

San Francisco Bay Conservation and Development Commission

455 Golden Gate Avenue, Suite 10600, San Francisco, California 94102 tel 415 352 3600 fax 415 352 3606

September 9, 2016

TO: Commissioners and Alternates

FROM: Lawrence J. Goldzband, Executive Director (415/352-3653; larry.goldzband@bcdc.ca.gov)
Erik Buehmann, Coastal Program Analyst (415/352-3645; erik.buehmann@bcdc.ca.gov)

SUBJECT: **Staff Recommendation on BCDC Permit Application No. 2016.005.00 for the Treasure Island/Yerba Buena Island Redevelopment Project at Treasure Island and Yerba Buena Island, in the City and County of San Francisco**
(For Commission consideration on September 15, 2016)

Recommendation Summary

The San Francisco Bay Conservation and Development Commission (“Commission” or “BCDC”) staff recommends approval of BCDC Permit Application No. 2016.005.00 of the Treasure Island Development Authority (“TIDA”), Treasure Island Community Development, LLC (“TICD”) and Treasure Island Series 1, LLC (“TI Series 1”), an assignee of TICD, for the Treasure Island/Yerba Buena Island Redevelopment Project, which as conditioned herein, authorizes the following:

1. Construction of a ferry terminal and two breakwaters connected to the shoreline by a riprap revetment totaling approximately 15,000 square feet of fill in the Bay;
2. Development and enhancement of approximately 54.47 acres of public access area and amenities, including pedestrian and bicycle facilities, and San Francisco Bay Trail and Water Trail improvements, along and connected to the Treasure Island shoreline and the northern area of Yerba Buena Island;
3. Removal of approximately 12,000 square feet of Bay fill associated with a dilapidated pier, gangway, and piling system (a.k.a., Pier 23); and
4. Replacement of a stormwater outfall system resulting in approximately 445 square feet of Bay fill;

The project is scheduled to commence in 2016 and occur in four major phases through December 2030. Phase 1 involves the development of the Causeway, Waterfront Plaza, Clipper Cove Promenade, the southernmost portion of Cityside Waterfront Park, and the Yerba Buena Hilltop Park and Beach Park. In subsequent phases, the Eastern Shoreline Park and the remainder of Cityside Waterfront Park will be constructed. The final phase involves construction of the Northern Shoreline Park (Exhibit B).

Bay Fill: The project will result in a net increase (total) of approximately 2,809 square feet (0.06 acres) of fill in the Bay.

Bay 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	-469
Sub Total (sf)	-12,856	15,665	+2,809
Sub Total (cy)	-170	2,155	+1,985

Public

Access: The project will result in approximately 54.47 acres (2,372,902 square feet) of dedicated public access along the shoreline of Treasure Island and at the northern area of Yerba Buena Island (Exhibit A).

Required Public Access	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	703,480	16.1
Total Project	2,372,902	54.47

Staff Recommendation

The Commission staff recommends that the Commission adopt the following resolution to be authorized as conditioned herein:

AUTHORIZATION

I. Treasure Island

A. Waterfront Plaza Area

1. In the Bay

- a. Construct, use, and maintain in-kind a ferry terminal with supporting utilities and an approximately 5,175-square-foot float supported by six 42-inch-diameter steel piles, and an approximately 1,170-square-foot gangway; an approximately 2,400-square-foot section of a pier supported by two approximately 48- to 60-inch-diameter steel piles and sixteen approximately 24-inch-diameter concrete piles; and two breakwaters—one approximately 820 feet long supported by 60 approximately 24-inch-diameter concrete batter piles north of the terminal and one approximately 380 feet long supported by 30 approximately 24-inch-diameter batter piles south of the terminal—totaling approximately 1,550 square feet of fill, and two approximately 2,400-square-foot rock revetments (totaling 4,800 square feet) connecting the breakwaters to the shoreline.
- 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 structures and facilities to facilitate the development authorized herein;
- b. Install, use, and maintain in-kind rock riprap within an approximately 17,000-square-foot area to raise the height of a perimeter shoreline 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 and an approximately 7,600-square-foot ferry terminal shelter with 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, within an approximately 74,052-square-foot public access area, public amenities including 20- to 25-foot-wide trails along an approximately 804-linear-foot area, landscaping, lighting, approximately 182 bicycle parking facilities, a minimum of four concrete seating areas, art, and stormwater treatment areas; 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-inch diameter and 30- to 54-inch diameter.

2. In the 100-Foot Shoreline Band:

- a. Demolish and remove structures and facilities to facilitate the development authorized herein;
- b. Install, use, and maintain in-kind rock riprap within an approximately 43,800-square-foot area to raise the height of a perimeter protection system to approximately 12.2 feet NAVD88 and strengthen soil using densification and/or deep soil mixing techniques;
- c. Replace, use, and maintain in-kind outfalls with approximately two 40-foot-long, 24- to 26-inch diameter and 30- to 54-inch 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 trails, an approximately 10-foot-wide bicycle path, landscaping, lighting, stormwater treatment areas, seating, and art;
- e. Construct, use, and maintain in-kind an approximately 2,265-foot-long, 33- to 42-foot-wide public roadway with 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 future—not proposed as a part of the subject permit application—marina redevelopment, including: eight 150-square-foot, 6-foot-tall 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-inch-diameter outfall; and
- b. Remove approximately three-foot-long sections of three outfalls.

2. In the 100-Foot Shoreline Band

- a. Demolish and remove structures and facilities to facilitate development authorized herein;
- b. Install, use, and maintain in-kind rock riprap within an approximately 38,500-square-foot area to raise the height of the perimeter protection system to approximately 11.4 feet NAVD88 and strengthen soil using densification and/or deep soil mixing techniques;
- c. Remove outfalls, and install, use, and maintain in-kind an approximately 40-foot-long, 72-inch-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 at an approximately 3,868-linear-foot area, 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-inch-diameter outfall; and
- c. Replace approximately three-foot-long sections of two outfalls measuring approximately 36- and 21-inch diameter, respectively, and install, use, and maintain in-kind two approximately three-foot-long sections of outfalls measuring, respectively, approximately 36- and 48-inch diameter.

2. In the 100-Foot Shoreline Band

- a. Demolish and remove structures and facilities to facilitate development authorized herein;
- b. Install, use, and maintain in-kind rock riprap within an approximately 121,000-square-foot area to raise the height of a perimeter protection system to approximately 15.8 feet NAVD88 and strengthen soil using densification and/or deep soil mixing techniques;
- c. Remove outfalls, and install, use, and maintain in-kind an approximately 37-foot-long section of a 60-inch-diameter outfall, and two 37-foot-long outfall sections measuring approximately 36-inch and 48-inch 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 at an approximately 6,013-linear-foot area, landscaping, lighting, stormwater treatment areas, seating, 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-inch, 54-inch, and 48-inch diameter, respectively;
- b. Remove three-foot-long portions of four outfalls; and
- c. Remove an approximately 11,684-square-foot pier ("Pier 23"), including approximately 198 piles and 22 bents and an approximately 258-square-foot gangway.

