

REGIONAL GENERAL PERMIT FOR SHORELINE MAINTENANCE AND REPAIR, REHABILITATION, AND REPLACEMENT ACTIVITIES

Supplemental Information Package

Prepared for
U.S. Army Corps of Engineers
San Francisco Regional Water Quality
Control Board

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SECTION 1

Supplemental Information

Location: The project site is located within the Port of San Francisco's 7.5-mile waterfront (see **Figures 1 and 2**).

Latitude/Longitude: 37.48.32.64 N/122.25.36.70W (Northern Corner); 37.44.14.36N/122.21. 59.09W (southern corner USGS Quadrangles San Francisco North and South)

1.1 Historic Conditions

Born out of the Gold Rush, today's Port of San Francisco (Port) is a public agency responsible for managing the 7.5 miles of San Francisco Bay shoreline stretching from Hyde Street Pier in the north to India Basin in the south. The Port's responsibilities include promoting maritime commerce, navigation, and fisheries; restoring the environment; and providing public recreation and shoreline access. More than 1,000 acres fall under its jurisdiction.

The Port's history reaches back to the early years of California statehood. With the Gold Rush attracting hundreds of ships to San Francisco Bay from around the world, a State Commission was created in 1863 to improve the City's harbor. As the City moved into the 20th century, the Port grew in leaps and bounds. The waterfront became an industrial area of finger piers, railroad terminals, and warehouses. With the outbreak of World War II, San Francisco became a military logistics center; troops, equipment and supplies left the Port in support of the Pacific theater. The City's shipbuilding and ship repair industries flourished. In the 1950s, San Francisco continued to be the West Coast's premier cargo port.

Today, the Port has redefined its marketing strategies and continues to offer the world's shipping fleet major assets such as naturally deep water, hundreds of thousands of square feet of covered storage, on-dock rail, acres of unobstructed lay-down space and modern well-maintained cargo terminals.

In 1968, the State transferred its responsibilities for the San Francisco waterfront to the City and County of San Francisco through the Burton Act. As a condition of the transfer, the State required the City to create a Port Commission that has the authority to manage the San Francisco waterfront for the citizens of California. Although the Port is a department of the City and County of San Francisco, the Port receives no financial support from the City, and relies almost solely on the leasing of Port property for its revenues.

Over the last forty years, as the City's downtown grew towards the water's edge, new uses established themselves in previously industrial areas. The Port today oversees a myriad of maritime, commercial, and public activities. While at one time industrial maritime uses dominated the northern edge of the city, today cargo shipping and ship repair are located primarily south of China Basin. Cruise ships, excursion

vessels, passenger ferries, recreational boating, commercial and sport fishing activities, and other commercial maritime operations remain on the northern waterfront.

In order to keep the Port's facilities safe and operational, and to avoid the unnecessary release of contaminants and/or debris from aging and dilapidated structures into the Bay, the Port proposes to address their large and growing backlog of needed maintenance repairs, rehabilitation, and replacement for their existing shoreline structures under the proposed Regional General Permit (RGP) and associated approvals and authorizations.

1.2 Existing Conditions

The project area includes existing over-water wharf and pier areas, piles, submerged debris, soft-bottom substrates, and the open waters of San Francisco Bay. Many of the existing structures, especially along the Port's southern waterfront, are old and dilapidated and contain creosote-treated piles that are associated with adverse effects on water quality and aquatic biota. The land bordering the project area consists of Bay fill dominated by paved surfaces and Port facilities.

Current and wave patterns exhibited in the work area are largely generated by the tides interacting with bottom and shoreline configurations. The project area also receives inputs from stormwater runoff, and wastewater from municipal and industrial sources that vary in proportion, depending on the location and seasonal weather patterns.

The sediment that accumulates along the San Francisco waterfront is characterized by the recent deposition of unconsolidated (loose) sediment. Sediment accretes or accumulates from re-settlement of sediment suspended in Bay waters by natural processes (i.e., tidal action, wind, and waves) and as a result of natural sediment inflows from rivers, creeks, and surface runoff.

Contaminants are introduced into Central San Francisco Bay primarily through runoff, combined sewer overflow, stormwater, spills and leaks, and remobilization from sediment into the overlying water column. As noted above, creosote-treated piles are also a source of low-level contaminants in the near-shore environment. The RWQCB has listed the Central Bay, which includes the project area, as an impaired water body. Under Section 303(d) of the Clean Water Act, impaired waters are defined as those that do not meet water quality standards, even after point and non-point sources of pollution have had pollution control technologies implemented. One of the Port's objectives in seeking this new Regional General Permit is to continue to remove and reduce the extent of creosote-treated wood piles along the shoreline and thus improve water quality.

There are no designated beneficial uses for groundwater associated with a location in Central San Francisco Bay. With respect to surface waters, the San Francisco Bay Basin Plan identifies the following designated beneficial uses for the Central San Francisco Bay: (1) industrial service supply; (2) industrial process supply; (3) ocean, commercial, and sport fishing; (4) shellfish harvesting; (5) estuarine habitat; (6) fish migration; (7) preservation of rare and endangered species; (8) fish spawning; (9) wildlife habitat; (10) water contact recreation; (11) non-contact water recreation; and (12) navigation.

1.3 Project Purpose

As described above, the Port has jurisdiction over 7.5 miles of shoreline along the northern and eastern edge of the City of San Francisco (**Figures 1 and 2**). Most of the buildings, piers and supporting infrastructure are over 80 years old. As a result, the Port has a large and growing backlog of needed maintenance and repairs. If rehabilitation and replacement of these existing shoreline structures are not addressed, many of these existing structures will continue to degrade and eventually fall into the Bay. In order to maintain navigational and recreational safety, protect and improve water quality, and improve shoreline access and appearance, these regular maintenance and repair activities need to be performed on an ongoing basis.

In pursuing a new RGP for maintenance and repair activities, the Port seeks to streamline regulatory compliance for routine activities with minimal impacts by reducing the burden of individual approvals for such work, increase regulatory predictability for the Port in planning, funding, and implementing needed maintenance and repairs, and keep the Port's facilities operational and avoid release of debris from dilapidated structures.

1.4 Project Description

Proposed activities consist of maintenance, repair, and replacement activities along Port's 7.5-mile shoreline, as described below. **Figure 3** depicts the typical shoreline configurations found along the San Francisco waterfront. The proposed activities will be restricted to repairing, replacing, or removing existing aging shoreline infrastructure and navigational equipment on an as-needed basis, as well as the repair, rehabilitation, or replacement of structures or fills recently damaged or destroyed by discrete events such as storms, flooding, fire, or collisions.

The types of maintenance and repair to be covered by the renewed RGP would continue a program of construction activities necessary to maintain current Port facilities and uses to comply with Port Building Code requirements, maintain public safety, and/or keep facilities in a state of good repair. The project scope includes required implementation of best management practices (BMPs) established by the U.S. Army Corps of Engineers (Corps), the San Francisco Regional Water Quality Control Board (SFRWQCB), and the resource agencies to protect water quality and biological resources.

Repair work under this program must also comply with existing historic resource protection measures, as applicable, to ensure work is consistent with Secretary of Interior Historic Preservation Standards.

