

SAN FRANCISCO BAY CONSERVATION AND DEVELOPMENT COMMISSION

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February 26, 2010

TO: Commissioners and Alternates

FROM: Will Travis, Executive Director (415/352-3653, travis@bcdc.ca.gov)
Ming Yeung (415/352-3616, mingy@bcdc.ca.gov)

SUBJECT: **Staff Recommendation on BCDC Permit Application No. 9-06, Exploratorium Relocation Project to Piers 15/17, Embarcadero, City and County of San Francisco**
(For Commission consideration on March 4, 2010)

Recommendation Summary

The staff recommends that the Commission approve BCDC Permit Application No. 9-06 to the Exploratorium and the Port of San Francisco, which, as conditioned, would authorize the construction of a new Exploratorium museum on Piers 15 and 17 in the City and County of San Francisco. The project would be constructed in two phases.

Phase 1 would repair, renovate, and seismically upgrade Pier 15 to house the Exploratorium's exhibits, offices, cafes and retail space. An open water area would be carved out of the deck that currently spans the valley between Piers 15 and 17 and public access would be provided on the south and east apron of Pier 15, the south apron of Pier 17 fronting on the new open water area, and in a new enclosed observatory building at the east end of the pier. To accommodate the conversion of Pier 15 to a museum, Baydelta Maritime, a tugboat operation, will be relocated from the south of Pier 15 to the north of Pier 17. The north apron of Pier 17 will be repaired and the berthing area along Pier 17 dredged for this move.

Phase 2 would involve repairing, renovating, and seismically upgrading Pier 17 to expand the Exploratorium's programs, cafes and retail space. The public access areas along the south and east aprons of Pier 17 will be expanded with Phase 2.

The staff recommendation includes a number of conditions requiring public access areas and improvements, restrictions on public access closures and vehicles in public access areas, the provision of open water between the Piers (a requirement of the *San Francisco Waterfront Special Area Plan*), dredging, and a number of conditions requiring the use of construction best management practices to assure that construction of the project meets the requirements of the Commission's law and policies.



Making San Francisco Bay Better

Staff Recommendation

The staff recommends that the Commission adopt the following resolution:

I. Authorization

A. Subject to the conditions stated below, the permittees, the Exploratorium, (a California not-for-profit corporation) and the Port of San Francisco, are hereby granted permission to construct the following at Piers 15 and 17, located along the San Francisco waterfront, near the intersection of Green Street and the Embarcadero, in the City and County of San Francisco:

1. Phase I:

In the Bay:

- a. **Pier 15 Marginal Wharf.** Repair and seismically strengthen the Pier 15 marginal wharf by installing, using and maintaining approximately 21, 24-inch-in-diameter new steel pipe piles; repairing, using and maintaining approximately 95 existing piles; and repairing the structural deck and beams.
- b. **Pier 17 Marginal Wharf.** Renovate, use and maintain an approximately 6,880-square-foot public access area within the Pier 17 marginal wharf by removing existing car stops, gates, and parking uses.
- c. **Open Water Area.** Cut approximately 269 piles below the mudline and remove an approximately 1,579-square-foot office building and up to 54,880 square feet of the valley decking to create an open water area between Piers 15 and 17, and cut approximately 278 piles just below the decking to create a “water pile garden” to be used in Phase 2 of the project to support an extension of the Pier 17 south apron public access walkway, entry plaza extension, and extension of the Outdoor Exploratorium area.
- d. **Piers 15–17 Valley Courtyard.** Construct, use and maintain an approximately 20,590-square-foot public access entry plaza northwest of Pier 15, approximately 12,140 square feet of public access walkways and two bridges within the Piers 15-17 courtyard, and approximately 22,800 square feet of ticketed Outdoor Exploratorium exhibit area, by repairing approximately 566 existing piles, installing approximately 16, 72-inch-in-diameter, new steel pipe piles for seismic strengthening, replacing approximately 27,130 square feet of deck within the valley, which includes constructing two bridges of approximately 1,700 square feet, and installing public access improvements such as benches, lighting and railings.
- e. **Pier 15.** (1) Repair, seismically strengthen, use and maintain the Pier 15 shed building, bulkhead building and substructure by repairing up to 765 existing piles and cutting 8 piles two feet below the mudline; (2) Renovate, use and maintain the Pier 15 shed and bulkhead building, including a new mezzanine level to house exhibits, a museum store, cafés, classrooms, a multi-purpose conference room, administrative offices, and an approximately 8,400-square-foot Bayside History Walk connecting the Pier 15 bulkhead building to the Pier 15 shed; and (3) Construct, use and maintain a Bay water heating and cooling system for the museum by installing two 48-inch-in-diameter steel pipes totaling approximately 25 square feet and 100 cubic yards of fill below the Pier 15 deck, and an approximately 1,675-square-foot utility enclosure on the Pier 15 south apron to enclose a transformer and generator.