2. In the 100-Foot Shoreline Band

- a. Demolish and remove structures, including an approximately 72-square-foot section of Pier 23, to facilitate development authorized herein;
- b. Install, use, and maintain in-kind rock riprap within an approximately 80,400-square-foot area to raise the height of a 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 outfalls, and construct, use, and maintain in-kind three approximately 40-foot-long outfalls, measuring approximately 54-inch, 54-inch, and 48-inch 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 at an approximately 4,112-linear-foot area, landscaping, lighting, stormwater treatment areas, a perched beach area, an access ramp for 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 facilities and structures to facilitate development authorized herein;
- 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 at the east side (664 feet long) and west side (625 feet long) of The Causeway, and two six-foot-wide bicycle lanes at the east and west side of the roadway, and 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-inch-diameter outfall.

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

- a. Demolish and remove all development to facilitate the activities and development authorized herein;
- 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 YBI;
- 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-inch-diameter outfall.

- B. **Permit Application Date.** This authority is generally pursuant to and limited by the permit application signed and dated May 6, 2016, including all accompanying and subsequently submitted correspondence and exhibits, subject to the modifications required by conditions herein.
- C. **Deadlines for Commencement and Completion of Authorized Activities.** Phase I of work authorized herein must commence by June 1, 2017, and be completed by November 1, 2030. The subject permit will lapse and become null and void at the time of said commencement and completion dates unless an extension of time is granted through a permit amendment. In-kind repair and maintenance of the development authorized herein is allowed as long as the facilities and uses authorized herein remain in place.
- D. **Bay Fill.** The project involves the placement of approximately 15,665 square feet of fill, and the removal of approximately 12,856 square feet of fill associated with a dilapidated pier facility. As a result, it will result in a net increase of approximately 2,809 square feet of Bay fill
- E. **Public Access.** The project results in public access improvements within an approximately 54.47-acre (2,327,902-square-foot) area within the Commission's jurisdiction at sub-areas identified in Exhibit A and, further, described in Special Condition B below.

SPECIAL CONDITIONS

The authorization made herein shall be subject to the following special conditions, in addition to the standard conditions:

- A. **Plan Review and Approval.**
 - 1. **Site Plans.** Preliminary and final plans submitted and reviewed pursuant to this condition shall generally conform to the following materials: those contained in the reviewed by the Commission's Design Review Board ("DRB") on November 9, 2009, February 8, 2010, June 6, 2011, October 6, 2014, December 8, 2014, and February 9, 2015; and the *Sea Level Risk Assessment and Adaptation Strategy for Rising Sea Levels* ("Assessment and Strategy"), prepared by Moffatt & Nichol, dated August 1, 2016 (version 3).
 - 2. **Preliminary Plan Review.** For each phase of the development, permittees shall provide preliminary plans for all phased development and public access authorized herein to the Commission staff for review and comments by or on behalf of the Commission and, if deemed necessary, to the Commission's Design Review Board for further advice on preliminary public access plans for individual development phases.
 - 3. **Final Plan Review.** No work authorized herein shall commence until final precise site, demolition, construction staging, engineering, grading and drainage, architectural, layout, public access, landscaping, irrigation drawings and plans, and best management practices plans and any other relevant criteria, specifications, and plan information, have been submitted to, reviewed, and approved in writing by or

on behalf of the Commission. All plans shall include, but not be limited to, the following information: The specific drawings and information required will be determined by the staff.

- a. **Site, Architectural, Layout, Landscaping, and Public Access Plans.** All plans shall include and clearly label the Mean High Water Line or the inland edge of marsh vegetation, where marsh is present), the 100-foot shoreline band, property lines, roadways, the boundaries of all areas reserved for public access, and details showing the location, types, dimensions, and materials to be used for all authorized improvements.
 - b. **Engineering Plans.** All plans shall include a complete set of construction drawings and specifications and design criteria. Design criteria shall be appropriate to the nature of the project, the use of any structures, soil and foundation conditions at the site, and potential earthquake-induced forces. Final plans shall be signed by the professionals of record and be accompanied by: evidence that the design complies with all applicable codes; and evidence that a thorough and independent review of the design details, calculations, and construction drawings has been made.
 - c. **Riprap Plans.** All plans shall include a complete set of construction drawings and specifications and design criteria, and show that rock material is generally spheroid-shaped either quarry rock or specially cast or carefully selected concrete pieces free of reinforcing steel and other extraneous material and conforming to quality requirements for specific gravity, absorption, and durability specified by the California Department of Transportation or the U. S. Army Corps of Engineers. Further, plans shall show that the overall thickness of the slope protection will be no more than three feet measured perpendicular to the slope, and that the engineered slope will not be steeper than two (horizontal) to one (vertical) unless slope is keyed at the toe. The slope shall be created by the placement of a filter layer protected by riprap material of sufficient size to withstand wind and wave generated forces at the site. In addition to information previously referenced, shoreline riprap plans shall consist of cross-sections that label the elevation of the mean high tide line (referenced to NAVD88 datum), indicate the source of all materials to be used, and the designer of the shoreline protection improvement(s).
4. **Plan Review Process.** Preliminary and final plans submitted to Commission staff shall be accompanied by a letter requesting plan review and/or approval and identifying plan type and relevant project phase. Final plan review shall be completed by or on behalf of the Commission within 45 days after receipt of the plans. Final plan approval or disapproval shall be based upon: consistency of plans with the terms and conditions of this authorization; plan completeness and accuracy in showing the Commission's jurisdictional lines, property lines, public access required herein, and fill volumes and dimensions authorized herein; consistency with recommendations of the Commission's DRB and Engineering Criteria Review Board including

appropriate provisions to ensure safety of fills; consistency of plans with the Assessment and Strategy; and appropriateness of measures to ensure continuous or only temporary disruption of existing public access where construction staging is proposed.

5. **Conformity with Final Approved Plans.** All construction and uses shall conform to the final approved plans. Prior to any use of the facilities authorized herein, the appropriate design professional(s) of record shall certify in writing that, through personal knowledge, the work covered by the authorization has been performed in accordance with the approved design criteria and in substantial conformance with the approved plans. No noticeable changes shall be made thereafter to any final plans or constructed structure or facility without first obtaining review and written approval of the change(s) by or on behalf of the Commission.
6. **Discrepancies Between Approved Plans and Special Conditions.** In case of any discrepancy between final approved plans and the conditions of this authorization, the special condition shall prevail. The permittee is responsible for assuring that all plans accurately and fully reflect the special conditions of this authorization.
7. **Appeals of Plan Review Decisions.** Any plan approval, conditional plan approval or plan denial may be appealed by the permittee to the Commission by application for a non-material or material amendment to this permit.
8. **Construction Phasing.** All development authorized herein shall be constructed in phases as illustrated in Exhibits C and D.