1.4.1 Authorizations

1.4.1.1 USACE

The proposed activities would be eligible for authorization under the Corps Nationwide Permits including NWP-3-Maintenance, covering shoreline maintenance and permanent removal activities and work authorized under NWP-5 Scientific Measuring Devices and NWP-6 Survey Activities.¹ The proposed shoreline maintenance, restoration, and permanent removal activities listed below are included in this request for a programmatic permit (such as a RGP from the Corps) because: the activities are fairly

¹ The 2021 Nationwide Permits, General Conditions, District Engineer's Decision, Further Information, and Definitions published in the Federal Register on January 13, 2021 (86 FR 2744, and the correction at 86 FR 27274) and December 27, 2021 (86 FR 73522).

similar in nature; they are expected to be conducted on a periodic or routine basis; they will affect existing currently-serviceable structures and include no “new” work or structures; they will generally maintain the existing character, capacity, and use of existing currently-serviceable structures; they are authorized under the California Environmental Quality Act (CEQA); and they are expected to result in no more than minimal effects on waters of the U.S., both individually and cumulatively. Consistent with the terms of NWP-3, NWP-5, NWP-6, uses of the repaired/replaced structures would not differ from those specified or contemplated in the original construction, allowing for minor deviations including those due to changes in materials, techniques, standards, or regulatory requirements.

1.4.1.2 CEQA

The proposed activities are authorized by the Port’s CEQA Categorical Exemption Determination filed by the San Francisco Planning Department on June 4, 2021 (2021 003773ENV).

The types of maintenance and repair activities, and fill removal and BMPs under the proposed RGP are the same types of activities and BMPs conducted in years past under RGP-22, and work under the Port’s Repair and Maintenance Directive 2021-01 (Directive). The proposed Directive documents standards for repair and maintenance work with an eye also to protect Port historic resources, water quality, biological resources, and the ecological health of the Bay. The proposed Directive includes Table 1, *Best Management Practices (BMPs)* and other project specifications that would be required as part of the conditions of Port implemented construction contracts and maintenance projects, as applicable. Most measures have been required previous in regulatory permit conditions and/or environmental mitigation measures to address this objective.

See **Enclosure 1** for CATEX 2021-003773ENV and Port Directive 2021-01.

1.4.1.3 BCDC

The proposed activities are authorized under the Port’s routine repairs and maintenance permit issued by the Bay Conservation and Development Commission (BCDC), and periodically amended to authorize the Port’s planned maintenance activities. The most recent Amendment 19 was issued January 9, 2019.

See **Enclosure 2** for BCDC permit M1977.017.019.

1.4.2 Port General Maintenance Repair Activities

Following describes the proposed maintenance and restoration activities for the Port’s shoreline facilities requested for authorization under the renewed RGP. The proposed maintenance activities include the repair, rehabilitation, restoration or replacement of any previously authorized structure and other deleterious fill. **Table 1** provides the approximate quantities per year and for the total 5 year authorization period requested.

TABLE 1
PROPOSED GENERAL MAINTENANCE REPAIR ACTIVITIES AND VOLUMES, 2023-2027

Activity	Estimated Areas and Volumes
<i>Maintenance, Repair, Restoration of Existing Structures. Repair, Rehabilitation or Replacement of Structures and/or Fill Damaged by Storms, Floods, Fire, etc.</i>	
1. Repair and Stabilization of Existing Banks, including Armored and Unarmored Shorelines, Seawalls, Dikes, and Riprap	up to 500 linear ft per year / 2,500 linear ft total
2. Restoration of Navigation Aids and Regulatory Markers	up to 5 per year (appx. 1 cy/year) / 25 total (appx. 5 cy total)
3. Removal, Repair and Replacement of Piles	up to 1,000 piles per year / 5,000 piles total
4. Repair of Piers, Wharves, Fenders, Dolphins, Whales, Aprons, and Minor Coring of Decks to install Related Structures ¹	up to 100,000 sq ft year / 500,000 sq ft total
5. Repair or Replacement of Fencing and Related Structures	up to 400 linear feet (200 square feet) per year / 2,000 linear feet (1,000 square ft) total
6. Repair of Bulkheads and Breakwaters	300 square ft per year (or 100 linear ft) / 1,500 square ft total (or 500 linear ft)
7. Replacement or Reconfiguration of Existing Docking Facilities (Docks, Piers, Gangways, Cap beams including Under Pier Structures such as Utilities) ¹	up to 150,000 sq ft per year / 750,000 sq ft total
8. Repair or Replacement of Bollards, Cranes, Pier Canopies, and Equipment ¹	up to 50 appendages per year / 250 total
9. Removal of Existing Dilapidated Piles and Associated Structures (Pier Decks, Stringers, Beams, Girders)	up to 54,000 sq ft structure removal (appx 2,000 cy pile fill) per year / 270,000 sq ft structure removal (10,000 cy pile fill) total
10. Scientific Measurement Devices	up to 10 per year / 50 total
11. Survey Activities	up to 3 per year / 15 total

¹These activities pertain to structures that are above, not within, jurisdictional waters. Therefore, only potential unintended construction-related debris would constitute a discharge of fill.

SOURCE: Port of San Francisco, 2023.

The proposed activities will be conducted from land whenever possible; however, the Port cannot conduct much of the proposed maintenance and repair activities focused on in-water structures from land. Therefore, from a practical standpoint, marine-based equipment will be used for the majority of the proposed in-water activities. Land-based and marine-based activities will be conducted using the two basic suites of equipment noted below, with minor variations as needed for specific tasks.

- **Land-Based Equipment:** Landside work will be performed using conventional earthwork equipment such as an excavator, a side-dump truck, a mobile crane, a forklift, a small front-end loader, asphalt equipment, and various small construction tools such as pneumatic tools, welding tools, hammers, saws, and drills.

- **Marine-Based Equipment:** Work from the water will be performed using a suite of construction equipment staged on a material and pile-driving barge operated by trained crew. For any given repair and/or replacement project, the barge may have on board: a crane, a pile driver, a forklift, an excavator, a small front-end loader, and various small construction tools such as pneumatic tools, welding tools, hammers, saws, and drills. In addition, there may be a secondary barge used for delivery and disposal of supplies and collection of marine debris. At all times, there is an additional crew and a small vessel navigating around the construction site cleaning up fallen debris from the water. Closed debris containment booms, floating debris screens, and/or absorbent booms will be positioned beneath and alongside work areas whenever possible.

A general description of activities including construction methods and materials is provided below.

1. **Repair and Stabilization of Existing Banks, Dikes, Riprap:** Repair and stabilization on an estimated 500 linear feet/year (up to 2,500 linear feet total over five years) of existing banks, including armored and unarmored shorelines, seawalls, dikes, and riprap,² provided that:
 - a. The structure or fill is not to be put to uses differing from those specified or contemplated in the original construction. Minor deviations, including those due to changes in materials, techniques, standards, or regulatory requirements, are authorized;
 - b. The repair, rehabilitation or replacement of structures or fills destroyed or damaged by discrete events (such as storms, flood, fire, etc.) is commenced or is under contract to commence within two years of the damaging event (unless this two-year limit is waived by the District Engineer of the Corps);
 - c. No temporary fill material is placed in a manner that will be eroded by normal or expected high flows; and
 - d. Temporary fills are removed in their entirety and the affected area returned to pre-construction elevations (and revegetated, as appropriate).

Banks, seawalls, and other shoreline protection will be repaired using either land-based or marine based equipment as described above. There will be minimum disturbance of seabed or creation of turbulence. Bank stabilization materials will include riprap and concrete.

