

San Francisco Bay Conservation and Development Commission

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September 2, 2016

Application Summary

(For Commission consideration on September 15, 2016)

Number: BCDC Permit Application No. 2016.005.00
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Staff Assigned: Erik Buehmann (415/352-3645 erik.buehmann@bcdc.ca.gov)

Summary

Applicants: Treasure Island Development Authority (“TIDA”); Treasure Island Community Development, LLC (“TICD”); and Treasure Island Series 1, LLC (“TI Series 1”)

Location: Treasure Island and a 94-acre portion of Yerba Buena Island, in the City and County of San Francisco.



Project: The proposed Treasure Island/Yerba Buena Island development project (“TI/YBI project”) involves converting 367 acres at Treasure Island and 94 acres at Yerba Buena Island from a former military base, currently containing residential and temporary commercial uses, to a mixed-use residential, commercial, and public recreation area development. Specifically, the TI/YBI project would include approximately 8,000 residential units for approximately 18,640 residents, approximately 450,000 square feet of commercial and retail space accommodating approximately 2,920 employees, 500 hotel rooms, a ferry terminal with a capacity for 399 passengers per trip, other transportation facilities for vehicles, bicycles and pedestrians, and recreation and open space facilities within an approximately 461-acre area at both islands. The TI/YBI project would be implemented in four phases within 15 to 20 years. Within the Commission’s jurisdiction, the project would involve the development of transportation infrastructure, a ferry terminal with associated breakwaters, an improved stormwater outfall system, and public access areas and amenities at both Treasure Island and Yerba Buena Island (Exhibit C).

Issues Raised: The Commission staff believes that BCDC Permit Application No. 2016.005.00 raises three primary issues: (1) whether the project is consistent with the Bay Plan waterfront park priority use designation for Yerba Buena Island; (2) whether the fill for the project is consistent with the McAteer-Petris Act and the Bay Plan policies on fill, including policies on natural resources, safety of fills, climate change, mitigation, and transportation; and (3) whether the public access improvements are consistent with the McAteer-Petris Act and the Bay policies related to public access, including policies on sea level rise.

Background

The permit applicants are commonly known as: TIDA, a public agency created by the State of California and the City and County of San Francisco, which is responsible for the development and operation of Treasure Island and Yerba Buena Island; TICD, a private entity competitively selected as the master developer for the islands; and TI Series 1, an assignee of TICD, which is responsible for the Phase 1 development of the proposed project, including portions of the project in the Commission's jurisdiction.

Yerba Buena Island is a natural island, approximately 150 acres in size, which, since the 1840s, has been owned by private parties and the U.S. Armed Forces. Yerba Buena Island's shoreline is comprised of steep rocky cliffs and vegetated hillsides. A public beach known as Clipper Cove Beach is located adjacent to Clipper Cove at the northeast side of Yerba Buena Island. Yerba Buena Island connects to Treasure Island northwest of the San Francisco Oakland Bay Bridge (or "I-80"). The proposed 94-acre project area at Yerba Buena Island is located north of the I-80 expressway and the Bay Bridge tunnel. No work is proposed as a part of this permit application outside of this area, which is owned by the U.S. Coast Guard. Existing facilities at Yerba Buena Island include residences, historic buildings, and open space.

Treasure Island is an artificial landform constructed with dredged material by the U.S. Army Corps of Engineers from 1936 to 1939. It is a relatively flat island, with lower elevations around the northern shoreline and slightly higher elevations at the southwestern area where an isthmus, known as the "Causeway," connects Treasure Island to Yerba Buena Island. Approximately 110 acres of Treasure Island is currently used for residential, approximately 70 acres is used for institutional, retail, office, and industrial, and approximately 90 acres for open space. Public access to the shoreline is limited, with the majority of open space located outside of the shoreline band. The public access along the shoreline exists along two paths on the west and north perimeters of Treasure Island. A 100-berth marina is located at Clipper Cove in the southeastern section of the island. In 1939-1940, the island was used for the Golden Gate International Exposition, and was planned for use as the future San Francisco Airport, which

developed elsewhere. During World War II, the federal government acquired Treasure Island by eminent domain. The U.S. Navy operated a station at Treasure Island and Yerba Buena Island (a U.S. military reservation since 1850) from 1941 until 1997, when it was closed as part of the federal Base Realignment and Closure Program.

The federal government established a process to transfer the project area to a local reuse authority. Under the Treasure Island Conversion Act (A.B. 669, Ch. 898, Stat. 1997), the state legislature designated TIDA as the local reuse authority responsible for redeveloping specific parts of the former naval station. In 2011, TIDA and the Navy entered into an Economic Development Conveyance Memorandum of Agreement governing the transfer of the property from the Navy to TIDA in phases (currently anticipated through 2021) as the Navy continues to remediate the property. In 2015, the Navy conveyed a majority of Treasure Island and the 94-acre proposed project area at Yerba Buena Island to TIDA. The conveyance excludes an area of Yerba Buena Island located south of the I-80 expressway that is owned and operated by the U.S. Coast Guard and an approximately 37-acre parcel at the Island center owned and operated by the U.S. Department of Labor for its Job Corps educational and training program. Neither of those sites are located in the proposed TI/YBI project boundaries and are not a subject of this permit application.

On November 20, 2014 and April 2, 2015, the applicants provided the Commission with pre-application briefings on the proposed TI/YBI project. The proposed project involves fill in the Bay for activities including a ferry terminal and associated breakwaters and improved outfall systems along the perimeter of Treasure Island and Yerba Buena Island. Proposed work within the Commission's 100-foot shoreline band jurisdiction, and within the area on Yerba Buena Island designated in the Bay Plan for Waterfront Park/Beach Priority Use, includes the development of shoreline public access areas along the perimeter of Treasure Island and a portion of Yerba Buena Island, infrastructure and shoreline protection improvements, and commercial development (Exhibits A and C).

Project Description

The applicants, TIDA, TICD, and TI Series 1, describe the proposed project (Exhibit C) as follows:

I. Treasure Island

A. Waterfront Plaza Area

1. In the Bay

- a. Construct, use, and maintain in-kind a ferry terminal consisting of:
 - (1) An approximately 5,175-square-foot float supported by six 42-inches-in-diameter steel piles;
 - (2) An approximately 1,170-square-foot gangway;
 - (3) An approximately 2,400-square-foot section of a pier supported by two approximately 48- to 60-inches-in-diameter steel piles and sixteen approximately 24-inches-in-diameter concrete piles;
 - (4) Two breakwaters, one measuring approximately 820 feet long, supported by 60, approximately 24-inches-in-diameter concrete batter piles located north of the ferry terminal, and another measuring approximately 380 feet long, supported by 30, approximately 24-inches-in-diameter batter piles located south of the terminal, totaling approximately 1,550 square feet of fill, and two approximately 2,400-square-foot revetment composed of rock (4,800 square feet of fill, total) connecting both breakwaters to the shoreline; and
 - (5) Install, use, and maintain in-kind utilities associated with the operation of a ferry terminal.
- b. Remove a three-foot-long section of an approximately 40-foot-long outfall.

2. In the 100-Foot Shoreline Band

- a. Demolish and remove existing structures and facilities to accommodate the activities and development authorized in Waterfront Plaza Area;
- b. Install, use, and maintain in-kind riprap within an approximately 17,000-square-foot area to raise the perimeter protection system to approximately 12.6 feet NAVD88 and strengthen soil using densification and/or deep soil mixing techniques;
- c. Install, use, and maintain in-kind an approximately 800-square-foot portion of a ferry terminal pier;
- d. Construct, use, and maintain in-kind an approximately 7,600-square-foot ferry shelter, including ticket kiosks;
- e. Construct, use, and maintain in-kind an approximately 1,500-square-foot public restroom facility;

- f. Construct, use, and maintain in-kind an approximately 74,052-square-foot public access area, including 20- to 25-foot-wide trails extending within an approximately 804-linear-foot area, landscaping, lighting, stormwater treatment areas, approximately 182 bicycle parking locations, a minimum of four concrete seating areas, and art; and
- g. Install, use, and maintain in-kind utilities, including water, sanitary sewer, storm drains, a supplemental fire system, and fire hydrants.

B. Clipper Cove Promenade

1. In the Bay

- a. Remove an approximately three-foot-long section of an outfall, and install, use, and maintain in-kind three-foot-long sections of two outfalls measuring, respectively, approximately 24- to 26-inches-in-diameter and 30- to 54-inches-in-diameter.

2. In the 100-Foot Shoreline Band:

- a. Demolish and remove existing structures and facilities to accommodate the activities and development authorized in the Clipper Cove Promenade;
- b. Install, use, and maintain in-kind riprap within an approximately 43,800-square-foot area to raise the perimeter protection system to approximately 12.2 feet NAVD88 and strengthen soil using densification and/or deep soil mixing techniques.
- c. Replace existing outfalls with approximately two 40-foot-long, 24- to 26-inches-in-diameter and 30- to 54-inches-in-diameter outfalls;
- d. Construct, use, and maintain in-kind an approximately 156,440-square-foot public access area, including approximately 2,906 linear feet of 10- to 16-foot-wide public trails, landscaping, lighting, stormwater treatment areas, an approximately 10-foot-wide bicycle path, seating, and art;
- e. Construct, use, and maintain in-kind an approximately 2,265-foot-long, 33- to 42-foot-wide public roadway, including a 6- to 10-foot-wide furnishing zone, an approximately 260-foot-long bus loading zone, vehicle bulb outs, signage, lighting, seating, and utilities;
- f. Construct, use, and maintain in-kind utilities, including water, sanitary sewer, storm drains, a supplemental fire system, and fire hydrants; and
- g. Install, use, and maintain in-kind utilities to support a potential—not proposed or considered in the subject permit application—marina redevelopment, including six-foot-tall, 150-square-foot, utility boxes, water, telephone, and sewer lines at eight locations, and eight six-square-foot, 3-foot-tall backflow preventers.