B. **Public Access**

1. **Area.** An approximately 2,372,902-square-foot (54.47-acre) area within the Commission's 100-foot shoreline band at Treasure Island and within the northern section of Yerba Buena Island, as generally shown on Exhibit A, shall be available exclusively to the public for unrestricted access for walking, bicycling, sitting, viewing, fishing, picnicking, swimming, boating, and related purposes. If the permittees wish to use the dedicated area for other than public access purposes, it must obtain prior review and written approval by or on behalf of the Commission.
2. **Improvements Within the Total Public Access Area.** The permittees shall install the following public improvements pursuant to the phasing described in Exhibits C and D, consistent with the plans required in Special Condition A of this permit, and as generally shown on attached Exhibit A, and identified below:
 - a. **Waterfront Plaza Area**
 - (1) An approximately 74,052-square-foot public access area, including landscaping, lighting, stormwater treatment areas, public access signage, and art;
 - (2) Pathways measuring 20 to 25 feet wide trails at an approximately 804-linear-foot area;

- (3) 182 bicycle parking spaces; and
 - (4) A minimum of four concrete seating areas.
- b. **Clipper Cove Promenade**
- (1) An approximately 156,440-square-foot public access area, including landscaping, lighting, stormwater treatment areas, seating, public access signage, and art;
 - (2) Pathways measuring 10 to 16 feet wide at an approximately 2,906-linear-foot area; and
 - (3) A 10-foot-wide bicycle path.
- c. **East Shoreline Park**
- (1) An approximately 314,610 square-foot public access area, including landscaping, lighting, stormwater treatment areas, guardrails at Pier 1, seating, public access signage, and art; and
 - (2) Pathways measuring 20 to 30 feet wide at an approximately 3,868-linear-foot area.
- d. **Northern Shoreline Park**
- (1) An approximately 606,800-square-foot public access area, including, landscaping, lighting, stormwater treatment areas, seating, an access ramp for small hand-launch boats, public access signage, and art;
 - (2) Pathways measuring 25 to 30 feet wide at an approximately 6,013-linear-foot area; and
 - (3) A minimum of two 1,500 square-foot restrooms.
- e. **Cityside Waterfront Park**
- (1) Approximately 387,720-square-foot public access 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, public access signage, and art; and
 - (2) Pathways measuring 30 to 35 feet wide at an approximately 4,112-linear-foot area.
- f. **The Causeway**
- (1) Approximately 129,800-square-foot public access area, including landscaping, lighting, stormwater treatment areas, public access signage, and art;
 - (2) Two eight-foot-wide sidewalks at the east and west sides of The Causeway, measuring 664 feet long along the east side and 625 feet long along the west side; and

- (3) Two six-foot-wide bicycle lanes on the east and west side of The Causeway.
- g. **The Northern Area of Yerba Buena Island (in the 100-foot shoreline band and within the San Francisco Bay Plan Waterfront Park, Beach Priority Use Area)**
 - (1) An approximately 48,780 square-foot public access area; and
 - (2) An approximately 370-foot-long, six-foot-wide pedestrian path to the beach and public access signage located at the Clipper Cove side of Yerba Buena Island.
3. **Maintenance.** The areas and improvements within the total 54.47-acre area shall be permanently maintained by and at the expense of the permittees or its assignees. Such maintenance shall include, but is not limited to, repairs to all path surfaces; replacement of any trees or other plant materials that die or become unkempt; repairs or replacement as needed of any public access amenities such as signs, public site furnishings and other public access amenities; periodic cleanup of litter and other materials deposited within the access areas; removal of any encroachments into the access areas; and assuring that the public access signs remain in place and visible. Within 30 days after notification by staff, the permittees shall correct any maintenance deficiency noted in a staff inspection of the site.
4. **Reasonable Rules and Restrictions.** The permittees may impose reasonable rules and restrictions for the use of the public access areas reasonably necessary to protect health, safety or property, and to correct particular problems that may arise. Such limitations, rules, and restrictions shall have first been approved by or on behalf of the Commission upon a finding that the proposed rules would not significantly affect the public nature of the area, would not unduly interfere with reasonable public use of the public access areas, are reasonably necessary to protect health, safety or property, or would tend to correct a specific problem that the permittees has both identified and substantiated. Rules may include restricting hours of use and delineating appropriate behavior and include restrictions to areas not physically accessible to the public but included within the public access area.
5. **Macalla Road Bicycle and Pedestrian Access.** The bicycle and pedestrian elements associated with the reconstruction of Macalla Road on Yerba Buena Island, between the Causeway and the East Span of the San Francisco-Oakland Bay Bridge, shall be generally consistent with the Design for Development Document, prepared by TIDA, dated June 28, 2011. If the design of the bicycle and pedestrian access on Macalla Road must undergo changes, the permittees shall notify the Commission within 30 days and consult with the Commission prior to undertaking any changes in construction. Any substantive public access changes to the Macalla Road corridor shall be presented to the BCDC Commission for its consideration.

6. **Restriction on Special Events in Public Access Areas.** The permittees shall not conduct special events, which are closed to or require an entry fee of the general public within public access areas required herein and located within the Commission's jurisdiction.
7. **Construction and Access Availability.** Construction staging shall ensure that continuous public access is maintained within completed public access areas required herein and public areas pre-dating this authorization except for interruptions reasonably necessary in conjunction with the development of the project authorized, as conditioned, herein.
8. **Foundation Layout Inspection.** Prior to constructing any building forms for authorized structures to be located within the Commission's 100-foot-wide shoreline band, the permittees shall request in writing for the Commission staff to inspect the foundation layout as it has been surveyed and staked at the site relative to the Commission's jurisdiction. Within 14 working days of receipt of the request, the Commission's staff will inspect the layout as it has been surveyed and staked. The permittee shall not commence construction of the forms or pour the foundation until the staff confirms in writing that the layout is consistent with the terms and conditions of the permit. If the staff is unable to perform the inspection, the staff's inability to complete such an inspection does not relieve the permittees of the responsibility to provide public access areas and build structures in accord with the approved plans and boundaries of required access areas.

C. **Sea Level Rise and Flooding Monitoring.**

1. **Five-Year Monitoring Report.** Every five years following the date of permit issuance—with the initial report due on or around October 1, 2021—the permittees shall submit to the Commission staff a monitoring report generally based on the *Sea Level Risk Assessment and Adaptation Strategy for Rising Sea Levels* ("Assessment and Strategy") prepared by Moffatt & Nichol Engineers dated August 1, 2016 (V.3), which shall reflect the best available science and include: up-to-date sea level rise projections; global projections of sea level rise based on downscaled Global Climate Models; sea level rise projections for the San Francisco Bay Area; tidal datum and extreme tides datum; updated modeling in tidal dynamics and Bay hydrological process; tide gauge data over the subject five-year period; a comparison of updated projections on sea level rise v. projections cited in the August 1, 2016 Assessment and Strategy document; and an assessment as to whether remediated lands located within the public access area required herein are or would be vulnerable to flooding. In addition, the monitoring report shall:
 - a. Describe whether the 2016 Assessment and Strategy report is consistent with the most up-to-date guidance from state and federal agencies, including, but not limited to, the Commission, the U.S. Army Corps of Engineers, the State of California Ocean Protection Council, and Federal Emergency Management Agency ("FEMA");

- b. Present data on land settlement since 2016 throughout public access areas required herein to be acquired through periodic topographic surveys of the project site by licensed surveyors based on benchmarks, which shall be installed as approved by or on behalf of the Commission through plan review, as required in Special Condition A;
- c. Present data based on observations of water levels at the public access, including measurements of water levels over the subject five-year monitoring period and photographic evidence (with date, location, hour and actual tide levels recorded at tide gauges) of completed and planned public access areas during king tide events;
- d. Document any occurrence of flooding at the public access areas required herein, including date, location, recorded tide level, rainfall (amount and duration), source of flooding (e.g., shoreline overtopping or stormwater system backup), duration of flooding, damage or cleanup necessary, and duration of access closure; and
- e. An assessment of the Assessment and Strategy report, including a recommendation as to whether it should be revised based on findings, site conditions, sea level rise and storm projections, and updated policy guidance.