2. **Restoration of Navigational Aids or Regulatory Markers.** Repair or replacement of up to 5 existing navigation aids or regulatory markers per year (1 cubic yard/year) for a total of 25 navigation aids or regulatory markers over five years (approximately 5 cubic yards). Restoration of existing navigation aids and regulatory markers will be approved by and installed in accordance with the requirements of the U.S. Coast Guard, using marine-based equipment. Floating devices will be composed of materials that will not disintegrate; including concrete, steel, plastics, or closed cell foam encapsulated sun resistant polyethylene.

² Provided that the activity meets the terms and conditions of NWP-3, as listed in Maintenance #1, above.

3. **Removal, Repair and Replacement of Piles.** Repair or replacement of up to 1,000 existing non-creosote-treated piles per year (5,000 piles total over five years). Based on a typical 12" diameter pile, replacement would total approximately 784 square feet (or 726 cubic yard) of pile fill per year or 3,920 square feet (or 3,634 cubic yard) of pile fill over 5 years.³

The majority of existing bearing and fender piles for which the maintenance and repair is proposed are polyvinyl chloride (PVC wrapped, preservative-treated (typically ACZA or similar) Douglas fir or concrete. Wrapped, treated Douglas fir piles can last over thirty years in salt water and are capable of absorbing design ship impact energy without breaking. The Port periodically inspects, repairs, or replaces piles or pile wraps as required. When a limited number of piles require replacement without removal of the associated deck and substructure, in-kind replacement of dilapidated wood piles with piles of the same material is the most feasible repair. Port concrete pile repairs typically include removing areas of spalling concrete (chip hammer or water pressure), replacing deteriorated rebar, and coating the repaired pile area with shotcrete or concrete poured within formwork.

Wherever feasible, such as when a substantial contiguous area of pier deck and associated piles requires replacement, the Port will evaluate the use of alternative materials to treated wrapped wood piles (i.e., composite, steel, or concrete) where appropriate. Depending on the scale of such pile replacement activities, additional agency authorizations may be required.

Maintenance and repair of existing piles is typically performed using marine based equipment as described above. Piles will be driven using a barge-mounted pile driver. Wherever feasible, piles will be driven using a vibratory hammer to minimize hydroacoustic impacts. An impact hammer may be needed to finish pile driving and achieve the final required depth. The impact hammer (3,000 lbs. or less) will be equipped with a 12" thick wooden cushion block and would employ a "soft start" technique.

Materials used in pile replacement and repair will include wood piles (typically 12-inch diameter), concrete piles (typically 18-inch diameter), steel piles (typically 12-inch diameter), pile wrap composed of polyvinyl chloride (PVC), wood pile stubs and cylindrical steel connectors. Pile wrap will be installed by divers.

Piles will be removed by methods that avoid turbidity including using vibratory hammer or by an excavator equipped with a rotating demolition grappler hook, and snapped off at least 2 feet below the mudline, or by a diver using a waterproof hydraulic saw and cut at the mudline.

4. **Repair of Piers and Related Structures.** Repair or replacement of up to 100,000 square feet per year (500,000 square feet total over five years) of existing structures including piers, aprons/decks, wharves, bulkheads, fenders, dolphins, whalers, and connecting pier structures such as joists, stringers, pipelines, pavement, and utilities (including above and under pier electrical, water, sewer, and storm water lines) attached to piers and structures, and minor coring of pier decks to install related structures.⁴ The majority of these structures are not within, but above or adjacent to,

³ Ibid

⁴ Ibid

jurisdictional waters. Pier repair will be conducted using either land-based or marine based equipment as described above.

Under-pier pipelines will be repaired and maintained by a small team of plumbers and/or boat operators in a workboat using manual plumbing tools. Work hours for under-pier work are limited by tide stage (the boat must close enough to the underside of the pier area to reach the pipelines but not dangerously close). Flow to the pipeline will be shut off at the source before the start of work. Materials used for pier maintenance and repair will include energy-absorbing fendering, wood framing and decking, asphalt, reinforcing steel and concrete.

Structural discharges of material such as concrete, sand, rock, etc., into tightly sealed forms or cells where the material will be used as a structural member for standard pile supported structures, such as bridges, transmission line footings, and walkways or for general navigation, such as mooring cells, including the excavation of bottom material from within the form prior to the discharge of concrete, sand, rock, etc., approximately 10 times/year.

5. ***Repair or Replacement of Fencing and Related Structures.*** repair or replacement of up to 400 linear feet (200 square feet) per year or 2,000 linear feet total (1,000 square feet total) of existing fencing along piers and the shoreline.⁵

Fencing repair and maintenance will be performed from the land by laborers and possibly ironworkers. Equipment and materials will include pneumatic and welding tools and fencing materials composed of wood and aluminum.

6. ***Repair of Bulkheads and Breakwaters.*** Repair or replacement of up to 300 square feet per year (or 100 linear feet) or 1,500 square feet total (or 500 linear feet) of existing bulkheads and breakwaters.⁶

Repair/maintenance of bulkheads and breakwaters will be performed using marine based equipment as described above. Materials will include wood framing, reinforcing steel, and concrete.

7. ***Replacement or Reconfiguration of Existing Docking Facilities.*** Replacement or repair/reconfiguration of up to 150,000 square feet per year (750,000 square feet total) of existing docking facilities, including fixed piers, docks, gangways, cap beams including pier structures such as utilities.⁷ Note the majority of these structures are not within, but above, jurisdictional waters.

Docking facilities will be repaired, maintained, and replaced using marine based equipment as described above. The dock modules will be fabricated off site, placed on a barge and towed to the location where they will be installed. The sections will then be assembled, moved into place, and bolted around the piles. Specific installation methods depend on float type, framing system (structural

⁵ Ibid

⁶ Ibid

⁷ Ibid

internal members), location of pile hoops, available equipment, and other factors. Dock installation does not typically create underwater turbidity or noise and hence BMPs are not typically required.

Gangways are typically placed into position and attached with the aid of a barge-mounted crane. The gangways are designed to be perpendicular to the pier or seawall or roughly parallel to the pier or seawall. For the perpendicular connection, a simple drop-link hinge connection to the pier or seawall is proposed. The parallel connection will require an external platform measuring approximately five feet square. In most cases, the abutment connections can be installed from the landside. At pier locations, this platform will be designed as a cantilevered connection to the pier face with sufficient strength to support the gangway for both dead and live loads.

Floating docks and gangways will be made of concrete, aluminum, or lighter-duty timber pre-cast sections. Light-transmitting materials or measures will be used or considered whenever feasible.

8. ***Repair, Replacement or Removal of Bollards, Cranes, Pier Canopies, and Equipment.*** Repair, replacement up to 50 existing bollards, pier canopies, and other appendages (including ladders, fenders, and camels) per year (250 total appendages over five years).⁸ Note these structures are not within, but above and adjacent to jurisdictional waters.
9. ***Removal of Existing Dilapidated Piles and Associated Structures.*** Permanent removal of up to 54,000 square feet per year (approximately 2,000 cubic yards) of dilapidated piles including fender piles, bearing piles and associated structures such as pier decks, stringers, beams, and girders. This equates to an estimated 10,000 cubic yard of pile fill removal and 270,000 square feet total of structure removal over the five-year program,⁹ resulting in an overall net benefit to the in-water environment and navigation of the San Francisco Bay. Pier and pile removal will be accomplished using marine based equipment as described above.

