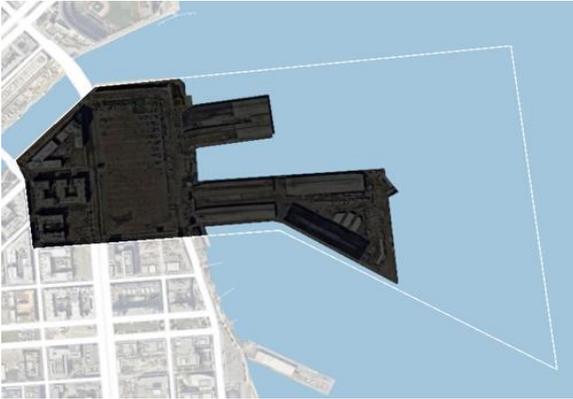


Mission Rock

Subarea 3-3



Subarea Description



Subarea 3-3: Mission Rock

Mission Rock (Subarea 3-3) covers the area south of the Mission Creek inlet and includes China Basin Park, Piers 48 and 50, and Seawall Lot 337, much of which is planned for redevelopment under the Port’s Mission Rock and Pier 48 project. This project will incorporate sea level rise resilience and adaptation features. It is designed to provide new affordable housing, open space for public use, new living-wage jobs, and renovation of Pier 48.

Historic Pier 48 is located south of the San Francisco Giants’ ballpark adjacent to the mouth of Mission Creek and part of the Embarcadero Historic District. It is leased by several companies and serves a variety of maritime, commercial, environmental, and emergency response uses.

Tenants of Pier 48 include Giants Enterprises, which leases Sheds A and C and the outdoor space between them to rent out as an event, entertainment, and conference space. In the event of an emergency or disaster, Pier 48 could provide a staging area for

people waiting to evacuate from the city. The pier is generally in good condition, but the apron needs rehabilitation.

Pier 50 is a large pier with large vessel berth facility that provides maritime, industrial, commercial, and emergency response services. A portion of Pier is constructed on artificial fill over former baylands, and the remainder is overwater on piles. The Maritime Administration Ready Reserve (MARAD) provides a critical fleet of roll-on/roll-off ships, vessels designated to carry wheeled cargo such as cars, trucks, semi-trailer trucks, trailers, and railroad cars. Roll-on/roll-off ships have ramps that enable vehicles to drive directly onboard. In an emergency, they can be mobilized and at sea within 96 hours, provide auxiliary power, and serve as emergency medical facilities.

Westar Marine Services is headquartered at Pier 50 and provides a variety of marine services, including marine construction support, ship assist, barge and tanker escort, storage and delivery to vessels anchored in San Francisco Bay, ship staff water taxi service, offshore towing, and specialty barge services. It also provides tugboat services, warehousing and storage, and hazardous waste storage and transportation out of Pier 48.

Additional commercial tenants at Pier 50 include private transportation companies. The southern edge of the pier provides transient and long-term lay berths, which are used for idle vessels. The strong bay tides naturally maintain deep-water at the east berth of Pier 50 making this pier especially valuable to the Port for potential cruise berths with access to shoreside power consistent with regulatory advancements of the California Air Resources Board.

Pier 50 also houses the Port’s primary maintenance facilities and personnel, including more than 100 skilled craftspeople responsible for the preservation and improvement of the Port’s fishing harbors, ferry landings, public parks, cargo terminals, and piers. Atwater Tavern is a popular waterfront restaurant with outdoor dining and bay views on at Pier 50.

Both the maritime and emergency response services provided at Pier 50 are important resources for the Port and City of San Francisco including the large vessel berth, and tugboat facilities that serve as disaster response operations sites. Access to vessels from the pier would be moderately impacted by temporary flooding and highly impacted by permanent flooding, which could potentially eliminate the ability to operate vessels from Pier 50. Port maintenance shops and personnel housed at the pier would be difficult, but not impossible, to relocate.

Pier 50 ½, located south of Pier 50, consists of small public access yacht clubs that include private guest docks for overnight mooring. Current tenants include Mariposa Hunters Point Yacht Club and Bay View Boat Club. Marinas and guest docks are

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generally able to respond to a range of water levels and may be able to be adapted to address higher water levels. However, land-based auxiliary facilities and access to the yacht clubs could be limited by temporary and permanent flooding.

China Basin Park is a public park located at the mouth of Mission Creek, across the channel from the San Francisco Giants' ballpark. It includes picnic areas and a small baseball diamond.