Within 30 days of receipt of the monitoring report, the Commission staff shall conduct a review in consideration of, among other things, the best available science, most recent state and federal guidance, and BCDC policies then in-effect. Within 30 days of receipt of the monitoring report, the permittees shall be notified by or on behalf of the Commission as to whether:

- (1) The Commission accepts the monitoring report and recommends no changes to the permittees' approach, including the 2016 Assessment and Strategy report, or the original permit;
 - (2) The Commission recommends revisions to the monitoring report on the basis that it is incomplete; or
 - (3) The Commission recommends revisions to the 2016 Assessment and Strategy report and possibly the original permit based on findings and information contained in the monitoring report that reveal circumstances substantially different from those described in the 2016 Assessment and Strategy report, where such revisions are necessary to protect public access of the size and usability required by this permit.
2. **Flood Reporting.** At any time, if any portion of the completed or future public access required by this permit is subject to flooding that requires a closure of public access, the permittees shall submit a monitoring report documenting the date, location, recorded tide level, rainfall (amount and duration), source of flooding (for example, coastal shoreline overtopping or stormwater system backup), how long the flooding

lasted, any damage or cleanup necessary, how long the public access was closed if at all, photographs of the flooding with date/time/location/orientation. The monitoring report must be submitted within 45 days of any flood event.

3. **Remediated Lands.** If flooding occurs in any area for future or completed public access area required herein where remediation of contaminated lands has occurred and for which a “no further action letter” or similar regulatory closure has been obtained, the permittees shall notify the Commission in the event that any additional cleanup and permitting is necessary.

D. Sea Level Rise Adaptation Planning and Implementation.

1. **Phased Development (Phases 2, 3 and 4), Earlier Adaptation.** Based on the information contained in the required five-year monitoring report, when mean sea level reaches 12 inches NAVD88 or higher compared to 2000 levels at the required public access areas associated with Phases 2, 3, and 4 of the project, the permittees shall initiate an adaptation planning process to protect the public access from flooding. Within 45 days of notifying the Commission of such conditions, the permittees shall provide the Commission with a work plan describing the adaptation approach and such a plan shall be reviewed and approved by or on behalf of the Commission. Within six months of Commission approval of the adaptation plan, including through any necessary Commission permits or amendments to permits, the permittees shall commence and diligently proceed to implement the measures described in such a plan to completion.
2. **Phased Development (Phases 1 to 4), Later Adaptation.** Based on the information contained in the required five-year monitoring report(s), when mean sea level reaches 30 inches NAVD88 or higher compared to 2000 levels at the required public access area(s), the permittees shall initiate an adaptation planning process to protect the public access areas from flooding.

Any flooding adaptation measures proposed pursuant to the planning process required in this condition shall not result in a reduction of the size or useability of the public access required herein or, if unavoidable, equivalent access (in area and free of any structures not associated with the public access) must be provided nearby. The permittees shall obtain additional Commission review and approval of any such changes to the public access required herein.

- E. **Seismic Instrumentation Plan.** Prior to the commencement of construction of the fill authorized herein in Section A.1.a (the ferry terminal), the permittees shall coordinate with the California Geological Survey to prepare a seismic instrumentation plan and submit the plan to the Commission’s Staff Engineer for review and approval by or on behalf of the Commission. The plan shall include: the number, type, and location of sensors to be placed at the project site; information on the transmission and recording of signals from the sensors; and a plan on the long-term maintenance of the seismic instrumentation and the party or parties responsible for maintenance and gathering and interpreting data.

- F. **Construction Measures to Protect Special-Listed Fish Species.** To minimize disturbance to special-status species (including the federally-threatened southern Distinct Population Segment (DPS) of the North American green sturgeon, and their designated critical habitat), the permittees shall conduct in-water activities authorized herein in compliance with restrictions identified in the related NOAA Fisheries (NMFS) Endangered Species Act (ESA) Section 7 Concurrence Letter and Magnuson-Stevens Fishery Conservation Management Act Essential Fish Habitat Response dated May 31, 2016, including: restrict in-water work to June 1 through November 30; use a vibratory hammer to remove pilings and install pilings for the ferry terminal pier, gangway, and float use an impact hammer for installation of the pilings associated with the two breakwaters; and install outfalls using an approximately 850-square-foot cofferdam around the area of work.
- G. **Minimizing Impacts to Eelgrass.** Prior to any in-water construction authorized herein scheduled to occur in the period of June 1 to November 30, the permittees shall conduct and provide Commission staff with the results of an eelgrass survey, which will be valid for a 60-day period. If eelgrass is detected in survey, the permittees shall describe potential impacts and any offsetting measures, including project re-design or off-site restoration. Any potential eelgrass impacts shall be mitigated in accordance with the NOAA Fisheries ("NMFS") California Eelgrass Mitigation Policy as referenced in the NMFS letter dated May 31, 2016.
- H. **Water Quality Protection.** The permittees shall ensure that in-water project construction and operations comply with the San Francisco Bay Regional Water Quality Control Board ("RWQCB") Water Quality Certification dated February 19, 2016.
- I. **Fill Removal.** Prior to the commencement of construction of the ferry terminal authorized herein, the permittees shall remove an approximately 11,684-square-foot dilapidated pier and 258-square-foot wooden gangway, including approximately 198 creosote timber pilings, (a.k.a., Pier 23). All pilings shall be removed entirely or cut at least two feet below the mudline. Within 60 days of removal of Pier 23, the permittees shall submit a report to the Commission, including plans showing the specific areas of fill removal and the approximate depth of pile removal.
- J. **Mitigation Fee.** Prior to the commencement of construction of the ferry terminal authorized herein, the permittees shall deposit \$40,000.00 into the Coastal Trust Fund held by the California Coastal Conservancy ("Conservancy") to be used for the purpose of removal of up to 250 creosote pilings at possible sites including the Red Rock Warehouse/Terminal 4 (in the City of Richmond, Contra Costa County), the El Campo site located at the northeast side of the Town of Tiburon in Marin County, or at another site selected by the Coastal Conservancy in consultation with the Commission staff. The permittees shall notify the Commission staff upon receipt of the funds by the Coastal Conservancy.