As much asphalt as possible will be removed from the pier deck. However, where there is severe deterioration, it is not safe to remove all asphalt. Pier decks will be removed using a barge-mounted excavator mounted on a derrick barge with a crane.

Piles will be removed by methods that avoid turbidity by either a barge-mounted excavator with a rotating grappler hook or vibrated out using a vibratory hammer. Rigging straps are secured to the piles and the crane applies a large and steady upward force to dislodge the pile. Piles that cannot be pulled, or piles that are not recommended for pulling due to known contaminant levels in the surrounding substrate, will be snapped or cut two feet below the mudline to the extent feasible with an excavator equipped with a rotating grappler hook or by divers using a waterproof hydraulic saw.

Construction debris will be placed onto material barges and moved to a storage yard until a reuse has been determined. Debris will be reused or recycled to the extent feasible; for example, concrete and asphalt can be crushed and reuse on Port property. All material unsuitable for onsite reuse will be trucked to an approved recycling facility or landfill.

⁸ Ibid

⁹ Ibid

Barge mounted excavators will be used to remove debris from the tidal zone and place the debris on a barge with runoff and debris containment along its perimeter. Work will be done during low tides and the machines will carefully pick up debris, and not scrape or grade the shoreline.

Sediment core sampling will be accomplished using various methods (e.g., sonic drilling, impact, and push). Test borings may require all three methods to collect samples: drilling (to advance a casing), impact hammer (split spoon barrel sampler), and push methods (Shelby tubes) to collect samples.

10. *Scientific Measurement Devices.* Temporary installation and use of devices to measure and record scientific data, such as staff gages, tide gages, water recording and biological observation devices, water quality and sediment testing and improvement devices, and similar structures. Upon completion of the use of the device, the measuring device and any other structures or fills associated with that device (e.g., foundations, anchors, buoys, lines, etc.) will be removed to the maximum extent practicable and the site restored to pre-construction elevations.

11. *Survey Activities.* Activities (site investigations, soil/sediment sampling, groundwater sampling/testing that are not permitted through separate authorizations) including core sampling, seismic exploratory operations, plugging of exploratory type bore holes, soil surveys, sampling, and historic resources surveys.

1.4.3 Excluded Activities

The following activities are not proposed in the Port Maintenance Program: maintenance and monitoring performed under project-specific approvals (e.g., wetlands located at Pier 94 and Heron's Head Park); work in areas that are identified by local, state or federal agency as impacted by hazardous waste, subject to voluntary cleanup agreement or regulatory order, or regulated as solid waste disposal site (see **Enclosure 3** for list of Excluded Sites), and emergency activities and procedures.

1.5 Cultural Resources

Section 106 of the NHPA of 1966, as amended (16 U.S.C. § 470 et seq.), requires Federal agencies to consult with the appropriate State Historic Preservation Officer to take into account the effects of their undertakings on historic properties listed in or eligible for listing in the National Register of Historic Places. Section 106 of the Act further requires Federal agencies to consult with the appropriate Tribal Historic Preservation Officer or any Indian tribe to take into account the effects of their undertakings on historic properties, including traditional cultural properties, trust resources, and sacred sites, to which Indian tribes attach historic, religious, and cultural significance.

The Corps Section 106 Cultural Resources Technical Report for the Port of San Francisco Regional General Permit for Shoreline Maintenance Repair, Rehabilitation, and Replacement Activities, dated June 2023, prepared by Environmental Science Associates (ESA) is included as **Enclosure 4**.

No archaeological resources were identified, and previous and current investigations have determined there is a low potential to encounter buried archaeological resources during implementation of activities included under the RGP.

The report identified five historic districts and nine individual buildings and structures that either have been listed, or were determined eligible for listing, on the National Register of Historic Places (National Register). Additionally, the report identified three buildings and structures meeting the recommended age threshold that were previously recommended as individually eligible for listing on the California Register of Historical Resources (California Register) but were not previously evaluated under National Register criteria. For the proposed program, National Register evaluations were completed for the Fisherman's Grotto No. 9; the Pier 50 Office Building; and the Atchison, Topeka & Santa Fe (ATSF) car ferry slip based on a review of previous evaluations, site surveys, and additional analysis. As a result of the updated analysis, the Port recommends that Fisherman's Grotto No. 9 be individually eligible for listing on the National Register, and it is therefore considered a historic property, as defined by the NHPA, for the purposes of the program.

The report concluded that activities included under the RGP would not result in an adverse effect to any historic properties. For this reason, the Port recommends a finding of *No Adverse Effect* to Historic Properties.

1.6 Biological Resources

Upland areas along the Port's shoreline consist of Bay fill dominated by paved surfaces and ruderal vegetation. These areas provide minimal habitat functions, though over-water structures may provide roosting habitat for birds and bats. Since the proposed activities pertain to the Port's waterfront infrastructure, the project area is dominated by aquatic habitat. Aquatic habitat can be further characterized as pelagic, intertidal, or subtidal.

Pelagic habitat lies between the water surface and the Bay floor and is mainly inhabited by planktonic organisms that either float or swim in the water, fish, marine birds, and marine mammals. Intertidal habitats (between high and low tide lines) within the project area include artificial rock (quarried riprap), concrete bulkheads, piles, and mud flats. Intertidal habitats provide diverse and varied locations for marine flora and fauna such as barnacles, chitons, limpets, and mussels.

Subtidal habitats (below the low tide line) within the project area contain both soft sediment (mud and sand) and hard substrate. Soft sediment habitats support a diverse community of benthic organisms including amphipods, polychaetes, isopods and crustaceans. The subtidal hard substrates within the project area consist of artificial surfaces such as submerged concrete breakwalls, bulkheads, piles, riprap, and under-pier structural elements. Such substrates can be found in every San Francisco Bay region and are a dominant feature along the Port's waterfront. These hard substrate areas provide habitat for an assemblage of invertebrates, similar to the hard substrate in the intertidal zone.

An aquatic resources delineation documenting wetlands, water, and surrounding uplands along the Port's 7.5-mile shoreline was conducted in June 2023. The results of that delineation is included as **Enclosure 5**. No maintenance work is proposed within designated wetland habitat.

The following Federal and California Endangered Species Act listed threatened, endangered, and candidate threatened/endangered species may occur in the project area and have potential to be affected by the proposed activities:

- Green sturgeon, Southern Distinct Population Segment (DPS) (*Acipenser medirostris*)
- Steelhead, Central California Coast and Central Valley DPSs (*Oncorhynchus mykiss*)
- Chinook salmon, Sacramento River winter-run and Central Valley spring-run Evolutionarily Significant Units (ESUs) (*O. tshawytscha*)
- Longfin smelt, San Francisco Bay-Delta DPS (*Spirinchus thaleichthys*)

The proposed project would occur within Critical Habitat identified for:

- Green sturgeon, Southern DPS
- Steelhead, Central California Coast and Central Valley DPSs
- Chinook salmon, Sacramento River winter-run and Central Valley spring-run ESUs

The proposed project would also occur within Essential Fish Habitat (EFH) managed under three federal fisheries management plans (FMPs):

- the Pacific Groundfish FMP
- the Coastal Pelagic FMP
- the Pacific Coast Salmon FMP

A detailed description of biological resources in and around the project area is provided in the National Marine Fisheries Service (NMFS) and U.S. Fish and Wildlife Service (USFWS) Biological Assessments prepared for the project prepared by ESA are included as **Enclosures 6 and 7**.