C. East Shoreline Park**1. In the Bay**

- a. Construct, use, and maintain in-kind an approximately three-foot-long section of an approximately 40-foot-long, 72-inches-in-diameter outfall; and
- b. Remove approximately three-foot-long sections of three outfalls.

2. In the 100-Foot Shoreline Band

- a. Demolish and remove existing structures and facilities to accommodate the activities and improvements authorized in the East Shoreline Park;
- b. Install, use, and maintain in-kind riprap within an approximately 38,500-square-foot area to raise the perimeter protection system to approximately 11.4 feet NAVD88 and strengthen soil using densification and/or deep soil mixing techniques.
- c. Remove existing outfalls, and install, use, and maintain in-kind an approximately 40-foot-long, 72-inches-in-diameter outfall;
- d. Construct, use, and maintain in-kind an approximately 314,610 square-foot public access area, including approximately 20- to 30-foot-wide trails extending approximately 3,868 linear feet, landscaping, lighting, stormwater treatment areas, guardrails at Pier 1, seating, and art; and
- e. Construct, use, and maintain in-kind utilities, including water, sanitary sewer, storm drains, a supplemental fire system, and fire hydrants.

D. Northern Shoreline Park**1. In the Bay**

- a. Remove approximately three-foot-long sections of four outfalls;
- b. Construct, use, and maintain in-kind an approximately three-foot-long section of a 60-inches-in-diameter outfall; and
- c. Replace approximately three-foot-long sections of two outfalls measuring approximately 36- and 21-inches-in-diameter, respectively, and install, use, and maintain in-kind two approximately three-foot-long sections of outfalls measuring, respectively, approximately 36- and 48 inches-in-diameter.

2. In the 100-Foot Shoreline Band

- a. Demolish and remove existing structures and facilities to accommodate the activities and development authorized in Northern Shoreline Park;
- b. Install, use, and maintain in-kind riprap within an approximately 121,000-square-foot area to raise the perimeter protection system to approximately 15.8 feet NAVD88 and strengthen soil using densification and/or deep soil mixing techniques.

- c. Remove existing outfalls, and install, use, and maintain in-kind an approximately 37-foot-long section of a 60-inches-in-diameter outfall, and two 37-foot-long outfall sections measuring approximately 36-inches and 48-inches-in-diameter, respectively;
- d. Construct, use, and maintain in-kind an approximately 606,800-square-foot public access area, including 25- to 30-foot-wide trails extending along an approximately 6,013-linear-foot area, landscaping, lighting, stormwater treatment areas, seating, a minimum of two 1,500 square-foot restrooms, an access ramp for small hand-launch boats, and art;
- e. Construct, use, and maintain in-kind an approximately 10,000-square-foot retail store; and
- f. Construct, use, and maintain in-kind utilities, including water, sanitary sewer, storm drains, and fire hydrants.

E. Cityside Waterfront Park

1. In the Bay

- a. Construct, use, and maintain in-kind three-foot-long portions of three outfalls, measuring approximately 54-inches, 54-inches, and 48-inches-in-diameter, respectively;
- b. Remove three-foot-long portions of four outfalls; and
- c. Remove an approximately 11,684-square-foot pile-supported pier ("Pier 23"), including approximately 198 piles and 22 bents supporting the pier, and an associated approximately 258-square-foot section of a gangway.

2. In the 100-Foot Shoreline Band

- a. Demolish and remove existing structures, including approximately 72 square feet of the Pier 23 gangway, and facilities to accommodate the activities and development authorized in the Cityside Waterfront Park;
- b. Install, use, and maintain in-kind riprap within an approximately 80,400-square-foot area to raise the perimeter protection system to between approximately 15 to 16.3 feet NAVD88 and strengthen soil using densification and/or deep soil mixing techniques.
- c. Remove existing outfalls, and construct, use, and maintain in-kind three approximately 40-foot-long outfalls, measuring approximately 54-inches, 54-inches, and 48-inches-in-diameter, respectively;
- c. Construct, use, and maintain in-kind an approximately 8.9-acre (387,720-square-foot) public access area, including 30- to 35-foot-wide trails extending along an approximately 4,112-linear-foot area, landscaping, lighting, stormwater treatment areas, a perched beach area above the shoreline, an access ramp for small hand-launch boats, a bicycle parking kiosk, seating, and art;
- d. Construct, use, and maintain in-kind an approximately 10,000-square-foot retail store; and

- e. Construct, use, and maintain in-kind utilities, including water, sanitary sewer, storm drains, and fire hydrants.

F. The Causeway

1. In the Bay

- a. Construct, use, and maintain in-kind a three-foot-long portion of an approximately 48-inches-in-diameter outfall.

2. In the 100-Foot Shoreline Band

- a. Demolish and remove all existing development to accommodate the activities and development authorized herein in the Causeway;
- b. Raise the perimeter protection system to approximately 13 feet NAVD88 and strengthen soil using densification and/or deep soil mixing techniques.
- c. Repair, use, and maintain in-kind an approximately 775-foot-long roadway connecting Treasure Island to Yerba Buena Island;
- d. Construct, use, and maintain in-kind an approximately 129,800-square-foot public access area, including two eight-foot-wide sidewalks along the east and west sides of The Causeway, measuring 664 feet long along the east side and 625 feet long along the west side—approximately 1,289 linear feet total—and two six-foot-wide bicycle lanes on the east and west side of the roadway, landscaping, lighting, stormwater treatment areas, and art;
- e. Construct, use, and maintain in-kind utilities, including water, sanitary sewer, storm drains, and fire hydrants; and
- f. Construct, use, and maintain in-kind an approximately 40-foot-long, 48-inches-in-diameter outfall.

II. Yerba Buena Island (YBI)

A. At the Northern Area of YBI

1. In the Bay

- a. Construct, use, and maintain in-kind a three-foot-long portion of a 30-inches-in-diameter outfall.

2. Within a Waterfront Park Priority Use Area and the 100-foot Shoreline Band:

- a. Demolish and remove all existing development to accommodate the activities and development authorized at Yerba Buena Island;
- b. Construct, use, and maintain in-kind an approximately 48,780 square-foot public access area, including an approximately 370-foot-long, six-foot-wide pedestrian path to the beach located at the Clipper Cove side of Yerba Buena Island;
- c. Construct, use, and maintain in-kind utilities, including water, sanitary sewer, storm drains, a supplemental fire system, and fire hydrants; and
- d. Construct, use, and maintain an approximately 40-foot-long portion of an approximately 43-foot-long, 30-inches-in-diameter outfall.

Bay Fill: The proposed project would result in a net total of approximately 2,809 square feet (.06 acres) of new Bay fill.

Fill Totals			
Fill Type	Removed	New	Total Net Fill
Pile-Supported (sf)	11,684	2,400	-9,284
Solid (sf)	0	6,475	6,475
Floating (sf)	0	5,175	5,175
Cantilevered (sf)	258	1,170	912
Outfalls (sf)	914	445	445
Sub Total (sf)	12,856	15,665	2,809
Sub Total (cy)	170	2,155	1,985

Public

Access: The project would result in approximately 55 acres (2,399,902 square feet) of public access along the perimeter of Treasure Island and within the northern portion of Yerba Buena Island (Exhibit C).

BCDC Public Access Area	Square Feet	Acres
Waterfront Plaza	74,052	1.7
Clipper Cove Promenade	156,440	3.6
East Shoreline Park	314,610	7.2
Northern Shoreline Park	606,800	14
Cityside Waterfront Park	387,720	9
Causeway	129,800	3
Yerba Buena Island	48,780	1.1
Yerba Buena Island Open Space	654,700	15
Total Project	2,399,902	54.6

Schedule and Cost:

The proposed project is scheduled to commence in 2016 and proceed in four major phases through completion in December 2030 (Exhibit D). Phase 1 involves the Causeway, Waterfront Plaza, Clipper Cove Promenade, the southern most portion of Cityside Waterfront Park, and Yerba Buena Hilltop Park and Beach Park. Subsequently, the Eastern Shoreline Park and the balance of Cityside Waterfront Park would be constructed. The final phase involves construction of the Northern Shoreline Park.

The total project cost for the proposed development of Treasure Island and Yerba Buena Island within and outside of the Commission’s jurisdiction is approximately \$1.5 billion, including the cost of approximately \$80.2 million for the construction of public areas and amenities within the Commission’s jurisdiction.¹

Staff Analysis

Issues Raised: The Commission staff believes that the application raises three primary issues: (1) whether the project is consistent with the Bay Plan waterfront park priority use designation for Yerba Buena Island; (2) whether the fill for the project is consistent with the McAteer-Petris Act and the Bay Plan policies on fill, including policies on natural resources, safety of fills, climate change, mitigation, and transportation; and (3) whether the public access improvements are consistent with the McAteer-Petris Act and the Bay policies related to public access, including policies on sea level rise.

