poor habitat, substantially removed from the San Francisco Bay proper—Richmond Yacht Harbor is off the Santa Fe Channel, near its terminus, which is an extension off the end of the Harbor Channel, itself partially screened from the open Bay by Brooks Island. Well separated from any migratory path to or from spawning, rearing, or feeding habitat, relatively few fish (particularly special-status species) are likely to enter the project area. Habitat quality for these fish species and their prey is expected to be poor as a result of the muted water exchange due to its location, and the history of industrial land use in this location and on Point Richmond generally.

Nevertheless, sensitive fish and their habitats may be affected by the proposed project in several ways. Removal of 15 creosote piles in the western side of the tidal habitat of the project site and 36 creosote piles from under the existing wharf and dock along the eastern edge of the tidal habitat of the project site will be a beneficial effect, as the removal of creosote-treated materials will contribute to improved Bay water quality by removing a source of creosote, which may cause adverse health effects on fish. However, some alteration of habitat is expected with the replacement of the existing dock, piles, and wharf along the eastern edge of the tidal habitat of the project site. The areal extent of the existing infrastructure planned for removal, below the high tide line, is 5,140 square feet (0.117 acre), as shown on Figure BIO-1. Removal of these existing structures will result in temporary disturbance of 0.117 acre of aquatic habitat for fish. New structures to be installed below/offshore from the high tide line would total 5,134 square feet (0.117 acre). Due to overlap between the existing structures to be removed and the new structures to be installed, the overall impact (temporary and permanent) of removal and replacement of the existing wharf and dock would be approximately 5,881.5 square feet (0.135 acre) as a result of the project, with a net decrease of in-water structures of approximately 6 square feet.

Owing to the low quality of fish habitat represented by aquatic habitat in the project area, the low numbers of sensitive fish that are expected to occur in the project footprint, the infrequency with which sensitive fish are expected to occur here, and the net decrease in in-water structures, no substantial impacts to aquatic habitat used by special-status fish or EFH for FMP fish species would occur, and therefore the alteration of fish habitat would be a less than significant impact. Also, construction of the new dock and wharf will require the driving of 20 new in-water 12-inch by approximately 50-foot concrete piles for the wharf and 9 new in-water 14-inch by approximately 60-foot concrete piles for the docks. Because 51 piles occupying approximately 82 square feet will be replaced with 29 piles occupying approximately 32 square feet, there will be a net reduction in in-water structures occupying the water column and the floor of the Bay totaling approximately

50 square feet (0.001 acre). Benthic species associated with soft bottoms would therefore experience a net increase of habitat.

Construction could result in adverse effects on sensitive fish associated with pollutants (either from construction equipment or from runoff) and increased turbidity and suspended sediment reaching aquatic habitat. Potential impacts to fish include increased sediment loading and turbidity, which could result in siltation causing reduction in benthic macroinvertebrate prey, and altered behavior of juvenile fish, such as avoidance of turbid waters. Moderate to high levels of suspended sediments and turbidity can reduce fish feeding efficiency, clog gill rakers, and erode gill filaments. However, as described below, the project will include conservation measures to prevent the runoff and discharge of pollutants from landside construction activities to the waters of San Francisco Bay. These measures will include, but are not limited to, locating fueling stations away from potentially jurisdictional features, and otherwise isolating construction work areas from any identified jurisdictional features to the extent feasible.

Prior to initiating demolition and/or construction activities, the project applicant will prepare and implement a stormwater pollution prevention plan (SWPPP). The SWPPP will include specifications for best management practices (BMPs) to be implemented during demolition and construction, including measures to control degradation of surface water by preventing soil erosion or the discharge of pollutants from the construction area. Additionally, the SWPPP will describe measures to prevent or control runoff after construction is complete. As part of the SWPPP, a spill prevention and control plan will be prepared to specify restrictions and procedures for fuel storage location, fueling activities, and equipment maintenance.

Collectively, the incorporation into the project description of measures to protect water quality during construction, and the removal of creosote-treated piles, will offset temporary increases in turbidity during project implementation, and project effects on water quality would thus be less than significant.

Fish could potentially be disturbed by noise and equipment activity during construction, and in the case of pile driving, potentially injured or even killed by pressure waves. The in-water piles would be driven by a barge-mounted hammer that would drive the piles into the Bay mud to a depth of at least 20 feet. Although a vibratory hammer will be used if feasible, it is possible that an impact hammer will need to be used for these piles. Prior to driving these piles, pilot holes with a diameter of 18 inches would first be drilled into the fill material underlying the site to a depth of about 10 feet below the ground surface. The pile driver would then advance the piles an additional 20 to 60 feet. Access for the dock replacement will be less impactful through use of a floating crane, and no fill such as rock slope protection will be placed or excavated, further minimizing impacts to open water habitats used by these species.

Sounds generated by percussive pile driving have the potential to affect fish in several ways, ranging from the alteration of behavior to physical injury or mortality depending on the intensity and characteristics of the sound, the distance and location of the fish relative to the sound source, and the size and species of fish involved (Hastings and Popper 2005, Hastings 2014). If a vibratory hammer is used to drive the in-water piles, then these sounds may cause fish to leave the vicinity during pile-driving, but sound levels will not be high enough to kill or injure fish. Although the magnitude and likelihood of impacts of pile driving on sensitive fish are low, pile driving using an impact hammer (as opposed to a vibratory hammer) could potentially kill or injure enough fish to result in a significant impact. Implementation of Mitigation Measure BIO-1 would reduce this impact to a less-than-significant level by ensuring that noise levels are below



thresholds for injury or mortality and/or by ensuring that fish leave the vicinity of the pile driving (thus moving far enough away to avoid injury or mortality) before noise levels reach harmful levels.

#### **Mitigation Measure BIO-1:**

- To the extent feasible, all pilings shall be removed and installed with vibratory pile drivers only. Vibratory pile driving will be conducted following the U.S. Army Corps of Engineers' (USACE's) *Proposed Procedures for Permitting projects that will Not Adversely Affect Selected Listed Species in California*. At the least, a vibratory hammer will be used to start pile driving.
- An impact pile driver will only be used where necessary to complete installation of larger pilings in accordance with seismic safety or other engineering criteria. If an impact hammer must be used, sound attenuation measures and a Sound Attenuation Monitoring Plan shall be prepared and implemented to reduce the level of elevated sound pressure levels during pile driving to minimize their effects on fish (Oestman et al. 2009, Buehler et al. 2015). The purpose of the plan will be to limit the intensity of impact hammer pile-driving sound in the marine environment. The plan shall provide detail on the sound attenuation system, detail methods used to monitor and verify sound levels during pile driving activities, and describe management practices to be taken to reduce impact hammer pile-driving sound in the marine environment. The plan shall include, but not be limited to, the following measures:
  - The hammer shall be cushioned using a 12-inch-thick wood cushion block during all impact hammer pile driving operations.
  - A "soft start" technique shall be employed to give fish and other aquatic species an opportunity to move out of the area before full-powered impact pile driving begins. This technique shall be used upon initiation of pile driving or when there is a downtime of 30 minutes or more without pile driving (Buehler et al. 2015).
  - Bubble curtains shall be used during any impact pile driving. Air bubble curtain design shall follow Caltrans air flow, ring spacing, and diameter guidelines (Buehler et al. 2015).
  - Pile driving shall occur only during daylight hours, when visual monitoring of any potential adverse effects can be conducted.
  - The project applicant shall monitor and verify sound levels during pile driving activities. The sound monitoring results shall be made available to the National Marine Fisheries Service (NMFS).
  - In the event that exceedance of noise thresholds established and approved by NMFS occurs, a contingency plan shall be implemented to attenuate sound levels to below thresholds.