1.6.1 Potential Biological Impacts

Project implementation could result in temporary, construction-related impacts to water quality and/or hydrology. These could result from construction activities above and near the Bay, construction activities within the Bay, and fill (including piles) to be replaced, repaired, and/or permanently removed within the Bay, all of which would be associated with necessary maintenance and repair of the Port's existing facilities and infrastructure. Temporary construction activities could include staging, utility installation, permanent pier removal, and pile work. All of these short-term construction activities have the potential to result in increased turbidity, runoff, spills, or other accidental discharges into the Bay, during construction activities only. However, implementation of the proposed impact avoidance measures and BMPs (see **Table 2** below) is expected to avoid or minimize these potential impacts.

Furthermore, the Port's proposed activities are focused on the repair, rehabilitation, replacement, or permanent removal of deteriorating structures and fill along the 7.5 miles of the Port's Southern Waterfront area. As such, these activities are aimed at reducing potential sources of contaminants (such as creosote from aging wood piles) and removing large debris (including dilapidated piers and the deteriorating piles that supported them) from the Bay. These activities are expected to result in an overall improvement to water quality.

Existing over-water structures will be replaced/repared, with no expansion or minimal expansion in footprint; other deteriorating structures may be removed permanently. Therefore, the Port anticipates a net reduction in the area of over-water structures with project implementation, and thus a net reduction in shading impacts.

The proposed activities may result in the following minor temporary impacts to special status species and habitats:

- Impacts to individual green sturgeon and longfin smelt, primarily through disturbance and habitat avoidance;
- Impacts to individual adult and juvenile Central California Coast and California Central Valley DPS steelhead, primarily through disturbance and habitat avoidance, if pile driving or in-water work occurs during their migration and foraging periods;
- Impacts to migrating and foraging adult and juvenile Chinook Salmon (spring-run and winter-run) if pile driving or in-water work occurs during their migration period;
- Potential temporary impacts to designated critical habitat for adult and juvenile Central California Coast and Central Valley steelhead, Chinook Salmon (spring-run and winter-run), longfin smelt, and green sturgeon, primarily through short-term turbidity and noise-related disturbance;
- Localized and temporary impacts to EFH associated with turbidity and benthic habitat disturbance during pile installation and removal, and temporary exclusion from habitat through avoidance of pile driving noise.

However, implementation of the proposed A&M measures and BMPs is expected to avoid or minimize these potential impacts. Biological Assessments prepared for the project present a full discussion of the project's potential impacts and impact avoidance measures and BMPs (**Enclosures 5 and 6**). **Table 2** provides a summary of impact avoidance measures and BMPs.

1.6.2 Conservation Measures

The Port's expectation is that the proposed activities would result in a net reduction of fill, a net removal of navigational obstructions and overwater structures/shading, and a net overall environmental benefit by removing aged structures, including creosote-treated piles, and preventing dilapidated structures from falling into the Bay. With the implementation of the appropriate A&M measures and construction BMPs no unavoidable permanent impacts are anticipated. The Port does not anticipate the proposed activities will result in a net increase in Bay fill or over-water structures, a discharge of contaminants or other water quality impacts, or hydroacoustic impacts (from pile driving of non-wood piles) that exceed certain regulatory thresholds. Therefore, based on the above, no compensatory mitigation is proposed at this time.

Impact A&M measures and BMPs will be employed consistent with the 2018 Corps of Engineers/National Marine Fisheries Service NLAA Program Criteria, the Port's standard specifications for over-water work, and the practices detailed in the project Biological Assessments for the Port's maintenance program and summarized in Table 2 below.^{10,11}

¹⁰ Environmental Science Associates, ESA. 2015a. Endangered Species and Essential Fish Habitat Biological Assessment – Port of San Francisco Regional General Permit for Shoreline Maintenance Repair, Rehabilitation, and Replacement Activities. Prepared for National Marine Fisheries Service.

¹¹ Environmental Science Associates, ESA. 2015b. Biological Assessment – Port of San Francisco Regional General Permit for Shoreline Maintenance Repair, Rehabilitation, and Replacement Activities. Prepared for U.S Fish and Wildlife Service.

The proposed standards for repair and maintenance work with an eye also to protect Port historic resources, water quality, biological resources, and the ecological health of the Bay. These include **Table 2, Conservation Measures**, and other specifications for construction that would be required as part of the conditions of construction contracts or maintenance projects the Port directly implements, as applicable. Most measures have been required previously in regulatory permit conditions and/or environmental mitigation measures to address this objective.

**TABLE 2
CONSERVATION MEASURES**

<i>Aquatic Conservation Measures</i>	
Noise Impacts from Pile Driving	<p>The A&M measures specific to pile driving activity, below, have been developed in accordance with the majority of the measures outlined in the 2018 Corps/NMFS NLAA program criteria, in order to reduce Project effects on sensitive resources. Specific sound attenuation devices (such as bubble curtains) will not be required because pile type/size and installation methodology will be consistent with the Corps/NMFS NLAA guidance. A&M measures that will reduce project noise effects include the following:</p> <ul style="list-style-type: none"> • Whenever feasible, a vibratory hammer will be used. Vibratory installation may use steel, wood, or concrete piles; any size pile, any number. • Pile driving with impact hammer will only be conducted during the designated work windows from June 15 to November 30. • Impact driving of wood (any size), concrete (≤ 18" diameter), or steel piles (≤ 12" diameter) will be limited to one hammer, 3,000 pounds or smaller, and less than 20 piles per day. • If an impact hammer is utilized, a 12-inch-by-12-inch thick wood cushion block will be used during all impact pile driving operations. • A "soft start" technique to pile driving will be implemented, at the start of each workday or after a break of 30 minutes or more, to give fish and marine mammals an opportunity to vacate the area.
Seasonal Avoidance of Sensitive Species	<p>In-water maintenance work with the potential to result in more than minimal short-term impacts to biological resources, including Project activities that are expected to create turbidity or disturb the seabed, will be conducted within seasonal work windows identified to reduce potential impacts on special-status species (i.e., work will be conducted from June 15 – November 30). Activities proposed within the seasonal work window of June 15 to November 30 are listed below:</p> <ul style="list-style-type: none"> • Bank stabilization • Bulkheads and breakwaters • Pile replacement (concrete or steel) <p>In-water or above-water work, which is minimal in nature and has low potential to result in adverse effects to biological resources, is proposed for year-round authorization. Activities proposed for year-round authorization are listed below:</p> <ul style="list-style-type: none"> • Navigational aids and markers • Pile replacement using vibratory (wood) • Piers and associated over-water structures