Since 2017, the Port has connected with tens of thousands of community members through the Waterfront Resilience Program. Public feedback collected about Mission Rock underscores the importance of protecting bird and wildlife habitat, promoting tourism, staying connected to the rest of the city with transportation options, and keeping utilities up and running.

Further feedback highlights additional community priorities, including opportunities to restore bird habitats and strengthen infrastructure and homes. Community feedback related to this subarea is included in the Community-Identified section as part of the Review of Landmarks, Assets, and Services listed below and incorporated in the overall POOCC analysis.

Landmarks, Assets, and Services

Land Use

The subarea is zoned primarily as PDR (Production, Distribution, and Repair), open space, residential, and vacant. This subarea includes Mission Rock Mixed Use (Pier 48 and Seawall Lot 337 - North), Industrial District (Pier 50), Mission Bay Redevelopment Plans (remainder).

Community-Identified



- Mission Rock Redevelopment Project (Pier 48)
- Muni T-Line (transit connections)
- Pier 50
- Kaiser Permanente Mission Bay
- China Basin Park
- Mariposa Hunters Point Boat club

Historic and Cultural



- Embarcadero Historic District
- Pier 48 and Pier 48 Shed

Maritime



- Pier 48 (entertainment venue, vessel berths)
- Chase Center Ferry Terminal (temporary)
- Large Vessel Berths (Pier 50)
- Maintenance facilities (Pier 50)
- Pier Administrative Building (Pier 50.5)
- Seawall Lot 337 North (parking)
- Promenade (planned, Seawall Lot 337)
- Westar Marine Services (Pier 50)

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Disaster Response and Recovery



- Assembly Area (Seawall Lot 337 North, parking lot)
- Large Vessel Berth (Pier 50)
- Oil spill response equipment storage (Pier 50)
- Alternate Emergency Operations Center (Pier 50)
- Tugboat Facility (Pier 48)
- Tugboat Facility (Pier 50)
- Emergency Fire Water System suction connections (3)

Utilities



Water

- Buried water supply pipes

Wastewater

- Buried sewer pipes

Power

- Overhead and buried electric power infrastructure

Communications

- Several telecommunication cell sites (e.g. cells on top of buildings or small cell towers on streetlights) are likely distributed throughout the subarea, but specific locations are unknown

Natural Gas

- Buried natural gas supply line infrastructure

Transportation



- Muni bus stops (2)
- Muni T-Line
- 3rd Street (major arterial)

Open Space and Ecology



Open Space

- China Basin Park
- Promenade (planned, at Seawall Lot 337)
- Bay Trail / Blue Greenway
- Pier 50.5 (public access yacht clubs, overnight guest docks)

Ecology

- San Francisco Bay
- Bay Habitat
- Mission Creek

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Problems, Opportunities, Objectives, Constraints, and Considerations

Problems

- Bay water flooding from rising sea levels could cause extensive damage to public infrastructure and private property, industrial processes and disaster response, and adverse changes to the social and economic character of the subarea.
- This subarea is important for its natural deep-water berth and maritime functions, including regional harbor services, large ready-reserve vessel berths, and Port maintenance operations and water recreation with potential impacts on Port enterprise functions and regional harbor services, in the event of a major seismic or flood event.
- The piers provide important maritime, industrial, and disaster response services.
- The subarea is entirely located on Bay fill, making it vulnerable to seismic activity and liquefaction.

Opportunities

- Enhancement and adaptation of former and current industrial spaces for city and community uses, including potential disaster response abilities.
- Increased access to the waterfront and improved public views and experience connecting to the Bay.
- Improved the natural environment by using nature-based features and improve soil quality, where possible.
- Opportunity to rehabilitate and preserve historic and iconic assets for new commercial and public serving uses.

Objectives

- Assess and protect area and assets from flooding and seismic risks.
- Reduce the risk to disaster response functionality and public safety (including loss of life) and public health from Bay storms and rising water levels.
- Reduce the risk to critical public infrastructure and private property damage from strong seismic activity and rising bay water levels.
- Retain and improve public access when developing project features.
- Remove environmental risks and improve the natural environment (water quality/soil) and ecological value.
- Support a sustainable economy that benefits residents, workers, and industries.
- Preserve maritime deep draft berth assets and maritime functions including harbor services to the region and maintenance functions for Port marine infrastructure and public areas. Retain maritime tenants (i.e., MURAD) of regional and national importance.
- Preserve industrial, commercial, and maritime uses to maintain Port revenue used to maintain public assets for maritime use and public enjoyment of the shoreline.