I. Priority Use Area. A project in the Commission’s 100-foot shoreline band located within a priority use area designated in the San Francisco Bay Plan (Bay Plan) must be consistent with that priority use (Government Code Section 66632.4). The Bay Plan Map No. 4 (see below) designates Yerba Buena Island (YBI) as a Waterfront Park, Beach Priority Use Area with a vista point located within the project area. The Bay Plan Map policies state:

“Provide: (1) a large public open space at the center of Yerba Buena Island; (2) a large public open space on the plateau on the eastern peninsula, adjacent to and beneath the eastern span of the San Francisco-Oakland Bay Bridge; and (3) a linked system of trails near the shoreline and at the upper elevations that connect vista points and open spaces. Vista points should provide views of the Bay Bridge, San Francisco Skyline and other important Central Bay features. The remainder of the island upland of the shoreline band may be developed for other uses consistent with Bay Plan recreation policy 4-b [related to waterfront parks and wildlife refuges with historic buildings], and with the applicable public trust provisions and statutes.”

Further, Bay Plan Recreation Policy No. 4 provides, in part, that “to capitalize on the attractiveness of their [i.e., Waterfront Park Priority Use Areas] bayfront location, parks should emphasize hiking, bicycling, riding trails, picnic facilities, swimming, environmental, historical and cultural education and interpretation, viewpoints, beaches, and fishing facilities...” and that “...public launching facilities for a variety of boats and other water-oriented recreational craft, such as kayaks, canoes and sailboards, should be provided in waterfront parks where feasible.” Furthermore, “trails that can be used as components of the San Francisco Bay Trail, the Bay Area Ridge Trail or links between them should be developed in waterfront parks.” And finally, “[t]o assist in generating the revenue needed to preserve historic structures and develop, operate and maintain park improvements and to achieve other important public objectives, uses other than water-oriented recreation, commercial recreation and public assembly facilities may be authorized only if they would: (a) not diminish

¹ The applicants have submitted an appeal for the application fee on the grounds that it should only be assessed a fee for portions of the project within the Commission’s jurisdiction.

accessible pathway between the San Francisco Bay Trail at the Causeway and Clipper Cove Beach and a beach parking area are proposed to replace a dilapidated staircase to the beach and a smaller parking lot. Much of the remainder of the 100-foot shoreline band at YBI is composed of natural rocky cliffs and steep vegetated slopes.

The Bay Plan Map No. 4 does not designate Treasure Island for a specific priority use, but it includes two policies for the site. Policy No. 22 states: “When no longer owned or controlled by the federal government, redevelop [Treasure Island] for public use. Provide continuous public access to Bay in a manner protective of sensitive wildlife. Provide parking and water access for users of non-motorized small boats, including at north end of the Island. Develop a system of linked open spaces, including a large open space the northern end of the island.”

And, for the Clipper Cove area, Policy No. 24 states: “Expand marina and other water-oriented recreation uses, provide water access for small water craft, such as kayaks and for swimming. Preserve beaches and eelgrass beds.”

Within most of the 100-foot shoreline band at Treasure Island, including at the Northern Shoreline Park and Cityside Waterfront Park, the project proposes a series of public access areas. Where water access is proposed (e.g., at Northern Shoreline Park and Cityside Waterfront Park), existing access points will be used and maintained in kind.

The subject permit application discusses public amenities at Clipper Cove intended to support an expanded marina in the future, but the actual marina expansion project of the marina at Clipper Cove is not included a part of the proposed project in this application. Eelgrass beds are primarily located at the eastern side of Treasure Island, away from the fill. One outfall is proposed for this location, but it will not impact the eelgrass bed.

The Commission should consider whether the proposed project would be consistent with the Bay Plan Recreation Policies regarding waterfront parks and beaches, and the whether the project is consistent with the Bay Plan Map No. 4 policies.

- II. Fill.** The Commission may allow fill only when it meets the requirements identified in Section 66605 of the McAteer-Petris Act, which states, in part, that: (a) the public benefits of the fill should clearly exceed the public detriment from the loss of water area and the fill should be limited to water-oriented uses (such as water-oriented recreation or public assembly) or “minor fill for improving shoreline appearance or public access”; (b) fill in the Bay should be approved only when “no alternative upland location” is available; (c) fill should be “the minimum amount necessary to achieve the purpose of the fill”; (d) “the nature, location, and extent of any fill should be such that it will minimize harmful effects to the Bay area, such as, the reduction or impairment of the volume, surface area or circulation of water, water quality, fertility of marshes or fish or wildlife resources, or other conditions impacting the environment...”; (e) “[t]hat public health safety, and welfare require that fill be constructed in accordance with sound safety standards which will afford reasonable protection to persons and property against the hazards of unstable geologic or soil conditions or of flood or storm waters...” and (g) “fill should be authorized when the applicant has such valid title to the properties in question that he or she may fill them in the manner and for the uses to be approved.”

- A. **Public Benefit v. Detriment and Water-Oriented Use.** The fill proposed includes a ferry terminal and two associated breakwaters with rock revetments connecting the breakwaters to the shoreline (Exhibit E and F), and an improved stormwater outfall system at the perimeter of Treasure Island and YBI. The proposed ferry terminal would serve as the primary transportation link between the project site and the City of San Francisco, and is designed to serve as a critical connection in the event that roads and bridges become disabled in a potential disaster. Ferry terminals and the associated gangways and docks are a water-oriented use that can be approved by the Commission. Over the years, BCDC has approved other ferry terminals in several locations around the Bay, including South San Francisco, Oakland, San Francisco and Sausalito. The ferry terminal would serve the residential, retail, and office uses at the islands and link to the islands' shuttle bus system, a San Francisco Municipal (MUNI) bus stop, and bicycle and pedestrian paths. The ferry size and service was selected to enable it to serve 10-20% of commuters moving to and from the islands. Applicants designed the terminal to accommodate a ferry that would hold a maximum of 399 passengers per trip and operate at 50-minute intervals when it opens, with an ultimate service goal of up to every 15 minutes during peak commute times. The terminal is designed to accommodate two ferries to support this future demand. The ferry terminal breakwaters and associated revetment are, by definition, water-oriented and can be approved by the Commission. Rock revetments are not explicitly listed as a water-oriented use in the McAtteer-Petris Act, however the Commission has approved miles of shoreline protection as a water-oriented use. The proposed outfalls would be a component of a stormwater treatment system, which features pre-discharge treatment. Existing outfalls discharging untreated water to the Bay would be removed.
- B. **Alternative Upland Location.** The proposed ferry terminal location at the Waterfront Plaza area of Treasure Island would create a transportation hub for both islands. The location of the terminal allows for a short travel time by ferry across to the City of San Francisco. The project aims at minimizing reliance on the Bay Bridge, which already operates at capacity, for motorized transportation to and from Treasure Island. The water-borne ferry service is an imperative aspect of the overall project and is required by the project EIR; additional motorized public transportation would not be a sufficient alternative and would not completely comply with existing entitlements. The breakwaters and associated rock slope revetments would protect the ferry terminal from wave action and currents. Ferry terminals and their associated improvements, such as breakwaters, docks, and gangways do not have an alternative upland location. The applicants state that the various proposed outfalls could not function on-land.
- C. **Minimum Amount Necessary.** The fill proposed would support: a ferry terminal (totaling approximately 8,745 square feet), two associated breakwaters (totaling approximately 1,550 square feet) and rock revetments (totaling approximately 4,800 square feet), and an improved stormwater outfall system (totaling approximately 415 square feet). According to the applicants, the fill associated with the terminal is the minimum necessary to provide a functional ferry terminal for a ferry to accommodate a maximum of 399 passengers for service every 15 minutes. The proposed breakwaters proposed to protect the terminal from wave action and currents are designed using sheetpiles and of a width that minimizes shading and size, compared to an alternative of

a rock breakwater, which would have a larger design “footprint.” The rock revetments are needed to connect the breakwaters to the shoreline. The fill associated with the outfalls would mostly replace existing outfalls and thereby result in a relatively minor amount of new fill in the Bay. Earlier proposals for public access on top of the rock slopes have been removed for safety reasons and to reduce the size of the rock slopes which in turn reduced the amount of new fill in the bay.

D. Effects on Bay Resources. No dredging is necessary to establish a ferry terminal at its proposed location. As initially designed early in the project, dredging was proposed. However, the applicants altered the design of the ferry terminal to include a steel float, rather than a concrete float. The change in draft for the steel float eliminated the requirement to dredge the site, reducing the effect of the fill on Bay resources. In addition, the new and replacement outfalls are intended to replace the untreated stormwater system with a more modern, treated stormwater management system that will reduce polluted discharges to the Bay compared to existing conditions.

1. Fish, Other Aquatic Organisms and Wildlife. The Bay Plan Fish, Other Aquatic Organisms and Wildlife Policy No. 4 states, in part, that “[t]he Commission should consult with the California Department of Fish and [Wildlife] and the U.S. Fish and Wildlife Service or the National Marine Fisheries Service whenever a proposed project may adversely affect an endangered or threatened plant, fish, other aquatic organism or wildlife species...and give appropriate consideration of (their) recommendations in order to avoid possible adverse impacts of a proposed project on fish, other aquatic organisms and wildlife habitat.”