	<ul style="list-style-type: none"> • Fencing • Docking facilities • Bollards, cranes, pier canopies, and other small appendages • Permanent removal of dilapidated piles and associated structures <p>If any work is proposed during the Pacific herring spawning or hatching season (December 1 – February 28), a CDFW approved herring monitor will monitor the project site daily, and at any time when in-water maintenance activity is taking place.</p> <p>In the event that the on-site monitor detects herring spawning at, or within 200 meters of in-water maintenance activity, the in-water maintenance activity will be shut down for a minimum of 14 days, or until the monitor determines that the hatch has been completed and larval herring have left the site. The in-water or other maintenance activity may resume thereafter.</p>
General Conservation Measures	
Sediment Removal/Substrate Disturbance and Water Quality	<p>Sediment removal quantities will be the minimum necessary to achieve the Project purpose and will limit sedimentation of habitat for listed aquatic species. No dredging is proposed; sediment removal would be performed only in conjunction with and as necessary for repairs and maintenance.</p> <p>When practicable and feasible, debris removal in the tidal zone will be done during low tides and equipment will pick up debris, not excavate, scrape, or grade the shoreline.</p> <p>Pile removal will be conducted in accordance with the Port’s standard specifications, the San Francisco Bay Subtidal Goals Project Report, and the majority of the 2018 Corps/NMFS NLAA Program criteria, e.g.,</p> <ul style="list-style-type: none"> • Piles will be removed by direct pull or vibratory hammer, where possible; • Piles that cannot be pulled will be cut two feet below the mudline, to the extent feasible; • Piles will be removed at the lowest practicable tide condition; and • No jetting will be performed. <p>Disturbance of sediment will be minimized to the extent feasible during activities such as removal of piles and debris or minor excavation in conjunction with maintenance/repair of existing structures.</p> <ul style="list-style-type: none"> • Silt curtains are not generally warranted nor are they routinely used during maintenance activities because the existing procedures and small scale of the activities performed under the authorization for Portwide maintenance do not generate significant turbidity. • Absorbent pads will be available for use in the event that petroleum sheen develops during sediment-disturbing activities. • Existing sediment quality data available for areas planned for pile removal or sediment excavation will be reviewed prior to conducting work, to assess risks of mobilizing or exposing contaminated sediments. • Existing piles in areas with known elevated contaminant levels will be cut instead of pulled; cut piles will be capped as warranted.

<p>Debris, Contaminants, Hazardous Materials, and Spill Prevention and Response</p>	<p>Standard BMPs would be applied by the party undertaking the applicable maintenance work to protect species and their habitat(s) from pollution due to fuels, oils, lubricants, and other harmful materials.</p> <ul style="list-style-type: none"> • Debris containment booms, floating debris screens, and/or absorbent booms will be positioned beneath and alongside work areas when necessary. • Construction barges used to perform the work will be moored in a position to capture and contain the debris generated during any sub-structure or in-water work. • Care will be taken to minimize debris falling into the water. In the event that debris does reach the bay, personnel in workboats will immediately retrieve the debris for proper handling and disposal. • For small-scale over-water repairs and maintenance, tarps, tubs and/or vacuums will be used as appropriate to catch sawdust, debris, and drips. • All construction material, wastes, debris, sediment, rubbish, trash, fencing, etc., will be removed from the site on a regular basis during work and at project completion. Debris will be transported to an authorized disposal area. <p>Fueling and maintenance of vehicles and equipment will be conducted offsite, in designated areas away from the water (e.g., at the Port’s Pier 50 Maintenance Facility) with the exception of barge-mounted and fixed cranes. Fueling locations will be inspected after fueling to document that no spills have occurred. Any spills will be cleaned up immediately and reported in accordance with existing Port standard operating procedures for spill reporting. All Port vehicles carry spill response supplies.</p> <p>Fueling cranes on barges or fixed to pier decks over water will be performed using proper fuel transfer procedures as specified by federal regulations for fuel transfer. Land-based equipment will be fueled by mobile trucks with secondary containment or at the Port’s maintenance facility.</p> <p>Well-maintained equipment will be used to perform construction work, and, except in the case of failure or breakdown, equipment maintenance will be performed off-site. Repair crews will check heavy equipment daily for leaks, and if leaks are discovered, use of the equipment will be suspended until fixed. If leaks or spills are encountered, the source of the leak will be identified, material will be cleaned up, and the cleaning materials will be collected and properly disposed. All hazardous material will be stored upland in storage trailers and/or shipping containers designed to provide adequate containment. Short-term laydown of hazardous materials for immediate use will be permitted with the same anti-spill precautions. Petroleum products, chemicals, fresh cement, saw-water, or concrete or water contaminated by the aforementioned shall not be allowed to enter the water.</p>
<p>Stormwater</p>	<p>Minimal ground disturbance is anticipated since the Proposed Project activities focus on maintenance and repair of existing hard-surfaced structures. Where ground disturbance is necessary, maintenance crews will reduce the footprint of disturbance to the minimum necessary to complete the project.</p>

	<p>To further minimize stormwater runoff, the following measures will be implemented:</p> <ul style="list-style-type: none"> • Maintenance material that could wash or blow away will be covered every night and during any rainfall event (if applicable). • Maintenance materials will be stored in an area that does not freely drain to the Bay, free from standing water and wet soil, and protected from rain. If necessary, materials will be stored on skids or support timbers to keep them off the ground. • Adequate erosion control supplies (sandbags, wattles, shovels, etc.) shall be kept on site and during all maintenance activities to ensure materials are kept out of the Bay.
<p>Materials and Treated Wood Selection</p>	<p>To help minimize impacts to water and sediment quality and habitat, the following measures will be implemented:</p> <ul style="list-style-type: none"> • No replacement pilings or other wood structures that have been treated with creosote will be used. • Treated wood products will be visually inspected upon arrival at the work site. Materials with visible residues or bleeding will be rejected. Wood products treated with an ammoniacal preservative (e.g., AZCA) will be rejected if there is a noticeable odor. • Any chemically treated wood material to be used (e.g., for pilings/decking/stringers) must be covered or wrapped with an impact resistant biologically inert substance. • Cleaning and maintenance activities that can remove particles of treated wood (such as power washing, sanding, and aggressive scrubbing) will be minimized. • The Port will consider feasible alternatives to treated-wood piles for projects involving more than 100 piles or where significant contiguous areas of pile-supported structures is also being replaced. • Cutting stations will be equipped with large tarps to capture debris and will be located well away from the water to minimize wind transport of sawdust. • If preservative treatments, water repellents or other coatings are applied at the work site (e.g., on cuts and boreholes), the treatment will be applied at the cutting station and allowed to dry or cure before the structure is moved to the over-water area. • If cutting or boring of treated wood or touch-up preservative applications must be performed over water, tarps, plastic tubs, or similar devices will be used to catch sawdust, debris, and drips. Preservatives will not be applied in the rain, and any excess preservative will be wiped off. • Any debris that falls in the water will be promptly removed and handled as described under the A&M measures for “Debris” and “Stormwater” above.
<p>Shading</p>	<p>The Port anticipates a net reduction in the area of over-water structures, with Project implementation. Existing over-water structures will be replaced/repared, with no expansion or minimal expansion in footprint; other deteriorating structures may be removed permanently. Shading from overwater structures can cause indirect effects to eelgrass beds. However, temporary increases in shading will be</p>

	offset by the long-term net reduction in overwater structures. Therefore, no BMPs or A&M measures for shading are proposed.
Invasive Species	The introduction of non-native species into the Bay-Delta ecosystems can result in drastic, large-scale changes to the aquatic community. The proposed maintenance and repair program will allow existing uses to continue but will not enable new navigation that poses potential for introduction of invasive species.
Fill Placement	The Port anticipates a net removal of fill with Project implementation and therefore limited impact to habitat for listed aquatic species. In addition, fill volumes will be the minimum necessary to achieve the Project purpose.
<i>Historical and Cultural Conservation Measures</i>	
Cultural Resources	<p>Where the activity may affect the integrity of Port historic buildings and facilities, a Port Planner with expertise in historic resource preservation will review the proposed work to ensure compliance with Secretary of Interior Standards of Historic Rehabilitation.</p> <p>If Port maintenance work results in an archeological discovery, retain a qualified archeological professional to evaluate the significance of the find prior to resuming any activities that could impact the resource. If it is determined that the unanticipated discovery is a resource that is potentially eligible for listing on the National Register, and the site cannot be avoided, Port staff shall provide a research design and treatment plan, prepared by a qualified archaeologist, outlining recovery of the resource, analysis, and reporting of the discovery consistent with accepted archeological best practices in order to avoid adverse effects on buried or submerged historical resources.</p>