In addition, project construction could potentially affect spawning California herring if construction within the water occurs during the spawning season (December 1 through February) and if herring are spawning in the project area at the time construction occurs. The locations in which herring spawn may change from year to year, making it difficult to predict whether the species will spawn in the project area in a given year. However, if herring were spawning at the time in-water construction occurs, construction could result in destruction of egg masses during removal of existing structures or reduced reproductive success as a result of increased turbidity. Given the ecological and economic important of this CDFW-managed species, impacts on spawning herring would be potentially significant. Implementation of Mitigation Measure BIO-2 would reduce this impact to a less-than-significant level by avoiding impacts to spawning herring.

**Mitigation Measure BIO-2:** All in-water demolition and construction activities shall occur during the period March 1 to November 30 to avoid the Pacific herring spawning season.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
b) <i>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?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: The project site is not located along a riparian corridor and contains no riparian habitat, tidal salt marsh, or other sensitive natural communities (CNDDDB 2022). Therefore, the project would result in no impact on riparian habitat or other sensitive natural communities.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
c) <i>Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Explanation: The project supports only a very small area of vegetated, but highly disturbed, non-tidal saline wetlands, as shown on Figure BIO-1. In addition, however, jurisdictional waters of the U.S. regulated by the U.S. Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act, as well as by the Regional Water Quality Control Board (RWQCB) under Section 401 of the Clean Water Act and the Porter-Cologne Water Quality Control Act, are present on the site. Bay waters are considered jurisdictional under all these regulations up to the Mean High Water (MHW) elevation, and jurisdiction under Sections 401 and 404 of the Clean Water Act and the Porter-Cologne Water Quality Control Act extend upward to the High Tide Line (HTL). As a result, all the tidal aquatic habitat in the project area is considered jurisdictional waters of the U.S. and waters of the State.

As discussed above, some alteration of these jurisdictional waters is expected with the replacement of the existing dock, piles, and wharf. The areal extent of the existing infrastructure planned for removal, below/offshore of the high tide line, is 0.117 acre. Removal of these existing structures will result in temporary disturbance of 0.117 acre of aquatic habitat. New structures to be installed below/offshore from the high tide line would also total 0.117 acre. Due to overlap between the existing structures to be removed and the new structures to be installed, the overall impact (temporary and permanent) of removal and replacement of the existing wharf and dock would be approximately 5,881.5 square feet (0.135 acre) as a result of the project, with a net decrease of in-water structures of approximately 6 square feet of new dock and wharf. Removal of more piles than will be installed would result in a permanent gain of approximately 50 square feet of jurisdictional waters. Owing to the low quality of aquatic habitat (e.g., for fish) represented by aquatic habitat in the project area, and the

net decrease of in-water structures, no permanent loss of those waters or their functions and values would occur, and impacts on jurisdictional wetlands and other waters of the U.S./state would be less than significant. Note, however, that permits from regulatory agencies such as the USACE, RWQCB, and San Francisco Bay Conservation and Development Commission would be required for impacts to jurisdictional habitats from the proposed project, and those permits will include conditions that may involve compensatory mitigation for these impacts.

Construction could result in adverse effects on water quality as discussed for sensitive fish above. However, as discussed in Section IV-a, above, the project incorporates conservation measures to prevent the runoff and discharge of pollutants from landside activities to the waters of San Francisco Bay as part of a required SWPPP. Also, the removal of creosote-treated materials will contribute to improved Bay water quality by removing a source of creosote, which may cause adverse health effects on fish. Collectively, the incorporation into the project description of measures to protect water quality during construction, and the removal of creosote-treated piles, will offset temporary increases in turbidity during project implementation, and project effects on water quality would thus be less than significant.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
d) <i>Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with any established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Explanation: Given the limited and marginal-quality terrestrial habitat present at the project site, as well as the surrounding development, the project is not expected to interfere with the movement of any native resident or migratory terrestrial wildlife species. The developed shoreline in the project vicinity contains numerous fences and buildings that would constrain any such wildlife movement, and the project site is already developed. As a result, the project's development would not further impede terrestrial wildlife movement.

Brooks Island, approximately 2.1 miles to the southeast, supports a large nesting colony of Caspian terns; the project is not expected to affect this colony, and no other large colonies, rookeries, or haul-out sites for wildlife are present in the project vicinity. Therefore, the project would have a less-than-significant impact on nursery habitat for birds or mammals.

Located in a small offshoot of a secondary channel (the Santa Fe Channel), substantially isolated from San Francisco Bay proper, the project is not considered likely to interfere substantially with the movement of any native resident or migratory fish species nor is the site a part of any movement corridors. A few native fish species spawn in the kind of habitat found at the project site (e.g., plainfin midshipmen, *Porichthys notatus*), but these do not include species with special State or federal protection, nor does the site support high concentrations of spawning fish. The heavily modified marine habitats in the project area are only marginally suitable for native resident or migratory fishes. The available habitat is depauperate, largely enclosed and isolated from natural, restored, and alternative habitats in San Francisco Bay. Native fishes, including special-status species, could enter the project area, but the available habitat appears to support few to no prey resources and is unlikely to be used for spawning to any substantial extent (e.g., by longfin smelt), and their presence at the project site would likely be temporary (minutes to hours).

Nevertheless, there is some potential for Pacific herring to spawn in the project area. If so, the project would not result in long-term degradation of spawning habitat, as the hardened structures (e.g., wharf and pilings) proposed by the project would provide suitable substrate for attachment of herring egg masses. However, as discussed previously, if herring were spawning at the time in-water construction occurs, construction could result in destruction of egg masses during removal of existing structures or reduced reproductive success as a result of increased turbidity. Given the ecological and economic importance of this CDFW-managed species, impacts on spawning herring would be potentially significant. Implementation of Mitigation Measure BIO-2 (see Section IV-a) would reduce this impact to a less-than-significant level by avoiding impacts to spawning herring.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
e) <i>Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: Richmond's tree protection ordinance, codified in Chapter 10.08 of the Municipal Code, applies only to trees on public property, including streets and parks. The ordinance requires a permit prior to the removal of any tree from public property. However, the only tree on the project site is a very small tree in poor health, and it is not on public property. As a result, removal of that tree by the project would not conflict with the City's tree ordinance. There are no other local policies or ordinances protecting biological resources that would apply to the project or with which the project could conflict. Therefore, the project would have no impact with respect to conflicts with local policies or ordinances protecting biological resources.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
f) <i>Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: There is no adopted Habitat Conservation Plan or other conservation plan applicable to the project site.

**V. CULTURAL RESOURCES** — *Would the project:*

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) <i>Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: The proposed project consists entirely of replacing an existing wharf and docks with a new wharf and docks occupying the same area and construction of new and replacement pavements and the land portion of the site. There is no potential for the project to adversely affect historical resources.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
b) <i>Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: The project would not involve subsurface disturbance, and there no potential for the project to adversely affect archaeological resources.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
c) <i>Disturb any human remains, including those interred outside of formal cemeteries?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: The project would not involve subsurface disturbance, so there no potential for the project to disturb human remains.