Constraints

- Must not increase the unmitigated risk of flooding from any source (bay, creek, or surface waters) outside of the subarea.
- Must protect maritime and disaster response functionality of the piers.
- The project must comply with applicable executive orders (EOs), including EO 11514 (Environmental Quality), EO 11593 (Protection of Cultural Environment), EO 11988 (Floodplain Management), EO 11990 (Protection of Wetlands), EO 12898 (Environmental Justice), EO 13007 (Indian Sacred Sites), EO 13045 (Environmental Health & Safety)

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- Must not cause an increase in response time for emergency responders, nor cause an increase in flood risk to critical facilities.
- Must comply with all applicable federal, state, and local laws and policies.

Risks to Children), EO 13122 (Invasive Species), EO 13783 (Promoting Energy Independence and Economic Growth), EO 13807 (Establishing Discipline and Accountability in the Environmental Review and Permitting Process) and EO 13834 (Efficient Federal Operations).

Considerations:

- **Tenants:** The Port leases land to tenants including private companies, City agencies, and the U.S. military. Coordination with all tenants will be important. While the Port owns these lands, many are operated by tenants that invest private capital for infrastructure improvements to the facilities. Management decisions related to addressing the consequences of flooding and planning for future sea level rise adaptation could complicate lease terms and will require additional coordination with tenants.
- **Flooding or seismic events:** These events could potentially impact maritime and industrial uses that generate Port revenues used for capital repair and maintenance of Port assets and services, including piers, historic buildings and districts, shoreline flood and seismic risk reduction, open space, public assets, parks, maritime berths and other maritime infrastructure, the Embarcadero Promenade and other utilities and infrastructure.
- **Stakeholder engagement:** Ongoing public outreach by the Port and additional efforts has generated many location specific comments from the community. Community Feedback highlights protecting bird and wildlife habitat as well as promoting tourism and staying connected to the rest of the city with transportation options. Further feedback includes opportunities to strengthen infrastructure and homes.
- **USACE Environmental Operating Principles:** Incorporate as part of the planning process.

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Seismic Summary

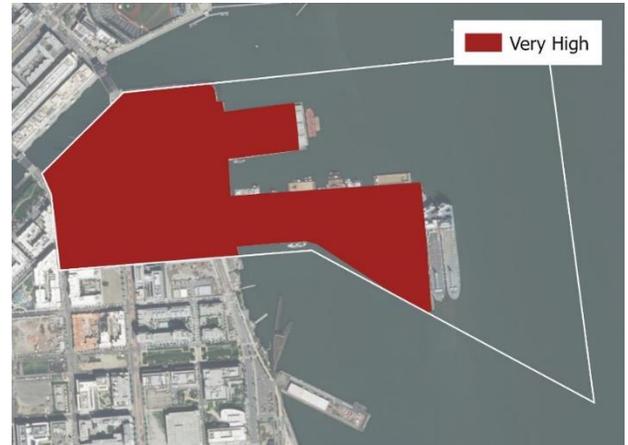
The seismic hazard and vulnerability within Mission Rock (Subarea 3-3) is currently being evaluated through the Initial Southern Waterfront Seismic Study, therefore comprehensive accounting of liquefaction and lateral spreading hazards cannot currently be provided.

From a regional perspective, USGS provides a high level rating of seismic hazard in Mission Rock (Subarea 3-3) as an VIII on the Modified Mercalli intensity (MMI) scale. The intensity scale consists of a series of certain key responses such as people awakening, movement of furniture, damage to chimneys, and finally – total destruction – on a scale of I (not felt) to X (extreme).

An MMI of VIII (severe) could cause slight damage in specially designed structures, considerable damage in ordinary substantial buildings including partial building collapse, and major damage in poorly built structures. Fall of chimneys, factory stacks, columns, monuments, and walls are likely, and heavy furniture may be overturned.

Subarea 3-3 includes areas with Very High susceptibility to liquefaction. The scale considers historical liquefaction occurrences, geotechnical analyses of limited borehole data, and the estimated depth to the shallow groundwater table. The susceptibility ratings are based on existing conditions and do not consider potential increases to the groundwater table that may occur with sea level rise and climate change

Our understanding of seismic hazard and vulnerability in this subarea will continue to be refined with the completion of the Initial Southern Waterfront Seismic Study and used to develop appropriate risk mitigation measures as part of the Waterfront Resilience Program.



Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community