- f. **Observatory Building.** Remove the existing “Connector Building” and construct, use and maintain an approximately 16,000-square-foot, 32-foot-tall “Observatory Building” to house the Exploratorium’s exhibits, a rooftop “Outdoor Learning Center,” a public café, and an approximately 640-square-foot enclosed public access area in the northeast corner of the second floor of the Observatory Building.
- g. **PortWalk.** Construct, use and maintain approximately 29,600 square feet of public access walkway along the east apron of Piers 15 and 17 and the south apron of Pier 15 by installing approximately 30 new steel pipe piles (14, 72-inch-in-diameter and 16, 20-inch-in-diameter) for seismic strengthening and to support the widened southwest and southeast apron deck, cutting approximately 42 piles at the mudline along the south apron of Pier 15, removing and replacing existing decking, and installing public access improvements such as benches, lighting and railings.
- h. **Water Taxi Dock.** Construct, use and maintain an approximately 2,000-square-foot floating boat dock along the Pier 15 south apron for future water taxi service, held in place by four 20 inch-in-diameter steel pipe piles.
- i. **Pier 17.** (1) Repair and maintain the substructure of an approximately 800-foot length of the Pier 17 north apron (approximately 15,000 square feet) and 5,400 square feet of the Pier 17 shed for use by Baydelta Maritime by repairing approximately 250 piles, replacing approximately 40 fender piles, and removing and replacing existing decking; (2) Renovate, use and maintain approximately 20,000 square feet of the Pier 17 shed for museum support space and approximately 5,000 square feet for retail use; (3) Remove the 235-square-foot office addition on the north apron attached to the Pier 17 shed and install an approximately 650-square-foot transformer in its place; and (4) Install and upgrade utilities for existing tenants and Exploratorium use.
- j. **Piers 17-19 Basin.** Dredge an approximately 160,000-square-foot (3.67 acres) area of the Piers 17-19 water basin to -20 feet mean lower low water (MLLW), plus two feet of overdredge depth allowance to provide sufficient depth for Baydelta Maritime’s tugboats, resulting in a total of approximately 75,100 cubic yards of dredged material, and place the material at the Alcatraz (SF-11) disposal site.

2. Phase 2:

In the Bay:

- a. **Pier 17.** Repair, seismically strengthen, use and maintain the Pier 17 shed building and approximately 110,615 square feet (2.54 acres) of the existing substructure supporting the Pier 17 shed, by: (1) Installing 26, 72 inch-in-diameter, new steel pipe piles for seismic strengthening; (2) Constructing an approximately 2,500-square-foot extension of the north apron at the west end above four of the new steel pipe piles; (3) Repairing up to 800 existing piles; (4) Renovating, using and maintaining the Pier 17 shed to house the Exploratorium’s exhibits, exhibit fabrication area, a café, classrooms, administrative offices, and an approximately 4,270-square-foot Bayside History Walk within the southwest corner of the Pier 17 shed; (5) Constructing, using and maintaining a Bay water heating and cooling system for the museum, involving two 48-inch-in-diameter steel pipes totaling approximately 25 square feet and 100 cubic yards of fill below the Pier 17 deck; and (6) Installing an approximately 400-square-foot generator along the Pier 17 north apron, near the existing transformer constructed in Phase 1.