**VI. ENERGY** — *Would the project:*

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) <i>Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Explanation: Because there would be no operational changes associated with the proposed project, the only energy consumption that would occur would be during the short-term construction phase of the project. Construction of the project would require consumption of gasoline and diesel fuel by construction workers travelling to and from the site, by trucks delivering construction materials and supplies to the site, and by pile-driving, earthmoving, paving, and other construction equipment. Such usage is common to all construction projects, and would not constitute significant or wasteful consumption of energy. Furthermore, the applicant will be required to comply with the 2019 edition of the California Green Building Standards Code (CALGreen Code), codified in Title 24, Part 11 of the California Code of Regulations (CCR), which mandates diversion of at least 65 percent of C&D waste from landfill disposal. Compliance with these regulations would help reduce consumption of energy associated with transport, processing, and disposal of solid waste at landfills.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
b) <i>Conflict with or obstruct a State or local plan for renewable energy or energy efficiency?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: The project would not conflict with a State plan for energy efficiency.

**VII. GEOLOGY AND SOILS** — *Would the project:*

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) <i>Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:</i>				
i) <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.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: The nearest active earthquake fault to the project site is the Hayward fault, which is located approximately 1.7 miles east of the project site.<sup>4</sup> Therefore, there are no Alquist-Priolo fault zones in proximity to the project site, and there is no potential for fault rupture to affect the proposed project.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
ii) <i>Strong seismic ground shaking?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: The San Francisco Bay Area is recognized by geologists and seismologists as one of the most seismically active region in the United States. Although the project site is potentially subject to moderate to high seismic ground shaking during an earthquake on one of the major active earthquake faults that transect the region, the replacement of existing docks, wharf, and pavements would not increase the risks associated with exposure to seismic ground shaking.

<sup>4</sup> Quantum Geotechnical, Inc., *Geotechnical Investigation on Proposed Residential Development The Annex at San Joaquin Street and Dalai Lama Drive, Richmond, California, for City Ventures*, project No. G028.G, November 3, 2020.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
<i>iii) Seismic-related ground failure, including liquefaction?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: The replacement of existing docks, wharf, and pavements would not increase the risks associated with exposure to seismic ground failure.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
<i>iv) Landslides?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: The majority of the project would consist of in-water construction, where there is no potential for landslide. The proposed replacement pavements and new pavements would be constructed on level ground site there is also no potential for landslide.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
<i>b) Result in substantial soil erosion or the loss of topsoil?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Explanation: Any construction project that exposes surface soils creates a potential for erosion from wind and stormwater runoff. The potential for erosion increases on large, steep, or windy sites; it also increases significantly during rainstorms. Although the proposed project would occur on a level site, construction is expected to occur during the rainy season, increasing the potential for erosion at the site. Stormwater runoff could entrain sediment, and discharge into the adjacent channel could increase the sediment load in these waters. However, the project would include preparation and implementation of a Stormwater Pollution Prevention Plan (SWPPP) that will include measures to control degradation of surface water by preventing soil erosion or the discharge of pollutants from the construction area. Additionally, the SWPPP will describe measures to prevent or control runoff after construction is complete. Implementation of the SWPPP will ensure that soil erosion impacts would be less than significant.



	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
c) <i>Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: The replacement of existing docks, wharf, and pavements would not increase the risks associated with exposure to unstable soils.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
d) <i>Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: The replacement of existing docks, wharf, and pavements would not increase the risks associated with exposure to expansive soils.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
e) <i>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?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: No wastewater would be generated by the project. The project would have no effect on wastewater disposal systems.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
f) <i>Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: Construction of the project would not require subsurface disturbance of the site, so there is no potential to damage paleontological resources.

# **VIII. GREENHOUSE GAS EMISSIONS** — *Would the project:*

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) <i>Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Explanation:** Greenhouse gases (GHGs) would be emitted by construction equipment during the short-term construction of the project; no GHGs would be emitted following completion of construction. There is no potential for the limited amount of construction activity to exceed the thresholds of significance for GHGs.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
b) <i>Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Explanation:** The replacement of existing docks, wharf, and pavements would not conflict with the City's *Climate Action Plan* (CAP), adopted for the purpose of reducing GHG emissions.

# **IX. HAZARDS AND HAZARDOUS MATERIALS** — *Would the project:*

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) <i>Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Explanation:** The proposed project would not involve the routine transport, use, or disposal of hazardous materials.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
b) <i>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?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Explanation: The proposed project would not introduce the use or storage of new hazardous materials or new activities or processes with the potential to release hazardous substances into the environment. Boat maintenance and repair activities would continue unchanged on the adjacent parcel. While there is the possibility for equipment leaks and/or accidental spills from containerized hazardous substances to occur during construction of the project, implementation of the SWPPP that is part of the project would ensure that potential impacts from leaks or accidental spills would be less than significant.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
c) <i>Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: There are no schools within one-quarter mile of the project site. Furthermore, the proposed project would not emit hazardous emissions, handle hazardous materials, or generate hazardous waste. The project would have no impact on schools related to hazardous materials.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
d) <i>Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: The proposed replacement of existing docks, wharf, and pavements would not create a significant hazard to the public or the environment due to being located on a site included on the list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. There is no active hazardous materials release case associated with the project site.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
e) <i>For a project within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: There are no airports near the project site; the nearest public airport is Oakland International Airport located about 9.5 miles south of the site. The proposed project would not expose people to a safety hazard from airport operations.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
f) <i>For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: There are no private airstrips in the vicinity of the project site. The nearest private airstrip is San Rafael Airport in Marin County (formerly Smith Ranch Airport), located approximately 10 miles northwest of the site.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
g) <i>Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: The proposed replacement of existing docks, wharf, and pavements would not interfere with emergency evacuation routes or otherwise impair implementation of emergency evacuation or emergency response plans.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
<i>h) Expose people or structures to significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Explanation:** The project is located in an urbanized, fully built-out area with industrial and light industrial development in the vicinity of the site. There are no wildlands and no areas designated by the California Department of Forestry and Fire Protection (CAL FIRE) as High or Very High Fire Hazard Severity Zones in the vicinity of the site. The project would not increase the risk of exposure to wildland fires.

#### **X. HYDROLOGY AND WATER QUALITY** — *Would the project:*

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
<i>a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Explanation:** Construction activities could potentially affect water quality as a result of erosion of sediment. In addition, leaks from construction equipment; accidental spills of fuel, oil, or hazardous liquids used for equipment maintenance; and accidental spills of construction materials are all potential sources of pollutants that could degrade water quality during construction. Stormwater runoff from the site is ultimately discharged, without treatment, to San Francisco Bay, which is on the list of impaired water bodies compiled by the San Francisco Bay Regional Water Quality Control Board (RWQCB) pursuant to the federal Clean Water Act. Because the State is required to develop action plans and establish Total Maximum Daily Loads (TMDLs) to improve water quality within these water bodies, uncontrolled discharge of pollutants into them is considered particularly detrimental.

Generally, new development that entails “land disturbance” of 1 acre or more requires the project sponsor to obtain coverage under Construction General Permit (CGP) Order 2009-0009-DWQ, administered by the RWQCB. Because the project’s area of disturbance would be less than 1 acre, the project would not be required to obtain coverage under the CGP. However, the project would include preparation and implementation of a Stormwater Pollution Prevention Plan (SWPPP) that will include specifications for best management practices (BMPs) to be implemented during demolition and construction, including measures to control degradation of surface water by preventing soil erosion or the discharge of pollutants from the construction area.