- K. **Riprap Maintenance.** The shoreline protection improvements authorized herein shall be regularly maintained by, and at the expense of the permittees. Maintenance shall include, but not be limited to, collecting any riprap materials that become dislodged and repositioning them in appropriate locations within the riprap covered areas, replacing in-kind riprap material that is lost, repairing the required filter fabric as needed, and removing debris that collects on top of the riprap. Within 30 days after notification by the staff of the Commission, the permittees shall correct any maintenance deficiency noted by the staff.
- L. **Certificate of Occupancy or Use.** Prior to occupancy or use of any of the development authorized in each phase, the permittees shall submit the Notice of Completion and Compliance required herein and request in writing an inspection of the completed phase by the Commission staff. Within 30 days of receipt of the written request for an inspection, the Commission's staff will: review all permit conditions; inspect the project site; and provide the permittees with written notification of all outstanding permit compliance problems, if any. The permittees shall not occupy or make use of any improvements authorized in each phase until the staff has confirmed that the identified permittee compliance problems have been satisfactorily resolved and has provided the permittee with a Certificate of Occupancy or Use. Failure by the staff to perform such review and inspection and notify the permittees of any deficiencies of the project within this 30-day period shall not deem the project to be in compliance with the permit, but the permittee may occupy and use the improvements authorized herein

FINDINGS AND DECLARATIONS

This authorization is given on the basis of the Commission's findings and declarations that the work authorized herein is consistent with the McAteer-Petris Act, the *San Francisco Bay Plan* (Bay Plan), the California Environmental Quality Act (CEQA), and the Commission's amended coastal zone management program for San Francisco Bay for the following reasons:

- A. **Priority Use Area.** A project in the Commission's 100-foot shoreline band 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 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 recreational opportunities or the park-like character of the site; (b) preserve historic buildings where present for compatible new uses; and (c) not significantly, adversely affect the site’s fish, other aquatic life and wildlife and their habitats.”

The Bay Plan priority use area boundary at YBI extends outside of the Commission’s 100-foot shoreline band jurisdiction. However, the Commission’s authority is limited to the shoreline band and, therefore, it may only evaluate whether the project within the shoreline band would be consistent with the Waterfront Park, Beach designation.

Outside of the Commission’s 100-foot shoreline band jurisdiction, at YBI, the project involves development of non-waterfront park-related uses, including residential (150 to 300 units), hotel (approximately 50 rooms with ancillary uses) and neighborhood-serving commercial buildings, open space and park areas with views of San Francisco, the San Francisco-Oakland Bay Bridge, the Golden Gate Bridge and the Central Bay, and a network of trails connecting parks to access improvements in the Commission’s jurisdiction. Under the Trust Exchange Agreement (described below), buildings on Yerba Buena Island are subject to a height limitation to protect views from the Yerba Buena Island easternmost and westernmost public hilltop areas identified in the Exchange Agreement. Development in the shoreline band, required in Special Condition B.2, includes sidewalks and bicycle lanes along the Causeway and Clipper Cove Beach (adjacent to Clipper Cove). Additionally, as required herein, an universally-accessible pathway between the San Francisco Bay Trail at the Causeway and Clipper Cove Beach and a beach parking area will 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.” 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 includes a series of public access areas required herein. This authorization also requires that where water access will be available (e.g., at Northern Shoreline Park and Cityside Waterfront Park), existing access points will be used and maintained in kind.

The public access required by this permit includes 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 authorized by this permit. One outfall will be constructed in this location, but it will not impact the eelgrass bed.

The Commission finds that the project authorized herein is consistent with the Bay Plan Recreation Policies regarding waterfront parks and beaches, and the Bay Plan Map No. 4.

- B. **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.”
1. **Public Benefit v. Detriment and Water-Oriented Use.** The fill authorized herein includes a ferry terminal and two associated breakwaters with rock revetments connecting the breakwaters to the shoreline, and an improved stormwater outfall system at the perimeter of Treasure Island and YBI. The ferry terminal will 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.

Over the years, the Commission has approved other ferry terminals around the Bay, including South San Francisco, Oakland, San Francisco and Sausalito. The subject ferry terminal will 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. The permittees designed the terminal to accommodate a ferry that will 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. Rock revetments are not explicitly listed as a water-oriented use in the McAteer-Petris Act, however, the Commission has approved shoreline protection as a water-oriented use. The outfalls authorized herein are a component of an improved stormwater treatment system, which features pre-discharge treatment. Existing outfalls discharging untreated water to the Bay will be removed. Therefore, the public benefits of the fill authorized by this permit clearly exceed any public detriment.

2. **Alternative Upland Location.** The ferry terminal location at the Waterfront Plaza area of Treasure Island will 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 San Francisco-Oakland 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 Environmental Impact Report (EIR); additional motorized public transportation will not be a sufficient alternative and not completely comply with existing entitlements. The breakwaters and associated rock slope revetments authorized herein will 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 permittees state that the outfalls could not function on-land. Therefore, the fill authorized does not have an alternative upland location.
3. **Minimum Amount Necessary.** The authorized fill will 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). 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 breakwaters authorized herein will

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 will 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 were removed from the project for safety reasons and to reduce the size of the rock slopes which in turn reduced the amount of fill in the Bay. Therefore, the fill authorized herein is the minimum amount necessary to achieve the purpose of the fill.

4. **Effects on Bay Resources.** In an earlier design phase, the project involved dredging. However, the permittees 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 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. The requirements of Special Condition A are included to ensure that the fill is constructed in a manner consistent with the authorization and requirements herein to limit the effects of fill on Bay resources. Special Conditions A and K of the permit provide criteria for the riprap to be used in the rock revetment between the sheetpile breakwaters and the shoreline and plan review for the riprap in order to protect resources.
 - a. **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 ferry terminal and outfalls, and concluded that the activity will 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 permittees included adequate measures to avoid, minimize, mitigate, or offset these effects. The NMFS letter did not recommend conservation measures. Special Condition F requires the permittees to construct the project in a manner consistent with the

NMFS concurrence. It also requires the permittee limit in-water work to between June 1 and November 30, and allows the use of impact and vibratory hammers for driving particular types of piles. Although the ferry terminal and outfalls are designed to avoid eelgrass beds and mudflats, pursuant to Special Condition G, the permittees shall conduct pre-construction (60 days in advance of construction) surveys for eelgrass. Mitigation for eelgrass impacts, pursuant to Special Condition G, will be conducted pursuant to NMFS California Eelgrass Mitigation Policy, which lays out standards for a variety of types of mitigation, if eelgrass impacts are identified.

- b. **Water Quality.** 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 project includes replacing stormwater management infrastructure currently discharging untreated water. The replacement system, including outfalls authorized herein, will treat stormwater prior to discharge through the authorized outfalls, thereby improving Bay water quality. In addition, the removal of a pile-supported pier and other creosote pilings and wood (as required by Special Condition I) will improve water quality. Special Condition H requires the permittees to construct the project in accordance with the RWQCB water certification for the project, issued on February 19, 2016.

As conditioned, the fill authorized by this permit will minimize harmful effects to the Bay area and is consistent with the Bay Plan Policies on Fish, Other Aquatic Organisms, and Wildlife and Water Quality.

5. **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 authorized in the Bay only. Therefore, the bulk of the residential, retail, and office development planned at the project site was not reviewed for consistency with the Commission’s 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 the section below on Public Access.)

The Commission’s Engineering Criteria Review Board (ECRB) reviewed the project on January 22, 2015 and May 26, 2015 to analyze the structural integrity and seismic stability of the ferry terminal and related geotechnical hazards and risks associated with sea level rise and flooding. The ECRB review determined that the ferry facility structure satisfied applicable seismic safety standards. Pursuant to the ECRB’s recommendations, the permittees conferred with the California Geological Survey and the Strong Motion Instrumentation Advisory Committee on the preparation of a seismic instrumentation plan to measure the performance of the ferry terminal.