- b. **Pier 17 Marginal Wharf.** Repair, seismically strengthen, and use the approximately 142-foot-long by 44-foot-wide 6,880-square-foot public access area on the Pier 17 marginal wharf by installing, using and maintaining approximately 21, 24-inch-in-diameter new steel pipe piles and repairing, using and maintaining approximately 50 existing piles and the structural deck and beams.
 - c. **Pier 17 South Apron.** Construct, use and maintain an approximately 700-foot-long by 23- to 35-foot-wide, 13,110-square-foot extension of the Pier 17 public access south apron within the Piers 15-17 valley courtyard by installing new decking on top of existing piles in the “water pile garden” and installing public access improvements such as benches, lighting and railings.
 - d. **Piers 15-17 Valley Courtyard and Open Water Area.** Construct, use and maintain an approximately 1,700-square-foot extension of the public access entry plaza and an approximately 5,530-square-foot extension of the ticketed outdoor exhibit area by installing new decking on top of existing piles in the “water pile garden,” resulting in an approximately 34,540-square-foot (0.79 acre) open water area between Piers 15 and 17.
 - e. **PortWalk.** Repair and seismically strengthen, use and maintain approximately 1,770 square feet of public access walkway on the east apron adjacent to the Pier 17 shed, by replacing existing decking and installing public access improvements such as benches, lighting and railings.
- B. This authority is generally pursuant to and limited by the application dated February 3, 2010, including all accompanying and subsequently submitted correspondence and exhibits, but subject to the modifications required by conditions hereto.
- C. Work authorized under Phase 1 of the project must commence prior to December 1, 2011, or this permit will lapse and become null and void. All work authorized in Phase 1 must be diligently pursued to completion and must be completed within four years of commencement or by December 1, 2015, whichever is earlier, unless an extension of time is granted by amendment of the permit. Work authorized under Phase 2 of the project must commence prior to December 1, 2027, or this permit will lapse and become null and void. Changes in the work authorized for either Phase 1 or Phase 2 may require amendments to this authorization. All work authorized in Phase 2 must be diligently pursued to completion and must be completed within four years of commencement or by December 1, 2031, or this permit will lapse and become null and void.
- D. The project involves removing a total of 82,410 square feet (1.89 acres) of Bay fill, all occurring during Phase 1 of the project: approximately 797 cubic yards of solid fill from the removal of 269 piles, and 82,410 square feet of pile-supported fill in the Piers 15/17 valley. During Phase 1, a total of 37,470 square feet (0.86 acre) of new fill will be placed: approximately 676 cubic yards of new solid fill for 67 new piles and two new pipes for the Bay water cooling system at Pier 15, approximately 2,000 square feet of floating fill for a water taxi dock, and a total of 35,470 square feet (0.81 acre) of pile-supported fill (28,050 square feet (0.64 acre) of “replacement” decking within the Piers 15/17 valley for public access and the ticketed outdoor exhibit area, and 7,420 square feet (0.17 acre) of new decking along the southwest and southeast apron of Pier 15 for seismic support and public access). During Phase 2, an additional 23,530 square feet (0.54 acre) of new fill will be placed: 555 cubic yards of solid fill for 47 new piles and two new pipes for the Bay water cooling system at Pier 17, 1,540 square feet of floating fill (within the Piers 15/17 valley for the ticketed outdoor exhibit area), and 21,990 square feet (0.50 acre) of pile-supported fill (19,560 square feet (0.45 acre) of “replacement” decking

within the Piers 15/17 valley to expand the public access and the ticketed outdoor exhibit area, and 2,430 square feet (0.06 acre) along the north apron of Pier 17 on top of seismic piles).

In total, the project will result in a net increase of 21,410 square feet (0.49 acre) of Bay open water, as summarized in the table below.

Type of Fill	Removed	New	Total Net Fill
Phase 1			
Solid (cy)	797	676	(121)
Floating (sf)	0	2,000	2,000
Pile-Supported (sf)	82,410	35,470	(46,940)
Sub Total (sf)	82,410	37,470	(44,940)
Phase 2			
Solid (cy)	0	555	555
Floating (sf)	0	1,540	1,540
Pile-Supported (sf)	0	21,990	21,990
Sub Total (sf)	0	23,530	23,530
Project Totals			
Total (cy)	797	1,231	434
Total (sf)	82,410	61,000	(21,410)