Construction stormwater BMPs are intended to minimize the migration of sediments off-site. They can include covering soil stockpiles, sweeping soil from streets or other paved areas, performing site-disturbing activities in dry periods, and planting vegetation or landscaping quickly after disturbance to

stabilize soils. Other typical stormwater BMPs include erosion-reduction controls such as hay bales, water bars, covers, sediment fences, sensitive area access restrictions (for example, flagging), vehicle mats in wet areas, and retention/settlement ponds.

Because coverage under the CGP requires implementation of a SWPPP and construction BMPs, the project would include appropriate measures to ensure that construction impacts to water quality would be less than significant.

Richmond Municipal Code Section 12.44.030(e) also requires preparation and implementation of an Erosion and Sediment Control Plan (ESCP) for grading on sites of one-half acre or more. This requirement is reinforced in Municipal Code Section 12.22.090. The ESCP must include both interim controls to be implemented during grading and construction, and final permanent control features that minimize soil erosion and maximize sediment interception from the completed project site and provide for the control of runoff from the site. The Final and Interim ESCPs must be prepared by a registered civil engineer in accordance with the provisions of the latest editions of either the Association of Bay Area Government's (ABAG) *Manual of Standards for Erosion and Sediment Control Measures* or the Stormwater Best Management Practices handbooks produced by the California Stormwater Quality Association (CASQA) for both temporary and permanent erosion control measures. The ESCP must be approved by the City's Building Official, and the project applicant must pay a surety bond, with the amount determined by the approved engineer's construction cost estimate. For a project with a construction cost greater than \$10,000, the bond will be at least \$10,000. The City may utilize this bond to pay for installation stormwater controls that the applicant has failed to install by a schedule established in the ESCP, and to the Building Official's satisfaction. In the event any portion of the cash bond needs to be used for this purpose, the grading plan is automatically terminated, and the applicant will be required to apply for a new permit and prepare a new ESCP.

Once an ESCP has been approved by the City, a building inspector must visit the project site at least once a day during the rainy season, established in the City Code as October 1<sup>st</sup> through April 15<sup>th</sup>, and at least twice a day during active storms, including on weekends. The inspector must be accompanied by the construction contractor's superintendent on all site visits. The inspector will verify that V-ditches are properly maintained and flowing adequately, and that detention or retention basins are functioning and not clogging with silt. Other stormwater controls, such as straw bales, sand bags, filter fabric, and spillways will be inspected with damaged or clogged features repaired or replaced. The inspector must maintain a log of all site inspections. These regular on-site inspections will ensure that the Erosion and Sediment Control Plan is being properly implemented during project construction.

### ***Operational Impacts***

The project would not include any operational changes in comparison with existing conditions. Therefore, there is no potential for the proposed project to adversely affect water quality following the completion of construction. Nonetheless, the project would be subject to the provisions of the City's municipal stormwater permit. Operational stormwater discharges from new development are regulated under the National Pollutant Discharge Elimination System (NPDES), administered by the RWQCB under authority of the U.S. Environmental Protection Agency. In accordance with the NPDES, the RWQCB regulates stormwater discharges via municipal stormwater permits issued to the cities, counties, water districts, and flood control districts under its jurisdiction in the San Francisco Bay Area. In the City of Richmond, development projects must comply with NPDES Permit No. CAS612008, issued to the Contra Costa Clean Water Program (CCCWP) and other Bay Area jurisdictions by the RWQCB (NPDES Order No. R2-2015-0049). The revised Municipal Regional Stormwater Permit (MRP) was adopted on November 19, 2015 and became effective on January 1, 2016. This permit replaced the previous permit issued on October 14, 2009, which was formally rescinded by the RWQCB. The current MRP consolidates the multiple countywide permits previously issued to member agencies in the San Francisco Bay Area under a single MRP regulating stormwater discharges from

municipalities and local agencies in Alameda, Contra Costa, San Mateo, and Santa Clara counties and the cities of Fairfield, Suisun City, and Vallejo.

Although the MRP imposes a variety of responsibilities for monitoring and protecting stormwater quality on member agencies, it also includes requirements for individual development projects. Specifically, Provision C.3 of the MRP requires any private or public development project that would create or modify 10,000 square feet or more of impervious surfaces to take measures to improve water quality of stormwater discharges from the project site (i.e., stormwater runoff), including providing treatment of 100 percent of the stormwater runoff from the site. The size threshold is reduced to 5,000 square feet for certain special land use categories, which include auto service facilities, retail gasoline outlets, restaurants, and uncovered parking lots. Where a redevelopment project would alter 50 percent or more of the impervious surfaces of a previously existing project that was not subject to Provision C.3 requirements, the entire project must be designed and operated in compliance with Provision C.3. The Provision C.3 requirements also pertain to construction or widening of roads, trails, and sidewalks.

In the current MRP, Provision C.3 also requires small projects with 2,500 square feet to 10,000 square feet of new and replaced impervious surfaces and detached single-family home projects that create and/or replace 2,500 square feet or more of impervious surfaces to install at least one site design measure to reduce uncontrolled stormwater runoff. One example of an allowed site design measure is directing roof runoff into cisterns or barrels for reuse. Additional examples are provided below.

Based on the project plans, the proposed project would create 42,950 square feet of new and replacement impervious surfaces consisting of asphalt and concrete pavements. Therefore the project would be subject to the full Provision C.3 requirements and must include appropriate site design measures and source controls and hydraulically-sized stormwater treatment measures. Richmond Municipal Code Chapter 12.22 also requires new development to comply with the most recent version of the MRP. As part of this compliance, Chapter 12.22 requires project applicants to prepare and implement a Stormwater Control Plan (SCP) that meets the criteria in the most recent version of the Stormwater C.3 Guidebook prepared by the CCCWP. Property owners on sites containing a stormwater management facility or facilities are required to annually obtain a valid operation and maintenance certificate of compliance certifying to the inspection of and the proper operation and maintenance of the stormwater treatment facilities and other source control and site design measures. The City will conduct annual inspections to verify compliance, or will commission a private company authorized to conduct the inspections. Chapter 12.22 establishes that violation of the provisions of Chapter 12.22 constitutes a criminal misdemeanor that can result in payment of a fine and/or imprisonment upon conviction. It also notes that such violations may also constitute a violation of the federal Clean Water Act or the Porter-Cologne Act, and may be subject to the enforcement provisions of those acts, including civil and criminal penalties.

Projects subject to Provision C.3 must include low-impact development (LID) measures to capture and perform onsite treatment of all stormwater from the site prior to its discharge. (Treatment may also occur offsite at an approved joint stormwater treatment facility.) Project applicants are required to implement appropriate source control and site design measures and to design and implement stormwater treatment measures in order to reduce the discharge of stormwater pollutants to the *maximum extent practicable* (MEP), a standard established by the 1987 amendments to the federal Clean Water Act. LID treatment measures include harvesting and reuse, infiltration, evapotranspiration, and biotreatment.

Provision C.3 LID requirements include source controls and site design and stormwater treatment requirements. Examples of source control requirements that could be relevant to the proposed project include:

- Landscaping that minimizes irrigation and runoff, promotes surface infiltration, minimizes the use of pesticides and fertilizers, and incorporates other appropriate sustainable landscaping practices and programs such as Bay-Friendly Landscaping;
- Properly designed trash storage areas; and
- Storm drain system stenciling or signage.