The requirements of Special Condition A have been included in this permit to ensure that the fill is constructed in a manner consistent with the BCDC Application, the ECRB approvals for the project, and the Assessment and Strategy submitted with the application and consistent with the authorization and requirements of this permit to ensure the safety of fills in the Bay.

a. **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 protecting...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 prepared 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 permittees prepared a “Sea Level Risk Assessment and Adaptation Strategy for Rising Sea Levels” (“Assessment and Strategy”) dated August 1, 2016. The Assessment and Strategy 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 Assessment and Strategy report includes information on the resiliency of the ferry terminal and breakwaters, and outfalls authorized herein. According to the permittees, the design life of the ferry terminal is 40 years, after which time it could be replaced or substantially repaired. Authorized herein for construction during Phase 1 of project development, the terminal will 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) will 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 permittees, 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 will be installed to adapt to such conditions.

As authorized herein and detailed in the Assessment and Strategy, the shoreline elevation will be raised by surcharging the soil and/or 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 Clipper Cove Promenade, the Waterfront Plaza, and portions of the Cityside Waterfront Park (Phase I), the project includes raising the elevation of 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 will be built, the permittees will elevate the shoreline perimeter to accommodate 16 inches of sea level rise during a 100-year storm event. Elevating the shoreline will ensure the perimeter system will 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 on Public Access.¹

In addition, the Commission finds that the ferry terminal is a transportation facility, which is critical for transit between Treasure Island and the City of San Francisco. Travel by ferry and bus, rather than car, is the focus of the infrastructure program for the project and will benefit the region by reducing greenhouse gas emissions related to vehicular traffic.

¹ 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.

As authorized and conditioned herein, the fill authorized by this permit is constructed in accordance with sound safety standards and is consistent with the Bay Plan policies on Safety of Fills and the Bay Plan policies on Climate Change as they relate to fill.

6. **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 fill for the ferry terminal and the outfall system, Special Condition I requires the permittees 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. Special Condition I also requires that pilings associated with Pier 23 be removed completely or at least two feet below the mudline. In addition, Special Condition J requires the permittees to deposit \$40,000.00 into the Coastal Trust Fund, held by the California Coastal Conservancy. These funds will 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 will improve water quality through creosote pile removal and improved habitat for fish, including Pacific herring. As conditioned, the project authorized by this permit is consistent with the Bay Plan policies on Mitigation.

7. **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 Treasure Island project will emphasize travel by ferry or bus rather than by automobiles. Therefore, the ferry terminal does not include a vehicle parking facility. Instead, the terminal will 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 will not

require new or maintenance dredging due to its design and location. The ferry terminal will avoid impacts to tidal marshes, tidal flats, and valuable wildlife habitat. Therefore, the project authorized by this permit is consistent with the Bay Plan policies on Transportation.

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

To allow the 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 (“State Lands”) 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 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 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—a second co-permittee—and imposing the public trust on the property retained by TIDA, including all of the TIDA-owned property within BCDC’s 100-foot shoreline band jurisdiction.

As a result, the parcels at Treasure Island, which are not subject to the public trust will be conveyed in fee to TICD 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) will 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. Since the area within the Commission’s jurisdiction is entirely subject to the public trust, within the control of TIDA, and will not be conveyed in the future subsequent purchasers of the property that require notice of the terms and conditions of this permit, no public access dedication or recordation of the permit is required in this permit.

The transfer of the majority of Treasure Island, including the areas authorized 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 State Lands and TIDA, to free the development parcels from the public trust and to impose the public trust on the TIDA-retained parcels. The project authorized by this permit complies with the requirements in the McAteer-Petris Act that the permittee have valid title.

C. Public Access

1. **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 public project would provide the maximum feasible public access consistent with the project, the Commission also evaluates whether the public 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 Appearance, Design, and Scenic Views Policy 2 states, 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.”

2. **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 at the western area where special events (e.g., an annual music festival) are held. Public access to the shoreline is limited, with the majority of the existing open space located outside of the shoreline band. The majority of public access is available along the shoreline with 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 closed to public shoreline access or do not actively facilitate public use. At neighboring Yerba Buena Island, public areas include Clipper Cove Beach, an informal parking lot, restrooms; outside of the Commission’s jurisdiction, the area includes a multi-use field at the peak of the island. The natural topography of Yerba Buena Island limits public use of its shoreline. 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.
3. **Required Public Access.** Special Condition B requires public access areas at Treasure Island and Yerba Buena Island totaling approximately 54.47 acres (2,372,902 square feet) and located entirely within the Commission’s 100-foot shoreline band. The required public access areas will be located on public trust lands held by TIDA as trustee. The required public access is segmented into sub-areas, as shown in Exhibit A.

Public access areas will 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, as required by Special Condition A.8 and detailed in Exhibits B, C, and D.

Pursuant to Special Condition B.7, construction shall not generally restrict access to the shoreline, and existing public access available on the islands will remain open except during construction in those areas. Following construction, TIDA will operate and maintain the required public access areas, as well as approximately 245 acres of additional open space and parks located outside of BCDC's jurisdiction and subject to the public trust, but not required herein.

4. **Public Access Areas.** The specific design of the required public access areas has not been finalized. Pursuant to Special Condition A, prior to commencement of construction, the design of these areas would be considered through future Commission staff review and Design Review Board (DRB) consideration and review of conceptual and final site plans and, if warranted, permit amendment(s). Generally, the public areas required in Special Condition B.1 and B.2 are described as follows, as shown in Exhibit A:
 - 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 ferry terminal, required public access amenities will 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. As required, the Clipper Cove Promenade will 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 authorized in this permit. Any redevelopment or expansion of the marina will come to the Commission under a separate permit application submitted by different applicants along with TIDA, including a proposal for additional public access. Although any future expanded Clipper Cove Marina application will require an additional public access program, the required public access facilities along Clipper Cove Promenade constructed by TICD and maintained by TIDA can contribute to that program.
 - c. **East Shoreline Park.** Within an approximately 7.2-acre area located at the southeast side of Treasure Island is Pier 1, an existing pile-supported concrete structure, currently used for boat repair and mooring activities. Pier 1 will be used for public access without, according to the permittees, need for structural improvement. The area will 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 will provide an improved water trail access area with required public access amenities including an approximately 25- to 30-foot-wide, 6,103-foot-long Bay Trail section, landscaping, signage, and pathways connecting to the island's interior public areas not required by this permit 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 will 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 required, the area will 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 authorized by this permit, the Causeway will 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, required by this permit.
- g. **Yerba Buena Island.** Within an approximately 1.1-acre area, YBI will include several required public access amenities 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 is required to replace an existing inadequate connection to the beach. The pathway will be connected to a replacement parking lot. Although the majority of the shoreline at Yerba Buena Island is inaccessible due to natural topography, the public access area described by Special Condition B includes an approximately 15 acre area within the Commission's 100-foot shoreline band area that will be open space with no future development.