The National Marine Fisheries Service (NMFS) issued a concurrence letter on May 31, 2016 concerning the proposed ferry terminal and outfalls, and concluded that the activity would not adversely affect U.S. Endangered Species Act-listed anadromous salmonids, green sturgeon, or designated critical habitats. However, NMFS concluded that essential fish habitat for various life stages of fish included under the Pacific Groundfish Fish Management Plan and the Coastal Pelagic Fish Management Plan would be adversely affected, but that the applicants included adequate measures to avoid, minimize, mitigate, or offset these effects. The NMFS letter did not recommend conservation measures. The applicants propose to limit in-water work between June 1 and November 30. Although, the proposed ferry terminal and outfalls are designed to avoid eelgrass beds and mudflats, the applicants propose to conduct pre-construction (60 days in advance of construction) surveys for eelgrass and mitigate pursuant to NMFS California Eelgrass Mitigation Policy, which lays out standards for a variety of types of mitigation, if eelgrass impacts are identified.

2. Water Quality Policies. The Bay Plan policies on Water Quality state, in part, that “Bay water pollution should be prevented to the greatest extent feasible.” Further, Policy No. 2 states, in part, that “[w]ater quality in all parts of the Bay should be maintained at a level that will support and promote the beneficial uses of the Bay as identified in the San Francisco Bay Regional Water Quality Control Board’s (RWQCB) Basin Plan...[and] the policies, recommendations, decisions, advice, and authority of the State Water Resources Control Board and the Regional Board should be the basis for carrying out the Commission’s water quality responsibilities.” Finally, Policy No. 3

states, in part, that “[n]ew projects should be sited, designed, constructed, and maintained to prevent or, if prevention is infeasible, to minimize the discharge of pollutants into the Bay...”

The proposed project involves replacing aged stormwater management infrastructure that currently discharge untreated stormwater into the Bay. The proposed stormwater management system would treat stormwater prior to discharge in the new outfalls, improving Bay water quality. In addition, the removal of a pile-supported pier and other creosote pilings and wood (as discussed previously) would improve water quality. The RWQCB issued a water certification for the proposed project on February 19, 2016 pursuant to which the proposed project would be carried out.

- E. **Safety of Fills.** Section 66605(e) of the McAteer-Petris Act states “[t]hat public health safety, and welfare require that fill be constructed in accordance with sound safety standards which will afford reasonable protection to persons and property against the hazards of unstable geologic or soil conditions or of flood or storm waters.” Bay Plan Safety of Fills Policy No. 1 states, in part: “[t]he Commission has appointed the Engineering Criteria Review Board...to: (a) establish and revise safety criteria for Bay fills and structures thereon; (b) review all except minor projects for the adequacy of their specific safety provisions, and make recommendations concerning these provisions...” The Bay Plan Safety of Fills Policy No. 4 states, in part, that “[a]dequate measures should be provided to prevent damage from sea level rise and storm activity that may occur on fill or near the shoreline over the expected life of a project.... New projects on fill or near the shoreline should...be built so the bottom floor level of structures will be above a 100-year flood elevation that takes future sea level rise into account for the expected life of the project.” Safety of Fills Policy No. 3 states: “[t]o provide vitally needed information on the effects of earthquakes on all kinds of soils, installation of strong-motion seismographs should be required on all future major land fills. In addition, the Commission encourages installation of strong-motion seismographs in other developments on problem soils, and in other areas recommended by the U.S. Geological Survey, for purposes of data comparison and evaluation.”

The Commission’s safety of fills authority applies to work proposed in the Bay only. Therefore, the bulk of the residential, retail, and office development planned at the project site will not be reviewed by the Commission for consistency with its law and policies concerning seismic safety or protection from flooding or storms. A discussion of the Commission’s authority in the shoreline band is included below in Section III.B, *Public Access*.

The Commission’s Engineering Criteria Review Board (ECRB) reviewed the proposed project on January 22, 2015 and May 26, 2015 to analyze the structural integrity and seismic stability of the proposed ferry terminal and related geotechnical hazards and risks associated with sea level rise and flooding. The ECRB review determined that the proposed ferry facility structure satisfied applicable seismic safety standards. Pursuant to the ECRB’s recommendations, the applicants have been in ongoing discussions with

the California Geological Survey and the Strong Motion Instrumentation Advisory Committee to prepare a seismic instrumentation plan to measure the performance of the ferry terminal.

1. **Climate Change and Sea Level Rise.** Bay Plan Climate Change Policy No. 2 states:

“When planning shoreline areas or designing larger shoreline projects, a risk assessment should be prepared by a qualified engineer and should be based on the estimated 100-year flood elevation that takes into account the best estimates of future sea level rise and current flood protection and planned flood protection that will be funded and constructed when needed to provide protection for the proposed project or shoreline area. A range of sea level rise projections for mid-century and end of century based on the best scientific data available should be used in the risk assessment. Inundation maps used for the risk assessment should be prepared under the direction of a qualified engineer. The risk assessment should identify all types of potential flooding, degrees of uncertainty, consequences of defense failure, and risks to existing habitat from proposed flood protection devices.”

Climate Change Policy No. 3 states, in part:

“To protect public safety and ecosystem services, within areas that a risk assessment determines are vulnerable to future shoreline flooding that threatens public safety, all projects—other than repairs of existing facilities, small projects that do not increase risks to public safety, interim projects and infill projects within existing urbanized areas—should be designed to be resilient to a mid-century sea level rise projection. If it is likely the project will remain in place longer than mid-century, an adaptive management plan should be developed to address the long-term impacts that will arise based on a risk assessment using the best available science-based projection for sea level rise at the end of the century.”

Climate Change Policy No. 7 identifies types of projects that are deemed to have regional benefits, advance regional goals, and should be encouraged if their regional benefits and advancement of regional goals outweigh risk from flooding and, further, identifies “transportation facility...to serve planned development” as an allowable project. Bay Plan Climate Change Policy No. 6 identifies regional goals including, “[a]dvanc[ing] regional public safety and economic prosperity by protect[ing]...infrastructure that is crucial to public health or the region’s economy....”

To determine the best estimates of future sea level rise and flooding, the Commission consults the “State of California Sea Level Rise Guidance Document” (“State Guidance”) issued in March 2013 by the Ocean Protection Council, which was drafted to help state agencies incorporate future sea-level rise impacts into planning decisions. This document integrates the best available science from the National Research Council’s report “Sea-Level Rise for the Coasts of California, Oregon, and

Washington” issued in June 2012. The State Guidance provides a range of estimated sea level rise for 2050 and 2100, using 2000 levels as a baseline, and states that, by mid-century, sea level will rise by 4.5 to 24 inches and, by the end-of-century, by 16 to 66 inches—a mean of 16 inches by mid-century and 36 inches by end-of-century.

The applicants prepared a “Sea Level Risk Assessment and Adaptation Strategy for Rising Sea Levels” dated August 1, 2016. The risk assessment is primarily concerned with the risk and adaptability of the development associated Treasure Island, as Yerba Buena Island’s topography places it at a much lower risk of flooding from future sea level rise or storms.

The study includes information on the resiliency of the proposed ferry terminal and breakwaters, and outfalls proposed for installation throughout the project site. The design life of the ferry terminal is 40 years, after which time it could be replaced or substantially repaired. Proposed for construction during Phase 1, the terminal would be constructed to accommodate a 36-inch sea level rise taking into account a 100-year storm event. Consequently, the ferry terminal (including the breakwaters) would be resilient to the highest sea level projection at mid-century (24-inches) based on the ranges in the State Guidance (2013). According to the applicants, the stormwater management system is designed to “gravity drain.” At such a time as sea level reaches 16 inches—around mid-century—the system may require pumps to effectively function during Mean Higher High Water (MHHW) events in which case such pumping mechanisms would be installed to adapt to such conditions.

The shoreline elevation would be raised by surcharging the soil and constructing a rock (riprap) revetment above the mean high water (MHW) line, i.e., within the 100-foot shoreline band, and strengthening the area using a combination of deep-soil mixing and soil densification techniques. In developing the proposed Clipper Cove Promenade, the Waterfront Plaza, and portions of the Cityside Waterfront Park (Phase I), the risk assessment (and permit application) propose to elevate the shoreline perimeter, inside and outside of the Commission’s jurisdiction, to accommodate 36 inches of sea level rise during a 100-year storm event. For the shoreline perimeter at the northern end of the Cityside Waterfront Park, Northern Shoreline Park and East Shoreline Park (Phases 2, 3, 4) where public parks and trails would be built, the risk assessment and application proposes to elevate the shoreline perimeter to accommodate 16 inches of sea level rise during a 100-year storm event. Elevating the shoreline would ensure the perimeter system would be resilient to a 100-year storm event with at least a mid-century estimate of 16-inches of sea level rise, which is the mean of the range of projected sea level rise estimated by the State Guidance. The risk assessment as it relates to the shoreline and adaptive management plan is discussed in more detail in Section III.B, *Public Access*.²

² At Treasure Island, the building pads and major streets would be constructed to accommodate a 36-inch sea level rise during a 100-year storm event (also referred to as the Base Flood Elevation or “BFE,” which is the 1% annual chance storm event) and, thereby, protect the development outside of the Commission’s jurisdiction beyond the mid-century range of sea level rise projections, from 2070 to up to 2100.

The proposed ferry terminal is a transportation facility, which, according to the applicants, is critical for transit between Treasure Island and the City of San Francisco. Travel by ferry and bus, rather than car, would be the focus of the infrastructure program for the proposed project and would benefit the region by reducing greenhouse gas emissions related to vehicular traffic.