SOURCE: Port of San Francisco Regional Shoreline Maintenance, Repair, and Removal Project Biological Assessments, June 2023

1.7 Conclusion

As discussed above, the activities proposed for inclusion in the requested RGP have been selected because they are fairly similar in nature; they are expected to be conducted on a recurring; they will affect existing currently-serviceable structures and include no “new” work or structures; they will generally maintain the existing character, capacity, and use of existing currently-serviceable structures; they are either exempt or have existing coverage under the CEQA; and they are expected to result in no more than minimal effects on waters of the U.S., both individually and cumulatively.

Conservation measures will be employed consistent with the 2018 Corps of Engineers/National Marine Fisheries Service NLAA Program Criteria, the Port’s standard specifications for over-water work, and previous Biological Assessments for the Port’s maintenance program (see **Enclosures 4 and 5**).^{12,13} USACE and NMFS have determined that similar projects conducted according to these procedures are not likely to adversely affect (NLAA) ESA-listed species and critical habitat.

¹² Environmental Science Associates, ESA. 2015a. *Op. cit.*

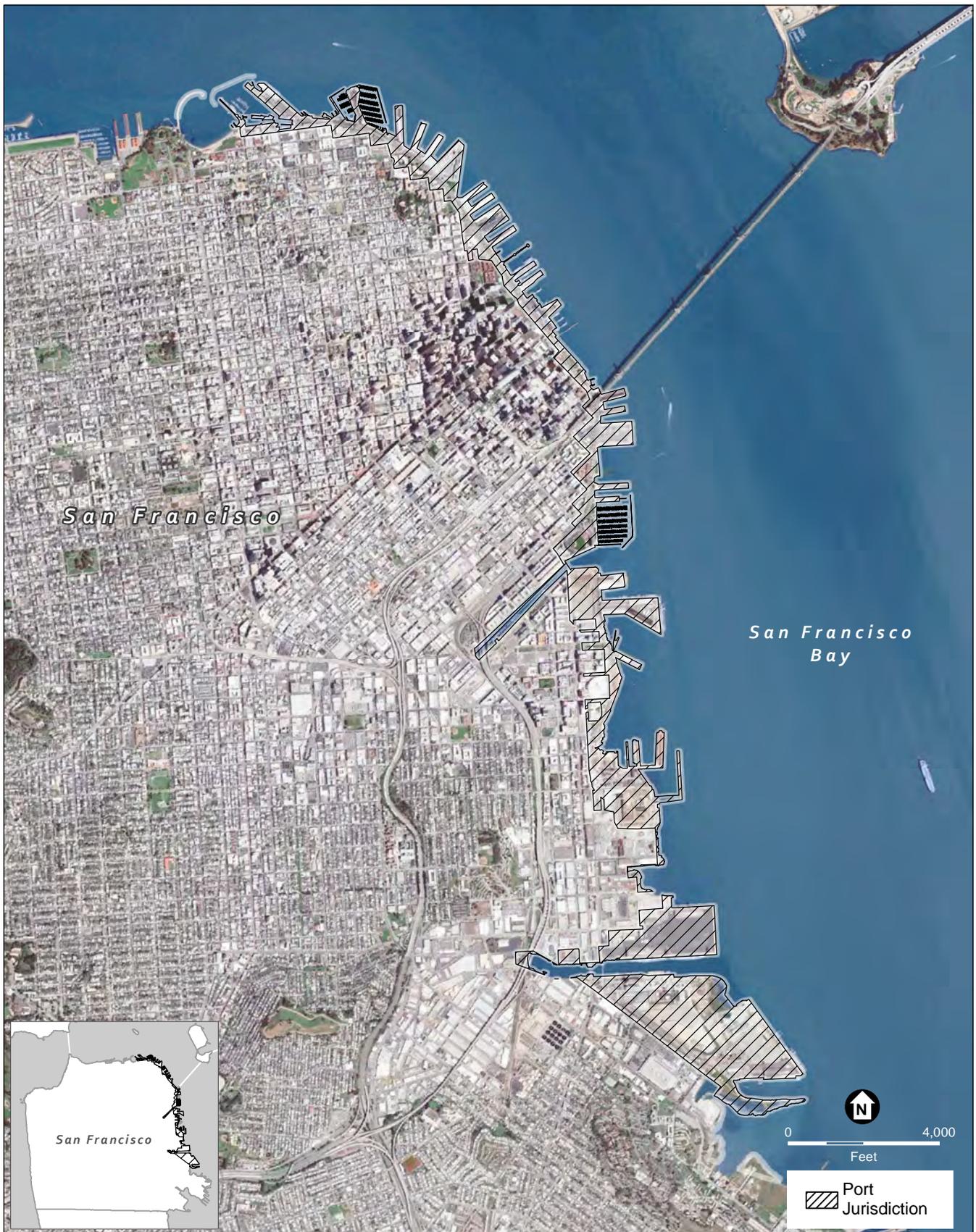
¹³ Environmental Science Associates, ESA. 2015b. *Op. cit.*

The Port's expectation is that the proposed activities would result in a net reduction of fill, a net removal of navigational obstructions and overwater structures/shading, and a net overall environmental benefit by removing aged structures, including creosote-treated piles, and preventing dilapidated structures from falling into the Bay. As there will be no net loss of wetlands or waters of the U.S. from the proposed work, and minimal or no disturbance to terrestrial or aquatic habitat, the Port believes no mitigation is warranted.

Considering the implementation of conservation measures, as well as the benefits to water quality associated with creosote pile and other debris removal, the Port understands that the direct and indirect impacts of the proposed work on listed species, critical habitat and EFH would be considered insignificant.