The requirements of Special Condition A are included to ensure that public access is constructed in a manner consistent with the BCDC Application, the Design Review Board reviews of the project, and the Assessment and Strategy submitted with the application and consistent with the authorization and requirements of this permit. Special Condition B.3 requires maintenance of the public access amenities to ensure maximum feasible public access for the life of the project. Special Condition B.4 allows some rules and restrictions for the public access required by this permit, subject to approval by or on behalf of the Commission. Special Condition B.6 prohibits special events not open to the public from taking place inside of the Commission's jurisdiction to limit closures of required public access areas. In the

future, the applicants may seek an amendment to the permit to authorize some limited private events in public access areas required by this permit. Special Conditions B.8 and L have been included to ensure that the project is constructed in accordance with the authorization and requirements of this permit.

Macalla Road, which connects the Causeway to the East Span of the East Span of the San Francisco-Oakland Bay Bridge, is an important future connection for bicycle and pedestrian access from the East Span of the San Francisco-Oakland Bay Bridge Bicycle and Pedestrian Pathway to Treasure Island and Yerba Buena Island. The Road will be realigned outside of the Commission's jurisdiction, and include a bicycle and pedestrian element. Although it is almost entirely outside of the Commission's jurisdiction, the Commission must ensure that access to the public access areas required by this permit is achieved and maintained. As a result, Special Condition B.5 requires the permittees to consult with the Commission in the event the bicycle and pedestrian connections on Macalla Road are substantially changed from those shown to the Commission previously, and described in the Design for Development document adopted by TIDA on June 28, 2011.

The public access required herein is limited to the area of the Commission's shoreline band jurisdiction, totaling approximately 54.47 acres. The permit does not require any public access outside of the Commission's jurisdiction. 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 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 briefings to the Commission staff, the Design Review Board, Engineering Criteria Review Board, and the full Commission on November 20, 2014, and April 2, 2015, the permittees 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 described the project for which they sought BCDC approval as the open space improvements within Commission's jurisdiction. The permittees stated in their application, "[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 required by this permit differs from the public access areas previously seen in briefings. However, the 180-acre area shown in the prior presentations is planned for open space as part of the TI/YBI development project.

According to the subject permit application and the Environmental Impact Report for the project, the 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 development of a high-density project in central San Francisco Bay will 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 will 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 will be developed as open space or other park uses when accounting for open space and parks both within and outside of BCDC jurisdiction. The public access required by this permit is 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 previously 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 public access required herein is smaller than the full 180-acre shoreline public trust area that is part of the TI/YBI Project and that was previously presented during Commission briefings, the required public access is consistent with the public access areas required in Commission permits for the Mission Bay and Brooklyn Basin projects.

BCDC Permit No. 2000.005.04 for the Mission Bay Redevelopment Project (City and County of San Francisco) authorized a high-density mixed-use community with housing for approximately 11,000 residents and 30,000 employees. Unlike the TI/YBI development Project, which includes 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 Commission’s 100-foot 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.

The Brooklyn Basin Project (BCDC Permit No. 2006.007.01) involved the redevelopment of an industrial area in the Port of Oakland. The 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.

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 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. 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	54.47	11%

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

Although the public access required herein 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 public access required by this permit 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 public access required by this permit constitutes a series of discrete parks, each with a different character, highlighting a unique aspect to the shoreline at each location.

6. **Sea Level Rise and Flooding.** Regarding the potential effects of sea level rise on public access, the Bay Plan includes Public Access Policy No. 5 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 6 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 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.”

- a. **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 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 not associated with public access, 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, the 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 will remain in place beyond 2100 and, thus, pursuant to Special Conditions B.1 and D, any public access required by this permit must remain viable in the event of flooding from sea level rise and storms beyond 2100.

- b. **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 permittees 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 developed condition as authorized by this permit, 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 Assessment and Strategy focuses on Treasure Island.)

- c. **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 windwaves 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 in 2009, and does not use the water levels used as part of FEMA's recent San Francisco Bay Area Coastal Study. In 2016, FEMA 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 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 will 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.

- d. **Resilience of the Public Access.** In order to design the project so that it will 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 is 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, this permit authorizes the public access to be raised to be resilient to 36 inches of sea level rise during a 100-year storm event, incorporating wind waves and wave runup where applicable. The shoreline in Phases 2 through 4 will be raised to be resilient to 16 inches of sea level rise during a 100-year storm event. As authorized in this permit, the project will raise the grade by surcharging soil, raising riprap, and expanding the shoreline protection, which is composed primarily of riprap, above the mean high tide line. The perimeter soils will be strengthened through a combination of soil densification and "deep-soil mixing" where the soil is mixed with concrete to

provide additional structural stability. This permit requires the permittees raise the site pursuant to the authorization through Special Condition A.1, which requires the permittees to construct the project consistent with the Assessment and Strategy.

- e. **Adaptation Plan for Treasure Island.** Special Condition C and D requires an adaptation plan for the required public access, consistent with the adaptation strategy proposed in the Assessment and Strategy.
- Monitoring: As required in Special Condition C, TIDA will monitor sea levels using scientific guidance and updates from state, federal, and regional agencies. TIDA will 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. The monitoring period set in Special Condition C is set for five years from the date of issuance of this permit. Upon receipt of the monitoring report, the Commission or Commission staff must review the monitoring report and may approve the report, request changes, or determine that the Assessment and Strategy should be revised. Sea level rise may accelerate over time and guidance for how to adapt to sea level rise may change. As required in Special Condition C, the Assessment and Strategy becomes an iterative document that can respond to changing conditions at the site, projections for sea level rise, and modified state guidance in the future, supporting innovative approaches to protecting the public access.
 - Adaptation Initiation for Phase 1: As authorized and required in this permit, Phase 1 of the project will be constructed to be resilient to 36 inches of sea level rise during a 100-year storm event. As required in Special Condition D, when a sea level rise of 30 inches compared to 2000 levels has occurred (six inches below the design elevation of the shoreline), the permittees shall begin adaptation planning. Based on projections for sea level rise used in the Assessment and Strategy, the permittees 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: As authorized and required in this permit, Phases 2 through 4 of the project will be constructed to be resilient to 16 inches of sea level rise during a 100-year storm event. As required in Special Condition D, when a sea level rise of 12 inches compared to 2000 levels has occurred (four-inches below the design elevation of the shoreline), the permittees shall begin adaptation planning. Based on projections for sea

level rise, the permittees estimate this will 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. As required in Special Condition D, 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 development setback distances will allow for a variety of future modifications along the shoreline to accommodate a broad range of sea level rise scenarios.” Special Condition D requires that the permittees incorporate and prioritize public access in any adaptation measure. The permittee shall provide equivalent access to the access lost by the adaptation measure if the public access is impacted by an adaptation strategy. The possible adaption measures described in the Assessment and Strategy 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 will 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.

Some of the lands slated for later phases of development of required public access include areas where contamination may be left in place. Special Condition C.3 requires that, if flooding occurs in a required public access area where contamination may be left after the Navy completes remediation activities, the Commission will be consulted and a determination will be made to assess if any additional cleanup is required. This condition will ensure the safety of future and

completed public access areas on remediated lands. Furthermore, Special Condition C.1 requires that the five year monitoring reports include the threat to remediated areas that include required public access.

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 required by this permit could result in the permittee potentially constructing adaptation measures in the shoreline band in areas required 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 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.