The MRP states that permittees (i.e., the cities and counties) should encourage projects that do not meet the Provision C.3 size thresholds to still implement these source control measures to the extent feasible.

Examples of site design and stormwater treatment requirements that could be relevant to the proposed project include:

- Conservation of natural areas, including existing trees, other vegetation, and soils;
- Minimization of impervious surfaces;
- Construction of sidewalks, walkways, patios, and/or parking lots with pervious pavements;
- Minimization of stormwater runoff by directing runoff from roofs, sidewalks, walkways, driveways, and/or uncovered parking lots onto vegetated areas; and
- Treatment of 100 percent of the site's stormwater runoff with onsite LID treatment measures (or with LID treatment measures at a joint stormwater treatment facility) through harvesting and re-use, infiltration, evapotranspiration, or biotreatment.

Biotreatment (or bioretention) systems must be designed to have a surface area no smaller than what is required to accommodate a 5 inches/hour stormwater runoff surface loading rate, and infiltrate runoff at a minimum of 5 inches per hour during the life of the facility. The planting and soil media for biotreatment (or bioretention) systems must be designed to sustain healthy, vigorous plant growth and maximize stormwater runoff retention and pollutant removal. Biotreatment soil media must meet minimum specifications. Green roofs may be considered biotreatment systems provided they meet the criteria for treatment capacity stipulated in the MRP and have a sufficient depth of planting media to support the long-term health of the vegetation selected for the green roof.

The size and capacity of required stormwater treatment systems is determined in part on historical rainfall records for the project area. Systems may be based on the volume of runoff, the peak flow rate of runoff, or a combination of the two, with numeric hydraulic design criteria stipulated in the MRP for each method.

In certain cases where an applicant can demonstrate the infeasibility of treating 100 percent of the runoff from a project site, there are provisions for payment of an in-lieu fee for treatment of the untreated portion of stormwater at a regional or municipal treatment facility. Provision C.3 also defines three categories of "special projects" (Category A, B, and C) that may be eligible for a reduction in the amount of stormwater they are required to treat via Incentive LID Treatment Reduction Credits that must be approved by the RWQCB. Special projects are generally land development projects that can be characterized as infill, smart growth, high-density, or transit-oriented development that can either reduce existing impervious surfaces or create less "accessory" impervious areas and automobile-related pollutant impacts. The LID Treatment Reduction Credits allow the treatment of a stipulated portion of the site's runoff with non-LID treatment systems, such as tree box high-flow-rate bio-filters or vault-based high-flow-rate media filters. The proposed project would not meet the criteria for any of the special projects defined in Section C.3.e.ii of the MRP.

Provision C.3 of the MRP also includes hydromodification management (HM) requirements for certain projects located in areas susceptible to hydrograph modification. Hydrograph modification occurs



when an undeveloped site is developed with impervious surfaces such as buildings and pavements, which prevents natural infiltration by rain water, and which results in an increase in the volume and rate of stormwater runoff from the site. Hydrograph modification has the undesirable effect of increasing erosion of natural creeks and earthen channels, which can cause flooding, property damage, degradation of stream habitat, and deterioration of water quality.

Projects in Contra Costa County that create or replace 1 acre or more of impervious surfaces on sites must implement HM measures to minimize changes in the rate and flow of stormwater runoff in comparison with pre-project conditions unless they qualify for one of the exceptions set forth in Provision C.3.g(i) of the MRP. Although the proposed project is not subject to the HM requirements because it would create or replace less than 1 acre or more of impervious surfaces, it would also qualify for an exemption pursuant to MRP Provision C.3.g(i)(2), as the site is located in a catchment that drains to a hardened (i.e., continuously lined with concrete) engineered channel(s) or enclosed pipe that extends continuously to the Bay or to a channel that is tidally influenced. (It should be noted that the applicability of the HM requirements vary in other jurisdictions.) The MRP includes provisions for compliance with the HM requirements in cases where meeting the HM standard is not practical due to excessive cost (more than 2 percent of project construction costs) or extreme space limitations.

For Contra Costa County permittees, the HM controls must be designed such that the post-project discharge rates and durations match pre-project discharge rates and durations from 10 percent of the pre-project 2-year peak flow up to the pre-project 10-year peak flow. HM measures can include site design and hydrologic source control measures, on-site structural HM measures, regional HM control structures, in-stream restorative measures, or a combination thereof. However, in-stream measures may only be used when the receiving stream is in a hardened channel or already shows evidence of excessive sediment, erosion, or deposition.

The proposed project would create or modify more than 10,000 square feet of impervious surfaces, and therefore would be required to comply with MRP Provision C.3 requirements for incorporating LID measures to capture and perform onsite treatment of all stormwater from the site prior to its discharge. The City will ensure that the project applicant prepares and implements a SCP that meets the criteria in the most recent version of the Stormwater C.3 Guidebook prepared by the CCCWP, and will ensure that the applicant otherwise complies with Municipal Code Chapter 12.22. This will be subject to confirmation by the Richmond Engineering & Capital Improvement projects Department. The mandatory compliance with these regulations would ensure that the proposed project would have a less-than-significant impact on water quality.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
<i>b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Explanation: The project would not utilize groundwater and would have a negligible effect on groundwater recharge because the net increase in impervious surfaces would be small and the site is not expected to currently provide substantial groundwater recharge potential due to its location at the edge of a harbor channel. The project would have a less-than-significant effect on groundwater.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
c) <i>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>				
i) <i>Result in substantial erosion or siltation on- or off-site?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Explanation: Construction-related impacts relating to erosion or siltation both on and off-site are discussed in Section X-a, and additional discussion is provided in the next subsection. As discussed in Section X-a, the required SWPPP and ESCP would include measures that the applicant would be required to implement for purposes of minimizing erosion effects that could occur both during and after completion of construction. The project would not alter the course of a stream or river, and the potential adverse effects of the minor changes to existing surface drainage patterns would be minimized through the required construction and post-construction stormwater controls and measures for minimizing erosion. With implementation of these required measures, the project would not result in substantial erosion or siltation on- or off-site. This would be a less-than-significant impact.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
ii) <i>Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Explanation: As discussed in Section X-a, the project would create 42,950 square feet of new and replacement impervious surfaces. Absent appropriate controls, this would result in increased discharge of stormwater from the project site during storm events. As noted in Section X-a, the project is required to provide onsite stormwater treatment facilities with detention capacity designed to prevent an increase in the rate and volume of stormwater discharged from the site during 10-year storm conditions in comparison with existing conditions. Compliance with these requirements would ensure that the project would not substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site. This would be a **less-than-significant impact**.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
<i>iii) Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Explanation:** As discussed in the preceding subsections, stormwater runoff from the project site would be captured and treated onsite and the discharge of treated water from the site would be controlled by measures identified in the required ESCP discussed in Section X-a. These controls would prevent the discharge of polluted runoff, and stormwater discharge from the site into the adjacent harbor channel would not have the potential to exceed the capacity of the existing stormwater drainage system. This would be a less-than-significant impact.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
<i>iv) Impede or redirect flood flows?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Explanation:** The proposed construction of new and replacement pavements would have no potential to impede or redirect flood flows. Similarly, the docks and wharf that would be replace would have no effect on any flooding of the site that might occur.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
<i>d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Explanation:**

### **Flood Hazard**

The majority of the project site is located within a 100-year flood plain with a base flood elevation of 10 feet, as mapped by the Federal Emergency Management Agency (FEMA).<sup>5</sup> This is an existing condition that would not be exacerbated or altered by implementation of the project. The proposed replacement wharf and docks would be located in the harbor channel waters, and would have no effect on potential flood waters. The creation of new and replacement pavements would not create a new risk of release of pollutants in the event the project site was inundated by flood waters. There would be no impact related to flood inundation.