- E. The project will create approximately 99,100 square feet (2.28 acres) of new public access. The public access improvements include: a new entry plaza northwest of Pier 15 (Phase 1) that will be expanded in Phase 2; perimeter and bridge access within the Piers 15/17 open water valley, the south and east aprons of Pier 15 (Phase 1), the south apron of Pier 17, constructed in Phase 1 and later expanded in Phase 2, and the east apron of Pier 17 (Phase 2) (known as the "PortWalk"); two Bayside History Walks, one in Pier 15 (Phase 1) and the other in Pier 17 (Phase 2); the Pier 17 marginal wharf (Phase 1); the northeast corner on the second-floor of the Observatory Building (available to the public during limited hours) (Phase 1); a dedicated view corridor (Phase 1); and improvements to the public access areas, including benches, lighting, railings, bicycle racks, signage, trash containers and landscaping.

Type of Public Access	Square Feet	Acres	Shoreline Length (miles)
Phase 1			
On-Site (new)	78,250	1.80	0.48
Off-Site (new)	0	0	0
Protected or Maintained	0	0	0
Sub Total	78,250	1.80	0.48
Phase 2			
On-Site (new)	20,850	0.48	0.01
Off-Site (new)	0	0	0
Protected or Maintained	0	0	0
Sub Total	20,850	0.48	0.01
Project and Expanded Project			
Total	99,100	2.28	0.49

II. Special Conditions

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

A. Specific Plans and Plan Review

1. **Construction.** The final plans submitted pursuant to this condition shall generally conform to Exhibit A to this permit. Final plans for the construction of the structures authorized herein shall be prepared and submitted for Commission review as described below. No changes to the design of the project shall be made without the prior written approval of the Commission staff.
2. **Plan Review.** No work whatsoever shall be commenced pursuant to this authorization until final precise site, demolition, construction staging, engineering, architectural, grading, landscaping, and best management practices plans and any other relevant criteria, specifications, and plan information for that portion of the work have been submitted to, reviewed, and approved in writing by or on behalf of the Commission. Construction staging plans shall ensure that there is always a continuous public access pathway available along the Embarcadero promenade. The specific drawings and information required will be determined by the staff. To save time, preliminary drawings should be submitted and approved prior to final drawings.
 - a. **Site, Architectural, and Public Access Plans.** Site, demolition, architectural, and public access plans shall include and clearly label the shoreline (Mean High Water Line), the line 100 feet inland of the line of the shoreline, property lines, Herb Caen Way, the boundaries of all areas to be reserved for public access purposes, details showing the location, types, dimensions, and materials to be used for all structures, irrigation, landscaping, drainage, seating, parking, signs, lighting, fences, paths, trash containers, utilities and other improvements.
 - b. **Engineering Plans.** Engineering plans shall include a complete set of construction drawings and specifications and design criteria. The 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:
 - (1) Evidence that the design complies with all applicable codes; and
 - (2) Evidence that a thorough and independent review of the design details, calculations, and construction drawings has been made.
 - c. **Preliminary and Final Plans.** Plans submitted shall be accompanied by a letter requesting plan approval, identifying the type of plans submitted, the portion of the project involved, and indicating whether the plans are final or preliminary. Approval or disapproval shall be based upon:
 - (1) Completeness and accuracy of the plans in showing the features required above, particularly the shoreline (Mean High Water or deck edge), property lines, and the line 100-feet inland of the shoreline, and any other criteria required by this authorization;
 - (2) Consistency of the plans with the terms and conditions of this authorization;
 - (3) The provision of the amount and quality of public access to and along the shoreline and in and through the project to the shoreline required by this authorization;

- (4) Consistency with legal instruments reserving public access areas;
- (5) Assuring that any fill in the Bay does not exceed this authorization;
- (6) Consistency of the plans with the recommendations of the Design Review Board and the Engineering Criteria Review Board;
- (7) Assuring that appropriate provisions have been incorporated for safety in case of seismic event;
- (8) Assuring that the placement of fill in the Bay will avoid or minimize impacts to the Bay;
- (9) Assuring that appropriate elevations have been met to prevent overtopping, flooding, and 100-year storm events in all public access areas; and
- (10) Assuring that existing public access will not be impeded during construction to the maximum extent feasible.