- F. **Mitigation.** The Bay Plan Mitigation Policy No. 1 states, in part: “[p]rojects should be designed to avoid adverse environmental impacts to Bay natural resources....Whenever adverse impacts cannot be avoided, they should be minimized to the greatest extent practicable. Finally, measures to compensate for unavoidable adverse impacts to the natural resources of the Bay should be required.” The Bay Plan Mitigation Policy No. 2 states, in part: “[i]ndividual compensatory mitigation projects should be sited and designed within a Bay-wide ecological context, as close to the impact site as practicable.”

To offset the fill associated with the approximately 15,665 square feet of new fill proposed ferry terminal and the outfall system, the applicants propose to remove an approximately 11,684-square-foot dilapidated pier and 258-square-foot wooden gangway, including approximately 198 creosote timber pilings, collectively known as Pier 23, located at Treasure Island.³ In addition, the applicants propose to deposit \$40,000.00 into the Coastal Trust Fund, held by the California Coastal Conservancy. According to the applicants, these funds would be used to remove up to 250 creosote pilings at a planned restoration site in the City of Richmond in Contra Costa County (such as at the Red Rock Warehouse/Terminal 4) or the El Campo site located at the northeast side of the Town of Tiburon in Marin County. The result of these efforts would be to improve water quality through creosote pile removal and improved habitat for fish, including Pacific herring.

- G. **Transportation.** The Bay Plan Transportation Policy No. 4 states, in part, “[t]ransportation projects on the Bay shoreline...should include pedestrian and bicycle paths that will either be a part of the Bay Trail or connect the Bay Trail with other regional and community trails.” Further, Policy No. 5 provides: “[f]erry terminals should be sited at locations that are near navigable channels, would not rapidly fill with sediment and would not significantly impact tidal marshes, tidal flats or other valuable wildlife habitat. Wherever possible, terminals should be located near higher density, mixed-use development served by public transit. Terminal parking facilities should be set back from the shoreline to allow for public access and enjoyment of the Bay.”

The proposed Treasure Island project is designed to emphasize travel by ferry or bus rather than by automobiles. As a result, the proposed ferry terminal does not include a vehicle parking element. Instead, the terminal is designed to serve as a regional transportation hub at the Waterfront Plaza area of the island, including a bus shuttle for transit at both islands, a MUNI bus stop, bike parking, and a section of the Bay Trail. The ferry terminal would not require new or maintenance dredging due to its design and location. The ferry terminal is designed to avoid impacts to tidal marshes, tidal flats, and valuable wildlife habitat.

³ The pilings would be removed entirely or cut at least two feet below the mudline.

The Commission should determine whether the project is consistent with its laws and policies regarding fill in the Bay, including policies on natural resources, safety of fills, climate change, mitigation, and transportation.

- H. **Valid Title.** Treasure Island was originally constructed by filling state tidelands, and later transferred to the federal government. The state asserted a public trust claim to the island once title transferred from the U.S. Navy to the State of California. In recognition of this claim, the Treasure Island Conversion Act authorized TIDA—one of the co-applicants—to act as the trustee for the newly-reacquired public trust lands. In 2011, TIDA and the Navy entered into a Economic Development Conveyance Memorandum of Agreement to transfer the property from the Navy to TIDA in an ongoing phased manner through 2021 as the Navy remediates property.

To allow the proposed redevelopment at Treasure Island for non-trust uses, such as residential and office, the state legislature passed the Exchange Act in 2007, which provided—subject to State Lands Commission approval—for exchanges of land not encumbered by the trust at Yerba Buena Island with trust land at Treasure Island. As authorized by the Exchange Act, TIDA and the State Lands Commission entered into a Trust Exchange Agreement dated November 14, 2014 that sets forth the procedures for implementation of the trust exchange. On November 15, 2015, TIDA and the State Lands Commission exchanged various patents and deeds for the first phase of the trust exchange, effectively lifting the public trust from TIDA-owned development parcels to be conveyed in fee to TICD and imposing the public trust on the property to be retained by TIDA, including all of the TIDA-owned property within the BCDC’s 100-foot shoreline band jurisdiction.

As a result, the parcels on Treasure Island, which are not subject to the public trust will be conveyed in fee to TICD—a second co-applicant—and/or its assignees (e.g., TI Series 1) for development. The first of such transfers occurred in December 2015. TIDA will continue to administer all public trust property on Treasure Island and at YBI. None of the development parcels owned by TICD are located within the Commission’s jurisdiction. However, pursuant to TICD’s agreement with TIDA, TICD (and its assignees) would construct all infrastructure and public access at the islands within and outside of the Commission’s jurisdiction. After construction is complete, TIDA and the City and County of San Francisco will maintain and control the infrastructure and public access.

The transfer of the majority of Treasure Island, including the areas proposed to be filled in the Bay, and all of the project area at Yerba Buena Island is complete. However, additional land transfers, primarily at the northern half of Treasure Island, are planned to occur in phases as the Navy remediates the property up to 2021. Upon each future transfer, additional trust exchanges will occur with the State Lands Commission and TIDA, to free the development parcels from the public trust and to impose the public trust on the TIDA-retained parcels.

III. Public Access

- A. **Maximum Feasible Public Access.** In assessing whether a project would provide maximum feasible public access consistent with the proposed activity, the Commission relies on the McAteer-Petris Act, Bay Plan policies, requirements of similar previous projects, and on relevant court decisions. In assessing whether a proposed public project would provide the maximum feasible public access consistent with the project, the Commission also evaluates whether the proposed access is reasonable given the scope of the project.

Section 66602 of the McAteer-Petris Act states, in part, that “...existing public access to the shoreline and waters of the...[Bay] is inadequate and that maximum feasible public access, consistent with a proposed project, should be provided.” Section 66632.4 of the McAteer-Petris Act states, “[w]ithin any portion or portions of the shoreline band that are located outside the boundaries of water-oriented priority land uses...the Commission may deny an application for a permit for a proposed project only on the grounds that the project fails to provide maximum feasible public access, consistent with the proposed project, to the bay and its shoreline.”

In addition, the Bay Plan policies on public access state, in part, that “[a] proposed fill project should increase public access to the Bay to the maximum extent feasible...” and that “[a]ccess to and along the waterfront should be provided by walkways, trails, or other appropriate means and connect to the nearest public thoroughfare where convenient parking or public transportation may be available.” Bay Plan Public Access Policy 7 states, in part, that “[t]he improvements should be designed and built to encourage diverse Bay-related activities and movement to and along the shoreline, should permit barrier free access for persons with disabilities to the maximum feasible extent, should include an ongoing maintenance program, and should be identified with appropriate signs.” Bay Plan Public Access Policy 8 states, “[a]ccess to and along the waterfront should be provided by walkways, trails, or other appropriate means and connect to the nearest public thoroughfare where convenient parking or public transportation may be available. Diverse and interesting public access experiences should be provided which would encourage users to remain in the designated access areas to avoid or minimize potential adverse effects on wildlife and their habitat.”

Bay Plan Public Access Policy 10 states, “[r]oads near the edge of the water should be designed as scenic parkways for slow-moving, principally recreational traffic. The roadway and right-of-way design should maintain and enhance visual access for the traveler, discourage through traffic, and provide for safe, separated, and improved physical access to and along the shore. Public transit use and connections to the shoreline should be encouraged where appropriate.”

The Bay Plan policies on Appearance, Design, and Scenic Views (Policy 2) state, in part: “[a]ll Bayfront development should be designed to enhance the pleasure of the user or viewer of the Bay. Maximum efforts should be made to provide, enhance, or preserve views of the Bay and shoreline, especially from public areas, from the Bay itself, and from the opposite shore.”

1. **Present Conditions.** Presently, Treasure Island and Yerba Buena Island serve an important purpose partly as areas available for public use and spectacular viewing opportunities of the Bay and its shoreline. Treasure Island provides public pathways along the western and northern perimeter and, at the northern waterfront, an access ramp to the Bay for sailboarders and hand-launch boat users. Treasure Island has four public parks and picnic areas, shoreline bicycling and jogging trails, and a 3.7-acre Great Lawn within the western area where special events (e.g., an annual music festival) are held. Public access to the shoreline is relatively limited, with the majority of the existing open space located outside of the shoreline band. The majority of public shoreline access is available along the shoreline bicycling and pedestrian pathways on the western and northern perimeters of the island. Portions of the northern waterfront are closed due to on-going remediation activities. Much of the eastern shoreline and Clipper Cove are either closed to public shoreline access, or do not actively facilitate use of the shoreline. At neighboring Yerba Buena Island, public areas include Clipper Cove Beach, an informal parking lot, restrooms, and, outside of the Commission's jurisdiction, a multi-use field at the peak of the island. The natural topography of Yerba Buena Island limits public use of a majority of the island's shoreline. (Exhibit G) The unique location of both islands at the center of the Central Bay affords mostly unobstructed and dramatic views of the Bay, the nearby cities, including San Francisco, the distant hills, the San Francisco-Oakland and Golden Gate bridges, and historic and recently-constructed landmarks.
2. **Proposed Access.** The proposed dedicated public access areas—enhanced and new created—at Treasure Island and Yerba Buena Island total 55 acres (2,399,902 square feet) and are located entirely within the Commission's 100-foot shoreline band. The proposed public access areas would be located on public trust lands held by TIDA as trustee. The proposed access is segmented into sub-areas, as shown in Exhibit C. Public access areas would be constructed over a 15 to 20 year period by TICD, TI Series 1 and subsequent transferees, and developed in phases concurrent with infrastructure improvements, e.g., streets and utilities, within the Commission's jurisdiction, and prior to development of areas located outside of the Commission's jurisdiction (Exhibit D). Construction would not generally restrict access to the shoreline, and existing public access available on the islands would remain open except during construction in those areas. Following construction, TIDA would operate and maintain the BCDC public access areas, as well as approximately 245 acres of additional open space and parks located outside of BCDC jurisdiction and subject to the public trust.
3. **Public Access Areas.** The specific design of the proposed public access areas have not all been finalized. As proposed, prior to commencement of construction, the design of these areas would be considered through future Commission staff and Design Review Board (DRB) consideration and review of conceptual and final site plans and, if warranted, amendment(s) to the BCDC permit. Generally, the proposed public areas included are described as follows:
 - a. **Waterfront Plaza.** Within an approximately 1.7-acre area located at the west side and entrance (from the Causeway) to Treasure Island adjacent to the proposed ferry terminal, public amenities would include the public ferry shelter

and an approximately 74,052-square-foot public plaza used in part as a transportation hub, a set of restrooms, an approximately 20- to 25-foot-wide, 804-foot-long San Francisco Bay Trail section, bicycle parking, landscaping, and signage;