<sup>5</sup> Federal Emergency Management Agency, Flood Insurance Rate Map, Community Panel Number 06013C0236G, September 15, 2015.

## ***Tsunami Inundation***

There are two sources for tsunamis in coastal California, based on distance and warning time: local sources and distant sources. Local tsunami sources, like large offshore faults and massive submarine landslides, can put adjacent coastal communities at the greatest risk of a tsunami because the public must respond quickly with little or no official guidance. The Cascadia Subduction Zone is an example of a local tsunami source that could threaten northern California. Stretching from Cape Mendocino, California to Vancouver Island, British Columbia, this 700-mile long submarine fault system forms the crustal plate boundary where the offshore Gorda and Juan de Fuca plates dive, or subduct, beneath the North American plate. Distant tsunami sources are tsunamis that may be caused by a very large earthquake elsewhere on the Pacific Rim that could reach the California coast many hours after the earthquake. The Alaska-Aleutians Subduction Zone is an example of a distant source that has caused destructive tsunamis in California.

In the San Francisco Bay Area, any potential tsunami would originate in the Pacific Ocean, and to reach the City of Richmond, would need to pass through the relatively narrow Golden Gate and into San Francisco Bay, where it would lose much of its energy. The project site is more than 10 miles from the Golden Gate.

Because very large tsunamis are infrequent and it is likely that the largest potential tsunamis have not yet occurred in Contra Costa County, the State tsunami program developed a suite of maximum credible tsunami scenarios as part of their tsunami inundation mapping project for local evacuation planning. The Association of Bay Area Governments (ABAG) maintains an Interactive Hazard Viewer Map that maps hazard levels throughout the Bay Area for different types of natural disaster hazards, including inundation by tsunami.<sup>6</sup> Local agencies, organizations, and other stakeholders assisted the State in the development of the hazard mapping, so that it can be used for evacuation planning at the community level. The data underlying the hazard mapping does not represent inundation from a single scenario event, but is rather an ensemble of potential source events that may affect the region. The data used to produce this mapping tool is based on tsunami modeling performed in 2009 by the University of Southern California Tsunami Research Center, funded through the California Emergency Management Agency by the National Tsunami Hazard Mitigation Program. The tsunami modeling was performed utilizing the MOST (Method of Splitting Tsunamis) computational program, which allows for wave evolution over variable bathymetry and topography in order to determine the inundation mapping. The bathymetric/topographic data that were used in the tsunami models consist of a series of nested grids that were adjusted to "Mean High Water" sea-level conditions, representing a conservative sea level for purposes of the tsunami modeling and mapping. The Tsunami Hazard areas are developed for all populated areas at risk to tsunamis in California and represent a combination of the maximum considered tsunamis for each area.

The tsunami model was collectively updated in March 2014 by tsunami modelers, geologic hazard mapping scientists, and emergency planning specialists from the California Geological Survey, the California Governor's Office of Emergency Services, the Tsunami Research Center at the University of Southern California, and AECOM Technical Services. In March 2021 the model was updated again for Alameda, Mendocino, Monterey, and San Mateo counties.

According to ABAG's Interactive Hazard Viewer Map, the project site is mapped as being within a potential tsunami runup zone. While the site is therefore subject to inundation by tsunami, the proposed project would not increase the risk and would not introduce new uses or occupants that could be adversely affected in the event of a tsunami runup. Therefore, there would be no impact due to tsunami inundation.

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<sup>6</sup> Association of Bay Area Governments, Resilience Program, MTC/ABAG Hazard Viewer Map, Accessed July 26, 2022 at: <https://mtc.maps.arcgis.com/apps/webappviewer/index.html?id=4a6f3f1259df42eab29b35dfcd086fc8>.

## Seiche

A seiche is a free or standing wave oscillation(s) of the surface of water in an enclosed or semi-enclosed basin that may be initiated by an earthquake. Given the size and configuration of San Francisco Bay, the potential for a seiche to affect the City of Richmond is low, and the greater inundation risk is due to tsunamis, addressed above. Similar to the tsunami risk, the proposed project would not increase the seiche risk and would not introduce new uses or occupants that could be adversely affected in the event of inundation by a seiche.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
e) <i>Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Explanation:** The proposed construction of new and replacement pavements and the replacement of existing docks and wharf would have no potential to conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

## **XI. LAND USE AND PLANNING** — *Would the project:*

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) <i>Physically divide an established community?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Explanation:** The proposed construction of new and replacement pavements and the replacement of existing docks and wharf would have no potential to physically divide an established community.

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

**Explanation:** The project would merely replace existing, deteriorated docks, wharf, and pavements with new replacement facilities occupying the same footprint. The boat yard is an existing, permitted use, and the proposed project would not introduce any new uses to the project site. Consequently, the



project would not conflict with the City of Richmond's zoning regulations, General Plan, *Climate Action Plan*, or any of the City's area plans or specific plans, nor would it conflict with any regional plans, such as the *San Francisco Bay Plan*, *San Francisco Bay Area Seaport Plan*, or *San Francisco Bay Trail Plan*.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
c) <i>Conflict with any applicable habitat conservation plan or natural community conservation plan?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: There is no habitat conservation plan or natural community conservation plan applicable to the project site.

## **XII. MINERAL RESOURCES** — *Would the project:*

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) <i>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?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: The project would have no effect on the availability of mineral resources.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
b) <i>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?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: The Richmond General Plan does not identify any local mineral resources in the project vicinity, and the project would have no effect on the availability of mineral resources.

**XIII. NOISE** — *Would the project result in:*

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) <i>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?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Explanation:** Although the project would not include any operational changes to the existing boat yard, construction of the replacement facilities would intermittently generate elevated noise levels during the short-term construction period. The project would be required to comply with Chapter 9.52 of the Municipal Code, which regulates construction noise. Similar to most jurisdictions in California, Richmond does not generally treat short-term construction noise as a significant impact if it complies with the limits on construction hours established by Municipal Code Section 9.52.110. The ordinance limits construction activity to the hours of 7:00 a.m. to 7:00 p.m. weekdays, and to the hours between 9:00 a.m. and 8:00 p.m. on weekends and holidays. Section 9.52.060 prohibits the use of pile drivers on Sundays and holidays. Pile drivers would be used to install the piles to support the proposed docks. However, the applicant states that they would be driven by a quieter vibratory hammer, if feasible, and if an impact hammer is required, a wood block cushion would be placed between the hammer and the pile to minimize impact noise. Removal of existing piles and new pile driving would only occur between March 1<sup>st</sup> and November 30<sup>th</sup> in order to avoid adverse effects on spawning fish in Santa Fe Channel.