SECTION 2

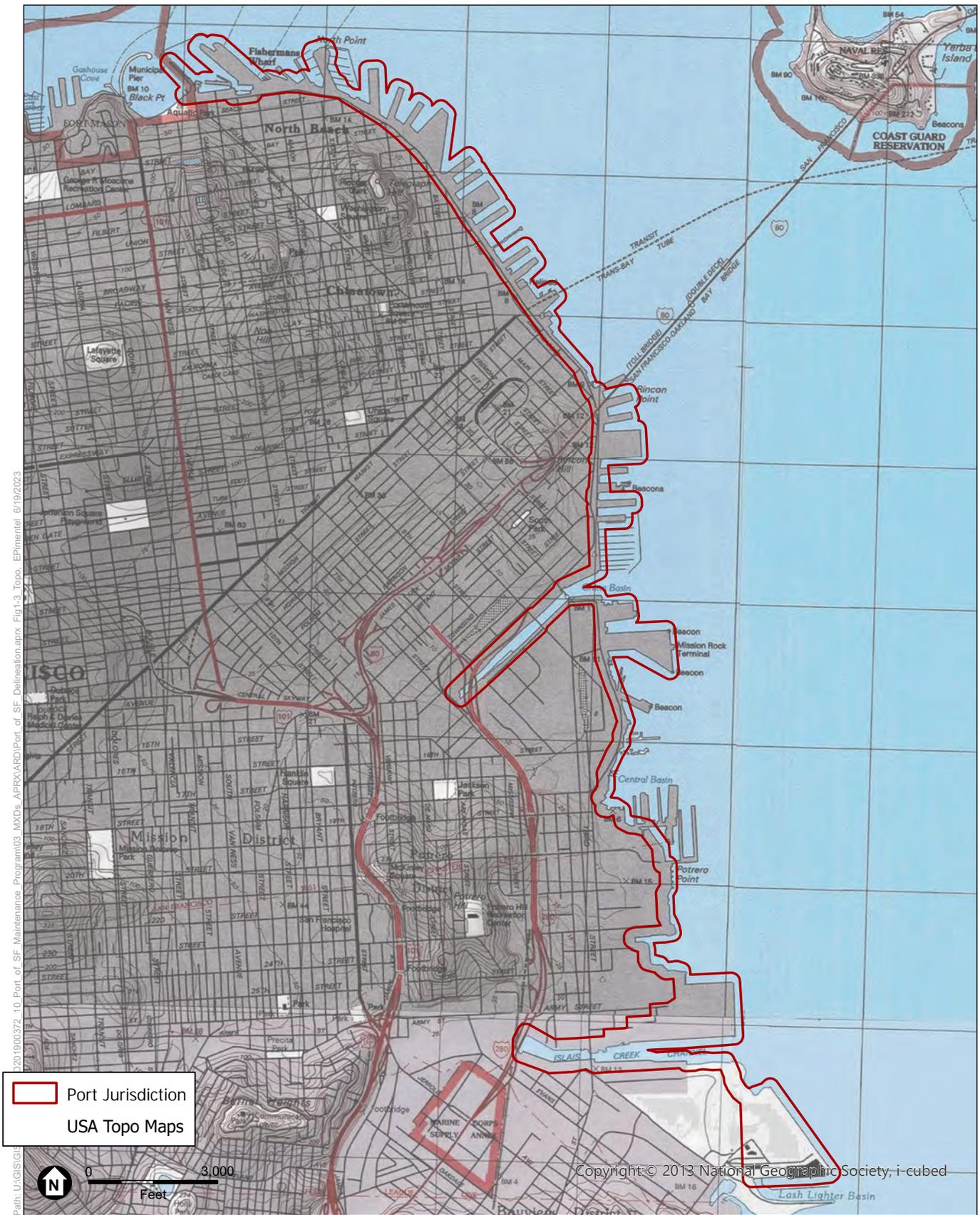
Figures



SOURCE: Google Earth, 2023; Port of San Francisco, 2023; ESA, 2023

Port of SF RGP

Figure 1
Project Location and Vicinity Map



SOURCE: USGS 7.5' Topo Quads (Hunters Point, Oakland West, San Francisco North, San Francisco South); 2018; ESA, 2023

Port of San Francisco Regional General Permit

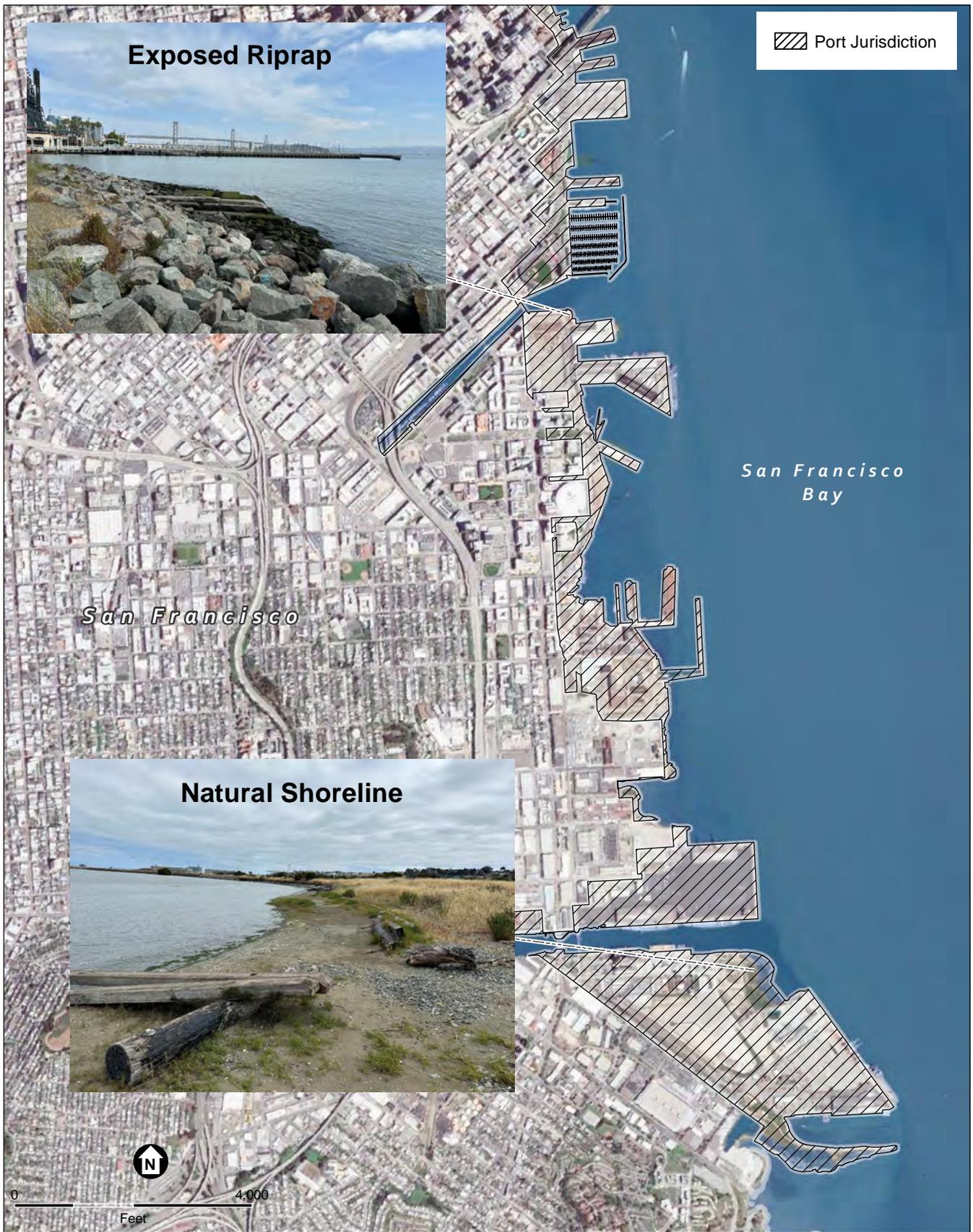
Figure 2
Project Location and Quadrangle Map



SOURCE: Google, 2023; ESA, 2023

Port of SF RGP

Figure 3a
Shoreline Types



SOURCE: Google, 2023; SF Port, 2023

Port of SF RGP

Figure 3b
Shoreline Types