- b. **Clipper Cove Promenade.** Within an approximately 3.6-acre area located at south side of Treasure Island adjacent to Clipper Cove and the marina. The Clipper Cove Promenade would include an approximately 10- to 16-foot-wide, 2,906-foot-long Bay Trail including a landscaped buffer between the Bay Trail and street, landscaping, and signage. The expansion of Clipper Cove Marina is not part of this application. Any redevelopment or expansion of the marina would come to the Commission under a separate permit application submitted by different applicants along with TIDA. TIDA and TICD propose that the public access facilities along Clipper Cove Promenade constructed by TICD and maintained by TIDA would contribute to a portion of a future expanded Clipper Cove marina's public access program;
- c. **East Shoreline Park.** Within an approximately 7.2-acre area located at the south-east side of Treasure Island is Pier 1, an existing pile-supported concrete structure, currently used for boat repair and mooring activities. Pier 1 is proposed as a public amenity without, according to the applicants, need for structural improvement. The area would also include an approximately 20- to 30-foot-wide, 3,868-foot-long Bay Trail section, signage, landscaping, and seating;
- d. **Northern Shoreline Park.** Within an approximately 14-acre area located at the northern and eastern sections of Treasure Island, this area would provide an improved water trail access area with proposed amenities, 25- to 30-foot-wide, 6,103-foot-long Bay Trail section, landscaping, signage, and pathways connecting to the island's interior public areas outside of the Commission's jurisdiction which will possibly include campsites, playing fields, restrooms, and retail structures. As currently envisioned, the public area (outside of the Commission's jurisdiction) could include a seasonal wetland designed as a stormwater treatment area;
- e. **Cityside Waterfront Park.** Within an approximately 9-acre area located at the western side of Treasure Island, this area would provide unobstructed views towards San Francisco, and include a 30- to 35-foot-wide, 4,112-foot-long Bay Trail section, a water access amenity for hand-launch boats and sailboarders, seating, landscaping, and signage. As currently envisioned, the area would possibly include a perched beach, which would be elevated above the shoreline protected by existing riprap within the Commission's 100-foot shoreline band;
- f. **The Causeway.** Within an approximately 3-acre area, the Causeway serves as the roadway connection between Treasure Island and Yerba Buena Island. As proposed, the Causeway would be seismically upgraded, and include two lanes each of which includes an eight-foot-wide, 1,289-foot-long section of the Bay Trail, two six-foot-wide bicycle lanes, and signage; and

- g. **Yerba Buena Island.** Within an approximately 1.1-acre area, YBI would include several access improvements within the Commission’s 100-foot shoreline band. Located southeast of the Causeway is Clipper Cove Beach where a universally-accessible six-foot-wide, 370-foot-long pathway would be constructed and, consequently, replace an existing inadequate connection to the beach. The proposed pathway would be connected to a replacement parking lot. Although, the majority of the shoreline at Yerba Buena Island is inaccessible due to natural topography, the applicants propose to provide the Commission’s 100-foot shoreline band area (approximately 15-acres) as open space with no future development.
4. **Area Proposed for BCDC Public Access.** The BCDC public access proposed by the applicants is limited to the area of the Commission’s shoreline band jurisdiction, totaling approximately 55 acres. The applicants do not propose areas outside of BCDC’s jurisdiction for BCDC-required public access. The project to redevelop Treasure Island and Yerba Buena Island includes an extensive system of approximately 245 additional acres of public park areas, zoned as “open space” by TIDA, within the public trust lands administered by TIDA but located outside of the Commission’s jurisdiction. Some of this public access open space includes visitor-serving retail uses similar to those proposed within the shoreline band in the Northern Waterfront and Cityside Waterfront Parks that, while consistent with the restrictions of the public trust, may raise issues under the Commission’s public access policies in the Bay Plan. In past briefings for Commission staff, the Design Review Board, Engineering Criteria Review Board, and the full Commission on November 20, 2014, and April 2, 2015, the applicants presented a larger area – consisting of approximately 180 acres of public access within the public trust land administered by TIDA. However, the application submitted by TIDA, TICD, and TI Series 1 describes the project for which they seek BCDC approval as the open space improvements within Commission’s jurisdiction. The applicants state, “[t]he intent of [the informational] presentations was to provide an overview of the public access being provided by the larger project, to demonstrate the vast extent of public access being provided by the project.” As a result, the BCDC public access areas shown in the application differ from the public access areas previously seen by the Commission during its briefings. However, the 180-acre area shown in the prior presentations is still planned for open space as part of the TI/YBI development project.

According to the permit application and the Environmental Impact Report for the project, the proposed TI/YBI development project includes approximately 8,000 residential units for approximately 18,640 residents, approximately 450,000 square feet of commercial and retail space accommodating approximately 2,920 employees, 500 hotel rooms, a ferry terminal with a capacity for 399 passengers per trip, other transportation facilities for vehicles, bicycles and pedestrians, and recreation and open space facilities within an approximately 461-acre area at both islands. The proposed development of a high-density project in central San Francisco Bay would generate a substantial demand for and burden on existing and future public access to and at the site. The employees, residents, tourists and other visitors would likely

use public access areas daily at all hours, adding to any existing public access demand. According to the project EIR, the project will provide approximately 16 acres per 1,000 residents, which is twice the existing ratio of 8 acres per 1,000 residents for the City of San Francisco and exceeds the ratio of 10 acres per 1,000 residents suggested by the National Park and Recreation Association. Approximately 65% of the project area would be developed as open space or other park uses when accounting for open space and parks both within and outside of BCDC jurisdiction. Proposed public access should be of a size and scope that meets the current and expected demand by users at the project site.

5. **Similar Projects Approved by the Commission.** The Commission has approved two redevelopment projects on the scale of the TI/YBI Project: the Mission Bay Redevelopment Project in the City of San Francisco and the Brooklyn Basin Redevelopment project along the Oakland Estuary in the City of Oakland (Formerly known as the “Oak to 9th Avenue Project”). Although the area of BCDC public access proposed by the TI/YBI Project applicants is smaller than the full 180-acre shoreline public trust area that is part of the TI/YBI Project and was presented in prior Commission briefings, the BCDC public access proposed in the application is consistent with the public access areas proposed and eventually required by Commission permits for the Mission Bay and Brooklyn Basin projects.

The Mission Bay Redevelopment Project (BCDC Permit No. 2000.005.04) involved the redevelopment of the Mission Bay area of the City and County of San Francisco into a high-density mixed-use community, housing approximately 11,000 residents and accommodating 30,000 workers. Unlike the TI/YBI development Project, which proposes approximately 20,000 square feet of retail space and 7,600 square-foot ferry passenger shelter within the shoreline, the Mission Bay project provided for approximately 80,800 square feet of retail and residential buildings within the shoreline band and approximately 94,450 square feet of fill in the Bay for shoreline protection, stormwater management, mitigation, and public access. The permit for the Mission Bay project required approximately 749,232 square feet of public access both inside and outside of the Commission’s jurisdiction, in a series of parks along Mission Creek and the Bay shoreline to be constructed in phases. As of the time of this summary, the Mission Bay project is currently under construction.

Brooklyn Basin Redevelopment Project (BCDC Permit No. 2006.007.01) involved the redevelopment of an industrial area in the Port of Oakland. The Brooklyn Basin project included housing and retail space for approximately 5,061 residents and workers, and approximately 104,300 square feet of mixed-use development with the Commission’s shoreline band jurisdiction. The permit for the project required a total of 965,000 square feet of public access inside and outside of the Commission’s jurisdiction in a series of large-scale parks along the Oakland Estuary. The Brooklyn Basin project began construction in 2015, and the first park for the project will begin construction in late 2016 or early 2017.

BCDC Permit/BCDC Permit Application	Total Area of Project	Non-public access Development in BCDC Shoreline Band (sf)	Number of Residents and Workers	Acres of Required/Proposed Public Access	BCDC Public Access as a Percentage of the Total Project Area
Mission Bay Redevelopment Project (BCDC Permit No. 2000.005.04)	305 acres	80,800	41,000	17.20	6%
Brooklyn Basin Redevelopment Project (BCDC Permit No. 2006.007.01)	62 acres	104,300	5,061	22.15	36%
Treasure Island /Yerba Buena Island Redevelopment Project (BCDC Permit Application No. 2016.005.00)	461 acres on TI and YBI	27,600	21,560	55.09	11%

Table 1. Summary of BCDC-Approved Projects and the Proposed Project (shown in bold)

Although the BCDC public access provided by the TI/YBI project is solely within the Commission's 100-foot shoreline band jurisdiction, it provides a similar area and character of public access in proportion to the project impacts. The TI/YBI Project provides more area devoted to public access than either Mission Bay or Brooklyn Basin, with comparatively little retail development within the Commission's jurisdiction than either of those projects. As with the Mission Bay and Brooklyn Basin projects, the TI/YBI Project includes a series of discrete parks, each with a different character, highlighting a unique aspect to the shoreline at each location.