There are no residential districts or noise-sensitive land uses near the project site. With mandatory compliance with Richmond Municipal Code Chapter 9.52, the project's short-term construction noise impacts would be less than significant.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
b) <i>Generation of excessive groundborne vibration or groundborne noise levels?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Explanation:** Although construction of the proposed project would generate groundborne vibration from pile driving, there are no sensitive receptors in the project vicinity who could be disturbed by intermittent vibration. However, strong vibration effects can potentially cause structural damage to nearby buildings, particularly older, less structurally sound buildings. (The potential for vibration impacts to adversely affect marine wildlife during in-water pile driving is addressed in Section IV, Biological Resources.)

The greatest potential for creating vibration during project construction would be during driving of piles to anchor the proposed floating docks and wharf. Caltrans' *Transportation and Construction Vibration Guidance Manual* states that an 80,000 foot-pound pile driver, a fairly large driver, will produce a peak

particle velocity (PPV) of 0.21 inches per second (in./sec.) at 100 feet from the equipment.<sup>7</sup> PPV is generally accepted as the most appropriate descriptor for evaluating the potential for damage to buildings.

The Caltrans Vibration Manual cites studies on human response to continuous vibration such as that generated by construction equipment, as well as transient vibration caused by impact pile drivers or blasting. Based on a synthesis of these studies, Caltrans recommends criteria for evaluating human annoyance due to the effects of vibration. These criteria are listed in Table NOI-1, which categorizes the range of human response to different levels of transient vibration. The expected project-generated vibration is compared to these thresholds, which are lower (i.e., more sensitive) than human response to steady-state vibration. The thresholds indicate that during pile driving activities at the project site, workers would experience impact vibrations, but they wouldn't rise to a very disturbing level. Vibration impacts would be temporary, short-term, and would not have a significant impact on workers at the site or on nearby properties.

**Table NOI-1**  
**Human Response to Transient Vibration**

<b>Peak Particle Velocity (PPV) (inches/second)</b>	<b>Human Response</b>
2.0	Very Disturbing/Severe
0.9	Strongly Perceptible
0.24	Distinctly Perceptible
0.035	Barely Perceptible

*SOURCE: Caltrans, Transportation and Construction Vibration Guidance Manual, April 2020*

The criteria recommended by Caltrans for evaluating potential structural damage from transient, intermittent vibration sources (e.g., from pile driving) are presented in Table NOI-2; these criteria are used as thresholds of significance for this evaluation of the project's potential vibration impacts on nearby buildings.

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<sup>7</sup> California Department of Transportation, *Transportation and Construction Vibration Guidance Manual*, April 2020.

**Table NOI-2**  
**Vibration Thresholds for Potential Damage to Buildings**  
**(for Transient Sources)**

Peak Particle Velocity (PPV) (inches/second)	Structure and Condition
0.12	Extremely fragile historic buildings
0.2	Fragile buildings
0.5	Historic and some old buildings
0.5	Older residential structures
1.0	New residential structures
2.0	Modern industrial/commercial buildings

*SOURCE: Caltrans, Transportation and Construction Vibration Guidance Manual, April 2020*

The nearest existing structures to the proposed pile driving activity are the Boat Shed on the project site and a warehouse-type building on the adjacent boat yard property at 310 West Cutting Boulevard, which is also owned by the project applicant. It is assumed that the project would employ 80,000 foot-pound or smaller pile drivers (one of which would be mounted on a boat or barge). Based on the Caltrans calculation of PPV for a driver of this size, the vibration that would be experienced at the nearest off-site building would be less than 0.21 in./sec., while a somewhat higher vibration level would be experienced at the Boat Shed. Both the Boat Shed and the nearest offsite building are modern industrial buildings that, based on Table NOI-2, can withstand transient vibration up to a PPV of 2.0 in./sec. without incurring damage. The pile driving activities would therefore have a less-than-significant impact on human receptors and on nearby structures.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
c) <i>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?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: The project site is not within the vicinity of a private airstrip or an airport land use plan, or within 2 miles of a public use airport. The closest airports are Oakland International Airport, located more than 9 miles south of the project site, and San Rafael Airport in Marin County (formerly Smith Ranch Airport), located approximately 10 miles northwest of the site. There is no potential for operations at these airports to expose workers and visitors at the project site to excessive aircraft

noise. Furthermore, the project would not include any operational changes to the existing boat yard or introduce new workers or visitors to the site. Therefore, there would be no impact from airport noise.

**XIV. POPULATION AND HOUSING** — *Would the project:*

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
<i>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)?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: The proposed project would not create new jobs or residences, and would have no effect on the City's population.

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

Explanation: No existing housing would be displaced as a result of the project.

**XV. PUBLIC SERVICES** - *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 following public services:*

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
<i>a) Fire protection?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: The project would not result in any changes to the operations of the existing boat yard, nor would it introduce any new uses to the site. Therefore, there is no potential for the project to increase demand for fire protection services or otherwise adversely affect the Richmond Fire Department (RFD), which provides fire response to the project site.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
b) <i>Police protection?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: The project would not result in any changes to the operations of the existing boat yard, nor would it introduce any new uses to the site. Therefore, there is no potential for the project to increase demand for police protection services or otherwise adversely affect the Richmond Police Department (RPD), which provides fire response to the project site.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
c) <i>Schools?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: The project would not create new homes or jobs, and would have no effect on the population of the City of Richmond. Therefore, the project would have no effect on the demand for school services in the City of Richmond.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
d) <i>Parks?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: The project would not create new homes or jobs, and would have no effect on the population of the City of Richmond. Therefore, the project would have no effect on the demand for parks in the City of Richmond.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
e) <i>Other public facilities?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: The project would not create new homes or jobs, and would have no effect on the population of the City of Richmond. Therefore, the project would have no effect on the demand for libraries or other public facilities.



## **XVI. RECREATION** —

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) <i>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?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: The project would not create new homes or jobs, and would have no effect on the population of the City of Richmond. Therefore, the project would have no effect on the demand for parks or other recreational facilities in the City of Richmond.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
b) <i>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?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: The proposed project would not include construction of any recreation facilities.

## **XVII. TRANSPORTATION/TRAFFIC** — *Would the project:*

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) <i>Conflict with an applicable plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Explanation: The project would not include any operational changes to the existing boat yard and, therefore, it would have no effect on transportation facilities, including bicycle and pedestrian facilities. There would be a negligible amount of traffic generated during the short-term construction period, but there would be not potential for this traffic to burden the existing roadways serving the site or conflict with any plans pertaining to transportation.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
b) <i>Conflict or be inconsistent with CEQA Guidelines Section 15064.3?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Explanation: Section 15064.3 of the *CEQA Guidelines*, added to the Guidelines on December 28, 2018, establishes *vehicle miles traveled* (VMT) as the most appropriate measure of potential transportation impacts, replacing vehicle delay as the long-established metric for evaluating traffic impacts. As stated above, no new operational traffic would be generated by the proposed project, so the project would have no VMT impact. A minor amount of traffic would be generated during project construction.

The City of Richmond adopted VMT guidelines, procedures, and thresholds of significance on April 6, 2021, consistent with the Contra Costa Transportation Authority (CCTA)'s adopted VMT guidelines. Although the guidelines do not address temporary construction traffic, they provide a basis for determining that the VMT generated by construction of the proposed project would not be significant. The City of Richmond VMT methodology has five screening criteria. One criterion states that any project that is exempt from CEQA is presumed to have a less-than-significant VMT impact, and is not required to conduct a VMT analysis. As stated in the Introduction to this Initial Study, the proposed project would ordinarily be exempt from CEQA, but due to its potential impacts on marine biological resources, preparation of this IS/MND was required.