As a result, Special Condition D has been included to require equivalent access to the access if the public access is impacted by an adaptation strategy in order to avoid significant diminishment of the public access and maintain maximum feasible public access consistent with the project. Since this permit requires 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, Special Condition will allow the movement and reorganization of public access in the future more space and flexibility is available to adapt while conserving public access farther inland, fostering innovative adaptation strategies.

Special Condition D includes a requirement that adaptation of the public access be free of non-public access structures, to ensure that any non-public access structures, such as two retail structures authorized within the Commission’s jurisdiction, do not interfere with adaptation of the public access.

As authorized in this permit, 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. As required in Special Condition D, for construction phases that occur after sea level rise has reached close to 12 inches, the permittees will revise the design to include 36 inches of sea level rise allowance.

As conditioned, the public access required by this permit is the maximum feasible public access consistent with the project and is consistent with the relevant Bay Plan policies on Public Access and Appearance, Design and Scenic Views, including public access policies related to sea level rise and flooding.

D. 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 included with 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 will 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. Special Condition E requires the permittee to submit a seismic instrumentation plan approved by the California Geological Survey for the fill associated with the Ferry Terminal, in order to carry out the ECRB’s recommendations in a manner consistent with the Commission’s jurisdiction.

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 permittees 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. Special Condition A.2 provides for additional DRB approval for the preliminary and final designs for public access areas if the Commission or Commission staff determine that approval through plan review is not appropriate.

- E. **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.

STANDARD CONDITIONS

- A. **Permit Execution.** This permit shall not take effect unless the permittee(s) execute the original of this permit and return it to the Commission within ten days after the date of the issuance of the permit. No work shall be done until the acknowledgment is duly executed and returned to the Commission.
- B. **Notice of Completion.** The attached Notice of Completion and Declaration of Compliance form shall be returned to the Commission within 30 days following completion of the work in each phase.
- C. **Permit Assignment.** The rights, duties, and obligations contained in this permit are assignable. When the permittee(s) transfer any interest in any property either on which the activity is authorized to occur or which is necessary to achieve full compliance of one or more conditions to this permit, the permittee(s)/transferors and the transferees shall execute and submit to the Commission a permit assignment form acceptable to the Executive Director. An assignment shall not be effective until the assignees execute and the Executive Director receives an acknowledgment that the assignees have read and understand the permit and agree to be bound by the terms and conditions of the permit, and the assignees are accepted by the Executive Director as being reasonably capable of complying with the terms and conditions of the permit.
- D. **Permit Runs With the Land.** Unless otherwise provided in this permit, the terms and conditions of this permit shall bind all future owners and future possessors of any legal interest in the land and shall run with the land.
- E. **Other Government Approvals.** All required permissions from governmental bodies must be obtained before the commencement of work; these bodies include, but are not limited to, the U. S. Army Corps of Engineers, the State Lands Commission, the Regional Water Quality Control Board, and the city or county in which the work is to be performed, whenever any of these may be required. This permit does not relieve the permittee(s) of any obligations imposed by State or Federal law, either statutory or otherwise.
- F. **Built Project must be Consistent with Application.** Work must be performed in the precise manner and at the precise locations indicated in your application, as such may have been modified by the terms of the permit and any plans approved in writing by or on behalf of the Commission.
- G. **Life of Authorization.** Unless otherwise provided in this permit, all the terms and conditions of this permit shall remain effective for so long as the permit remains in effect or for so long as any use or construction authorized by this permit exists, whichever is longer.

- H. **Commission Jurisdiction.** Any area subject to the jurisdiction of the San Francisco Bay Conservation and Development Commission under either the McAteer-Petris Act or the Suisun Marsh Preservation Act at the time the permit is granted or thereafter shall remain subject to that jurisdiction notwithstanding the placement of any fill or the implementation of any substantial change in use authorized by this permit. Any area not subject to the jurisdiction of the San Francisco Bay Conservation and Development Commission that becomes, as a result of any work or project authorized in this permit, subject to tidal action shall become subject to the Commission's "bay" jurisdiction.
- I. **Changes to the Commission's Jurisdiction as a Result of Natural Processes.** This permit reflects the location of the shoreline of San Francisco Bay when the permit was issued. Over time, erosion, avulsion, accretion, subsidence, relative sea level change, and other factors may change the location of the shoreline, which may, in turn, change the extent of the Commission's regulatory jurisdiction. Therefore, the issuance of this permit does not guarantee that the Commission's jurisdiction will not change in the future.
- J. **Violation of Permit May Lead to Permit Revocation.** Except as otherwise noted, violation of any of the terms of this permit shall be grounds for revocation. The Commission may revoke any permit for such violation after a public hearing held on reasonable notice to the permittee(s) or their assignees if the permit has been effectively assigned. If the permit is revoked, the Commission may determine, if it deems appropriate, that all or part of any fill or structure placed pursuant to this permit shall be removed by the permittee(s) or their assignees if the permit has been assigned.
- K. **Should Permit Conditions Be Found to be Illegal or Unenforceable.** Unless the Commission directs otherwise, this permit shall become null and void if any term, standard condition, or special condition of this permit shall be found illegal or unenforceable through the application of statute, administrative ruling, or court determination. If this permit becomes null and void, any fill or structures placed in reliance on this permit shall be subject to removal by the permittee(s) or their assignees if the permit has been assigned to the extent that the Commission determines that such removal is appropriate. Any uses authorized shall be terminated to the extent that the Commission determines that such uses should be terminated.
- L. **Permission to Conduct Site Visit.** The permittee(s) shall grant permission to any member of the Commission's staff to conduct a site visit at the subject property during and after construction to verify that the project is being and has been constructed in compliance with the authorization and conditions contained herein. Site visits may occur during business hours without prior notice and after business hours with 24-hour notice.

- M. **Abandonment.** If, at any time, the Commission determines that the improvements in the Bay authorized herein have been abandoned for a period of two years or more, or have deteriorated to the point that public health, safety or welfare is adversely affected, the Commission may require that the improvements be removed by the permittee(s), its assignees or successors in interest, or by the owner of the improvements, within 60 days or such other reasonable time as the Commission may direct.
- N. **Best Management Practices**
1. **Debris Removal.** All construction debris shall be removed to an authorized location outside the jurisdiction of the Commission. In the event that any such material is placed in any area within the Commission's jurisdiction, the permittee, its assigns, or successors in interest, or the owner of the improvements, shall remove such material, at their expense, within ten days after they have been notified by the Executive Director of such placement.
 2. **Construction Operations.** All construction operations shall be performed to prevent construction materials from falling, washing or blowing into the Bay. In the event that such material escapes or is placed in an area subject to tidal action of the Bay, the permittee shall immediately retrieve and remove such material at its expense.
- O. **In-Kind Repairs and Maintenance.** Any in-kind repair and maintenance work authorized herein shall not result in an enlargement of the authorized structural footprint and shall only involve construction materials approved for use in San Francisco Bay. Work shall occur during periods designated to avoid impacts to fish and wildlife. The permittee(s) shall contact Commission staff to confirm current restricted periods for construction.
- P. **Certification of Contractor Review.** Prior to commencing any grading, demolition, or construction, the general contractor or contractors in charge of that portion of the work shall submit written certification that s/he has reviewed and understands the requirements of the permit and the final BCDC-approved plans, particularly as they pertain to any public access or open space required herein, or environmentally sensitive areas.