- B. Sea Level Rise and Flooding.** Regarding the potential effects of sea level rise on public access, the Bay Plan includes Public Access Policy No. 4 stating in part: "Public access should be sited, designed, managed, and maintained to avoid significant adverse impacts from sea level rise and shoreline flooding." Further, Public Access Policy 7 states, in part: "[a]ny public access provided as a condition of development should either be required to remain viable in the event of future sea level rise or flooding, or equivalent access consistent with the project should be provided nearby."

To help measure the viability of a public access area over time, the Commission may use the standards set forth in the Bay Plan policies on climate change. Bay Plan Climate Change Policy 2 states: "[w]hen planning shoreline areas or designing larger shoreline projects, a risk assessment should be prepared by a qualified engineer and should be based on the estimated 100-year flood elevation that takes into account the best estimates of future sea level rise and current flood protection and planned flood protection that will be funded and constructed when needed to provide protection for the proposed project or shoreline area. A range of sea level rise projections for mid-century and

end of century based on the best scientific data available should be used in the risk assessment. Inundation maps used for the risk assessment should be prepared under the direction of a qualified engineer. The risk assessment should identify all types of potential flooding, degrees of uncertainty, consequences of defense failure, and risks to existing habitat from proposed flood protection devices.” Further, Bay Plan Climate Change Policy 3 states, in part, “To protect public safety and ecosystem services, within areas that a risk assessment determines are vulnerable to future shoreline flooding that threatens public safety, all projects—other than repairs of existing facilities, small projects that do not increase risks to public safety, interim projects and infill projects within existing urbanized areas—should be designed to be resilient to a mid-century sea level rise projection. If it is likely the project will remain in place longer than mid-century, an adaptive management plan should be developed to address the long-term impacts that will arise based on a risk assessment using the best available science-based projection for sea level rise at the end of the century.”

1. **Commission Authority in the Shoreline Band.** Within the 100-foot shoreline band, the Commission may deny an application for a permit only on the grounds that the project fails to provide maximum feasible public access, consistent with the proposed project, to the Bay and the shoreline. Therefore, the Commission has limited sea level rise authority over most shoreline development. For example, for this and other proposed projects, the Commission does not have the authority to review the developed areas, such as buildings and other private areas, for issues related to seismic safety or potential impacts from future sea level rise. Sea level rise resilience and adaptation requirements imposed by the Commission must pertain to the public access areas. To ensure maximum feasible public access is provided as part of the project, proposed public access must remain safe, available for use, resilient, and, if warranted, be adapted as sea level rises over the life of the project.

The overall development project is proposed to remain in place beyond 2100 and, thus, any public access required in a related Commission permit would be expected to be viable in the event of flooding from sea level rise and storms beyond 2100.

2. **State of California Guidance on Sea Level Rise.** The State of California Guidance, issued in March 2013 by the Ocean Protection Council, identifies a range of estimated sea level rise in 2050 and 2100, using 2000 levels as a baseline. The current best available science concludes that sea levels will rise between 4.5 and 24 inches by mid-century (around 2050) and between 16 and 66 inches by the end-of-century (a mean of 16 inches by mid-century and 36-inches by end-of-century).

The applicants prepared the *Sea Level Risk Assessment and Adaptation Strategy for Rising Sea Levels (Assessment and Strategy)* report (dated August 1, 2016) to assess Treasure Island’s vulnerability to sea level rise and flooding in its current developed condition and in the proposed developed condition, and also to present an adaptation strategy for the site. (As noted earlier, the natural topography of Yerba Buena Island puts it at limited risk from flooding and, thus, the applicants’ report focuses on Treasure Island.)

3. **Vulnerability of Treasure Island.** The Assessment and Strategy assesses the vulnerability of the existing condition of Treasure Island to flooding from storms and sea level rise in order to create a design for the public access that would make it resilient to a mid-century level of sea level rise of 16-inches or higher. An existing shoreline riprap revetment surrounds the entirety of the island. Some areas of the island are subject to wind waves during storms, while others are relatively protected.

To measure the existing vulnerability of the island, and its vulnerability over time as sea levels rise, the Assessment and Strategy differentiates between two types of water levels that correspond to a different type of risk: “Stillwater level” and “total water level.” The “stillwater level” consists of a 100-year storm, which is a storm surge with a one percent chance of being equaled or exceeded in any given year (also known as a “Base Flood Elevation” or BFE). This level does not incorporate wind waves during storms. “Total water level” is defined in the report as a water level incorporating wind waves and the 100-year storm event together. The stillwater level indicates more long-term flood risk from a storm event, while total water level, because it uses wind waves, can demonstrate a short-term flood risk associated with a storm. The Assessment and Strategy evaluated the vulnerability of the shoreline perimeter using stillwater and total water levels, with varying levels of sea level rise based on a synthesis of projections and modeling from several different climate studies. The report states that a majority of Treasure Island would be flooded by a 100-year storm event with 30-inches of sea level rise, which is within the range of end-of-century projections for sea level rise in the California Guidance, if no measures were proposed as part of the project.

The vulnerability analysis uses a 100-year storm event water level that was calculated by Moffat & Nichol in 2009, and does not use the water levels used as part of FEMA’s recent San Francisco Bay Area Coastal Study. FEMA has released preliminary Flood Insurance Rate Maps (FIRMs) for the County of San Francisco based on this study that indicate that the 100-year storm event water level at Treasure Island is at least six inches higher than the level calculated by Moffat & Nichol in 2009. This could indicate that the 100-year storm event water level used as the basis of the shoreline perimeter vulnerability analysis underestimates the level of flood risk for certain areas of Treasure Island. However, the report includes areas that will be subject to wind waves and wave run-up at Treasure Island to demonstrate the total water level for different areas of the Island. The total water levels used in the report’s analysis are higher than the FEMA study’s 100-year storm water levels.

The climate science projections for sea level rise used in the report estimate that 36 inches of sea level rise would occur between 2075 and 2090. This is consistent with the range of projections included in the State Guidance, where the mean projection for the 2100 level of sea level rise is 36 inches.

4. **Resilience of the Public Access.** In order to create a design for the project that could be resilient to a level of sea level rise consistent with the State Guidance, the report states, “...discussions related to the planning horizon for the development were initiated with project planners. Given that a typical financing mechanism (loans and/or

bonds) takes about 30 years to service the debt; a 70-year duration would allow a minimum of two such debt mechanisms after planning/construction phase of 10 years. This was also perceived to be about the length of time at which significant infrastructure improvements are made to communities.” As a result, the project was designed to subject the development and shoreline to a low risk of flooding from sea level rise and storms over a 70-year duration. The topography of the site was evaluated to determine the required perimeter elevations in order to make the site resilient to a mid-century projection of sea level rise of 16-inches or beyond. To provide maximum resiliency for the public access areas within Phase 1 of the project, including the Causeway, Waterfront Plaza, and portions of the Cityside Waterfront Park, areas of the public access would be raised to be resilient to 36 inches of sea level rise during a 100-year storm event, incorporating wind waves and wave run-up where applicable. The shoreline in Phases 2 through 4 would be raised to be resilient to 16 inches of sea level rise during a 100-year storm event. The project would raise the grade by surcharging the soil and expanding the shoreline protection, which is composed primarily of riprap, above the mean high tide line. The surcharged soil would be strengthened through a combination of soil densification and “deep-soil mixing” where the soil is mixed with concrete to provide additional structural stability.

5. **Adaptation Plan for Treasure Island.** The applicants propose an adaptation plan, discussed as follows. TIDA, as administrator of the site’s public trust lands and effective governing body for the islands, would be responsible for implementing the adaptation strategy. The 55-acre public access areas at Treasure Island and Yerba Buena Island would be maintained by TIDA.
 - Monitoring: TIDA would monitor sea levels using scientific guidance and updates from state, federal, and regional agencies. TIDA would monitor settlement of the site using topographic surveys (cross-sections). Settlement monitoring and the monitoring of sea levels will be used to determine when to begin adaptation (see below). TIDA will also monitor the effect of sea level rise and storms on shoreline protection and determine if sea level rise is affecting the functionality of development along the shoreline.
 - Adaptation Initiation for Phase 1: Phase 1 of the project would be constructed to be resilient to 36 inches of sea level rise during a 100-year storm event. When a sea level rise of 30 inches compared to 2000 levels has occurred (six inches below the design elevation of the shoreline), adaptation planning would begin. Based on projections for sea level rise used in the Assessment and Strategy, the applicants estimate this would provide an eight year timeframe for adaptation planning and construction of adaptive measures. During those eight years, the shoreline perimeter could be at some risk of flooding during extreme tides that could occur during a 50-year or 100-year storm event.
 - Adaptation Initiation for Phases 2 - 4: Phases 2 through 4 of the project would be constructed to be resilient to 16 inches of sea level rise during a 100-year storm event. When a sea level rise of 12 inches compared to 2000 levels has occurred (four-inches below the design elevation of the shoreline), adaptation planning

would begin. Based on projections for sea level rise, the applicants estimate this would provide an eleven-year timeframe for adaptation planning and construction of adaptive measures. At a minimum, the adaptation measures would accommodate a sea level rise of 36 inches. When a subsequent 30 inch rise in sea levels is reached (similar to Phase 1), additional adaptation planning and construction would begin. During the planning period, the shoreline perimeter could be at risk of flooding during extreme tides that could occur during a 50-year or 100-year storm event.