A second screening criterion in the City's VMT guidelines states that small projects having 10,000 square feet or less of non-residential space or otherwise generating less than 836 VMT per day are presumed to have a less-than-significant VMT impact. The project would not construct any new building space (i.e., 0 square feet) and construction of the project would not generate 836 VMT per day.

Consequently, the proposed project would not conflict with Section 15064.3 of the *CEQA Guidelines* and the project would have a less-than-significant impact transportation impact.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
c) <i>Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: The project would not create any new intersections or driveways, or otherwise alter or affect offsite transportation facilities. There is no potential for the project to create or increase traffic hazards.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
d) <i>Result in inadequate emergency access?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: The proposed project would not include any operational changes to the existing boat yard; it would have no effect on emergency access.

**XVIII. TRIBAL CULTURAL RESOURCES** — *Would the project:*

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
<i>Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:</i>				
a) <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 Section 5020.1(k)?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: Implementation of the project would not require any subsurface disturbance, other than the replacement of existing pavements and construction of new pavements, which would entail minimal surface grading of a previously disturbed site. There is no potential to disturb or damage tribal cultural resources.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
b) <i>A resource determined by the Lead Agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1? In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the Lead Agency shall consider the significance of the resource to a California Native American tribe.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: See Section XVIII-a, above.

**XIX. UTILITIES AND SERVICE SYSTEMS** — *Would the project:*

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) <i>Require or result in the relocation or construction of new or expanded water, wastewater treatment, stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: The project would not increase consumption of water, electric power, natural gas, or telecommunications facilities and would not increase the generation of wastewater. It would have no effect on any of these utilities.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
b) <i>Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: As noted above, the project would not increase consumption of water, and would have no effect on water supplies.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
c) <i>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?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: See Section XIX-a, above.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
d) <i>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?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Explanation: Operationally, the project would not generate solid waste because it would not introduce any changes in existing operations at the site. However, demolition debris and other construction waste would be generated during construction of the project. Although the project would not be a covered project subject to the City's Green Building Requirements codified in Municipal Code Chapter 6.45, requiring diversion of 75 percent of demolition debris from landfill disposal, the City promotes the voluntary use of green building practices. More importantly, the applicant will be required to comply with the 2019 edition of the California Green Building Standards Code (CALGreen Code), codified in Title 24, Part 11 of the California Code of Regulations (CCR), which mandates diversion of at least 65 percent of C&D waste from landfill disposal. It is expected that the concrete pads that would be cleared from the site prior to construction of the project would be crushed in a grinder and reused or recycled. This would minimize the project's potential impact on solid waste disposal capacity. The limited amount of solid waste that would be generated during construction would not impair the attainment of the State's or the City's solid waste reduction goals.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
e) <i>Comply with federal, State, and local management and reduction statutes and regulations related to solid waste?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: As discussed above, the project would be required to comply with CALGreen Code requirements for diversion of C&D waste. The project would not conflict with any applicable regulations pertaining to solid waste.

**XX. WILDFIRE** — *If located in or near a State Responsibility Area or lands classified as a Very High Fire Hazard Severity Zone, would the project:*

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) <i>Substantially impair an adopted emergency response plan or emergency evacuation plan?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: The project would not block or impede access to emergency evacuation routes, and the project would not have the potential to interfere with implementation of the City's emergency response plan.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
b) <i>Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire of the uncontrolled spread of a wildfire?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: There are no slopes or wildlands on or in the vicinity of the project site, and the project would have no effect on the susceptibility of the existing facilities on the site to wildfire.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
c) <i>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?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: The project site is well served by existing roads and fire-fighting services, and the project would not require new infrastructure that could exacerbate fire risk.



	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
d) <i>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?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: The potential for flooding is addressed in Section X-g and the potential for landslide is addressed in Section VII-a.iv. As discussed in Section XX-b, above, there is not a significant risk of wildfire at or near the project site and there are no slopes in the vicinity, so there is no potential for secondary effects such as post-fire slope instability. The project would not introduce new structures or people to the site. There would be no change to existing conditions, and no impact.

## XXI. MANDATORY FINDINGS OF SIGNIFICANCE —

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) <i>Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Explanation: There is some potential for percussive pile driving during project construction to injure or kill fish in the vicinity of the site and for construction activities to result in destruction of egg masses laid by spawning California herring as a result of increased turbidity, but mitigation measures have been identified to minimize these potential impacts. Potential impacts on the quality of the marine environment in the Santa Fe Channel fish and wildlife habitat would be less than significant.

The project would not eliminate important examples of the major periods of California history or prehistory.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
b) <i>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.)</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Explanation: No significant cumulative impacts were identified for the proposed project.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
c) <i>Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Explanation: Mitigation has been identified to reduce potential impacts from the generation of dust during project construction, which could potentially have adverse effects on human receptors. No other potentially significant impacts on human beings were identified.

## REPORT PREPARATION

This Initial Study and Mitigated Negative Declaration was prepared under the direction of Douglas Herring & Associates (DHA), with support from the City of Richmond Planning and Building Services Department.

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## MITIGATION MEASURES

### Biological Resources

#### **Mitigation Measure BIO-1:**

- To the extent feasible, all pilings shall be removed and installed with vibratory pile drivers only. Vibratory pile driving will be conducted following the U.S. Army Corps of Engineers' (USACE's) *Proposed Procedures for Permitting projects that will Not Adversely Affect Selected Listed Species in California*. At the least, a vibratory hammer will be used to start pile driving.
- An impact pile driver will only be used where necessary to complete installation of larger pilings in accordance with seismic safety or other engineering criteria. If an impact hammer must be used, sound attenuation measures and a Sound Attenuation Monitoring Plan shall be prepared and implemented to reduce the level of elevated sound pressure levels during pile driving to minimize their effects on fish (Oestman et al. 2009, Buehler et al. 2015). The purpose of the plan will be to limit the intensity of impact hammer pile-driving sound in the marine environment. The plan shall provide detail on the sound attenuation system, detail methods used to monitor and verify sound levels during pile driving activities, and describe management practices to be taken to reduce impact hammer pile-driving sound in the marine environment. The plan shall include, but not be limited to, the following measures:
  - The hammer shall be cushioned using a 12-inch-thick wood cushion block during all impact hammer pile driving operations.
  - A "soft start" technique shall be employed to give fish and other aquatic species an opportunity to move out of the area before full-powered impact pile driving begins. This technique shall be used upon initiation of pile driving or when there is a downtime of 30 minutes or more without pile driving (Buehler et al. 2015).
  - Bubble curtains shall be used during any impact pile driving. Air bubble curtain design shall follow Caltrans air flow, ring spacing, and diameter guidelines (Buehler et al. 2015).
  - Pile driving shall occur only during daylight hours, when visual monitoring of any potential adverse effects can be conducted.
  - The project applicant shall monitor and verify sound levels during pile driving activities. The sound monitoring results shall be made available to the National Marine Fisheries Service (NMFS).
  - In the event that exceedance of noise thresholds established and approved by NMFS occurs, a contingency plan shall be implemented to attenuate sound levels to below thresholds.

**Mitigation Measure BIO-2:** All in-water demolition and construction activities shall occur during the period March 1 to November 30 to avoid the Pacific herring spawning season.

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