- Possible Implementation Measures: The report states that “the elevation and structural characteristics of Treasure Island’s perimeter will inform future shoreline adaptation strategies. The proposed development setback distances will allow for a variety of future modifications along the shoreline to accommodate a broad range of sea level rise scenarios.” Public access would be incorporated into any adaptation measure. The possible measures include, but are not limited to:
 - Raising the shoreline embankment, including possibly constructing a levee,
 - Constructing a series of embankments of increasing heights away from the water to provide habitat benefits for the areas of the embankment that are subject to tidal action or waves,
 - Constructing sea walls (particularly at the ferry terminal area and the Clipper Cove promenade), and/or
 - Retreating from the shoreline to create beaches or marshes to reduce wave action and provide habitat benefits.
- Financing: The agreement between TIDA and TICD and its assignees includes a financing plan. Special Taxes would be collected through a Community Facilities District on Treasure Island and Yerba Buena Island to fund future sea level rise adaptation measures. Additionally, Community Facilities District bonds can be issued to generate funds.

The adaptation plan additionally states that if any flooding occurs in an area where contamination may be left after the Navy completes remediation activities, the Regional Water Quality Control Board would be consulted and a determination would be made to assess if any additional cleanup is required. Some of the lands slated for later phases of development include areas where contamination may be left in place.

As stated above, Bay Plan Public Access Policy 7 states that public access improvements “should be sited and designed, managed and maintained to avoid impacts from future sea level rise and flooding. If the proposed public access cannot remain viable given projected sea level rise, alternative, equivalent access would be required.” (emphasis added). In addition, Bay Plan Climate Change Policy 5 states, “where feasible and appropriate, effective, innovated sea level rise adaptation approaches should be encouraged.”

The adaptation plan for this project proposes potentially constructing adaptation measures in the shoreline band in areas proposed for public access. As a result, future adaptation measures could interfere with or diminish the public access both in usability of the access. For example, the adaptation measures could reduce the accessibility of the access or could block views to the Bay. The adaptation strategies could reduce the area and size of the public access areas. The adaptation strategies occurring the future should be designed to avoid significant diminishment of the public access in order to be consistent with the public access policies of the Bay Plan.

TIDA and TICD propose to provide BCDC-required public access only within the shoreline band, potentially making it difficult to safeguard public access as sea level rise adaptation is crafted in the future. If public access was required beyond 100 feet from the shoreline, innovative adaptation strategies might be fostered; more space and flexibility is available to adapt while conserving public access farther inland.

The Assessment and Strategy states, “[a]s part of the future BCDC permit amendments for adaptation strategy implementation, the location and size of public access could be adjusted per the Commission’s policies in effect at that time.” (Page 16). This language acknowledges that a future BCDC permit amendment likely would be necessary to authorize the adaptation mechanisms decided upon in the future. The area of open space and parks located outside of BCDC jurisdiction and managed by TIDA subject to the public trust would allow flexibility for additional required shoreline public access should that be determined necessary based on future implemented adaptation strategies.

The project includes two retail structures within the TIDA open space areas within the proposed BCDC public access areas. There is no discussion about how these structures would interact with the adaptation of public access over time. The adaptation plan does not propose any measures for Yerba Buena Island, although there is a valuable public access area at Clipper Cove Beach.

As described in the permit application, full build-out of the final phase of the project (Northern Shoreline Park) is not estimated to be completed until 2030. At that time, it is likely that sea level rise will already reach 12 inches. For construction phases that occur after sea level rise has reached close to 12 inches, the applicants will revise the design to include 36 inches of sea level rise allowance. In addition, the development could be delayed, resulting in areas becoming vulnerable to flooding prior to the phase of construction has commenced or completed. Areas that are flooded prior to construction could impact the character, constructability, and viability of future public access constructed in these areas.

The Commission should determine whether the proposed project is consistent with its laws and policies regarding public access and appearance, design and scenic views, including public access policies related to sea level rise and flooding.

C. Review Boards

1. **Engineering Criteria Review Board.** Section 10271 of the California Code of Regulations provides that the Engineering Criteria Review Board (ECRB) “shall advise the Commission on problems relating to the safety of fills and of structures on fills.” The ECRB reviewed the project on January 22, 2015 and May 26, 2015. The ECRB’s reviews focused primarily on Phase 1 of the project, including the structural stability of the ferry terminal, which is the primary fill component to the TI/YBI Project. Although the ECRB’s scope of review is limited to the safety of fills in the Bay, the ECRB also reviewed the engineering criteria of the shoreline treatment proposed for the project inside the shoreline band in order to ensure the safety of the ferry terminal, which depends on the stability of the upland soils, and the safety of the public access. Treasure Island has limited routes of access and egress in the event of an emergency, including an earthquake. The ferry terminal is proposed to be a primary method of evacuation in such an event. As a result, the ECRB reviewed its performance as well as the performance of the Causeway, another critical point for access to and from Treasure Island. This review included analyzing the design for raising the grade of the shoreline and the design for the proposed deep-soil mixing and soil densification.

The ECRB recommended stringent standards for the engineering criteria for these structures, to ensure the ferry terminal and adjacent upland soils would perform during a seismic event. The ECRB recommended the installation of strong motion instrumentation throughout the island, particularly in the areas where the shoreline is stabilized using deep-soil mixing and stone-columns. The ECRB approved the criteria for Phase 1 of the project.

2. **Design Review Board.** Section 10270 of the California Code of Regulations provides, in part, that the Design Review Board (“DRB”) “shall advise the Commission and the staff on the appearance and design of projects for which a Commission permit or consistency determination is needed, particularly as the project affects public access to the Bay and shoreline.” The TI/YBI Project was reviewed by the DRB at six separate meetings. The Design Review Board reviewed the project prior to the certification of the Environmental Impact Report three times. On November 9, 2009, the DRB was given a project overview. On February 8, 2010, the review focused on the seismic stabilization of Treasure Island and how the project and proposed public access would adapt to sea level rise. On June 6, 2011, the review focused on the Waterfront Plaza, including the transit hub and the ferry terminal, and the pedestrian and bicycle access around the island. After the certification of the Environmental Impact Report on April 21, 2011, the project was reviewed three additional times.

On October 6, 2014, the DRB reviewed an updated project overview and determined which areas of the public access would be the focus of subsequent meetings. The Board encouraged breaking down the large scale of the Cityside Waterfront Park public access area into discrete areas, and agreed that the full 300-foot width of the Cityside Waterfront Park provided opportunities for innovative adaptation to sea

level rise. The Board encouraged water access, encouraged a transparent ferry shelter, and supported allowing public access areas along the shoreline to evolve over time.

On December 8, 2014, the DRB reviewed the Phase 1 public access components of the project, including Clipper Cove Promenade and the Waterfront Plaza public access area, and the Cityside Waterfront Park in concept. At this meeting design for these areas was in an early conceptual form, and was missing design details and sea level rise adaptation strategies. However, the DRB encouraged consideration of how marina amenities would be incorporated into the public access along Clipper Cove Promenade, to accommodate any future marina expansion. The DRB supported the design framework for the Cityside Waterfront Park public access area, which was presented as a series of smaller, differentiated areas along the long shoreline.

On February 9, 2015, the Board reviewed the ferry plaza and the ferry shelter, along with access on Yerba Buena Island and Clipper Cove Beach. The Board encouraged the applicants to refine bicycle and pedestrian circulation around the ferry shelter and the transportation hub, to reduce conflicts between pedestrians and different types of bicyclists, and encouraged shoreline treatment along the edge of the riprap slope near the ferry shelter. The Board supported the open and transparent design of the ferry shelter. The Board supported the pedestrian and bicycle circulation design on Yerba Buena Island, and supported the proposed Clipper Cove Beach Park and associated access.

The DRB did not review designs for the East Shoreline Park and the Northern Shoreline Park public access areas.

D. **Environmental Review.** The City and County of San Francisco, as lead agency for the project, certified the Environmental Impact Report for the project on April 21, 2011.

E. **Relevant Portions of the McAteer-Petris Act**

1. Section 66602
2. Section 66605
3. Section 66632.4

F. **Relevant Portions of the San Francisco Bay Plan**

1. *San Francisco Bay Plan* Policies on Fish, Other Aquatic Organisms, and Wildlife
2. *San Francisco Bay Plan* Policies on Water Quality
3. *San Francisco Bay Plan* Policies on Climate Change
4. *San Francisco Bay Plan* Policies on Safety of Fills
5. *San Francisco Bay Plan* Policies on Transportation
6. *San Francisco Bay Plan* Policies on Public Access
7. *San Francisco Bay Plan* Policies on Appearance, Design and Scenic Views

Exhibits

- A. **Project Map**
- B. **Shoreline Band Jurisdiction**
- C. **Open Space Network**
- D. **Phase 1: Public Access Improvements**
- E. **Ferry Terminal**
- F. **Ferry Basin**
- G. **Existing Conditions/Access**