Plan review shall be completed by or on behalf of the Commission within 45 days after receipt of the plans to be reviewed.

3. **Conformity with Final Approved Plans.** All work, improvements, 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 to the exterior of any constructed structure, outside fixture, lighting, landscaping, signage, landscaping, parking area, or shoreline protection work without first obtaining written approval of the change(s) by or on behalf of the Commission.
4. **Discrepancies between Approved Plans and Special Conditions.** In case of any discrepancy between final approved plans and Special Conditions of this authorization or legal instruments approved pursuant to this authorization, the Special Condition or the legal instrument shall prevail. The permittees are responsible for assuring that all plans accurately and fully reflect the Special Conditions of this authorization and any legal instruments submitted pursuant to this authorization.
5. **Appeals of Plan Review Decisions.** Any plan approval, conditional plan approval or plan denial may be appealed by the permittees or any other interested party to the Design Review Board or, if necessary, subsequently to the Commission. Such appeals must be submitted to the Executive Director within 30 days of the plan review action and must include the specific reasons for appeal. The Design Review Board shall hold a public hearing and act on the appeal within 60 days of the receipt of the appeal. If subsequently appealed to the Commission, the Commission shall hold a public hearing and act on the appeal within 90 days of the receipt of the subsequent appeal.

B. Public Access

1. **Total Area.** The public access provided by this project shall total approximately 99,100 square feet: 78,250 square feet in Phase 1 and an additional 20,850 square feet in Phase 2, as generally shown on Exhibit A, and subject to the restrictions pursuant to Special Conditions II-B-4 and II-B-5. All public access improvements including, but not limited to, benches, lighting, signage, bicycle racks, railings, trash containers, and interpretive exhibits shall be subject to final plan review approval pursuant to Special Condition II-A of this permit.

2. **Phase 1 - Areas and Improvements.** No later than the opening of the museum within the Pier 15 shed and bulkhead building, the permittees shall construct and make available to the public for public access uses including walking, running, sitting, viewing, picnicking and related purposes, the following public access areas and improvements, as generally shown on Exhibit A:
 - a. **Entry Plaza.** An approximately 20,590-square-foot (0.47 acre) entry plaza northwest of Pier 15, that includes approximately seven benches, lighting, bicycle racks, two trashcans and railings along the Open Water Area, and a tidal pool feature allowing a view of the Bay;
 - b. **PortWalk.** Approximately 41,740 square feet (0.96 acre) of perimeter and bridge access within the Piers 15/17 courtyard and the south and east apron of Pier 15, that includes: (1) an approximately 14-foot-wide and 700-foot-long walkway along the south apron of Pier 17 that includes approximately four benches (in addition to those required in BCDC Permit No. M07-10, issued to Tcho Ventures, Inc.), lighting, trashcans, signage and railings; (2) two bridges across the Open Water Area, the west bridge approximately 11-foot-wide by 125-foot-long, and the east bridge approximately 8-foot-wide by 38-foot-long; (3) an approximately 16- to 25-foot-wide and 400-foot-long walkway along the Pier 15 east apron that includes approximately three benches, lighting, trashcans, signage and railings; and (4) an approximately 15- to 39-foot-wide and 800-foot-long walkway along the Pier 15 south apron that includes approximately 8 benches (with backs), 8 benches (without backs) and six chairs (with backs), lighting, trashcans, signage and railings;
 - c. **Pier 17 Marginal Wharf.** An approximately 6,880-square-foot (0.16 acre), 44-foot-wide by 156-foot-long section of the Pier 17 marginal wharf that includes four bicycle racks;
 - d. **Pier 15 Bayside History Walk.** An approximately 8,400-square-foot (0.19 acre), 19-foot-wide by 325-foot-long Bayside History Walk connecting the Pier 15 bulkhead with the pier shed and that includes views of the building's historic trusses above, the expanse of the shed space to the east, and interpretive exhibits of San Francisco's maritime history, with public seating, trashcans, lighting and signage;
 - e. **Observatory Building Second-Floor.** An approximately 640-square-foot, 20-foot-wide by 32-foot-long barrier free interior public access space on the second-floor of the northeast corner of the Observatory Building that includes approximately four benches, trashcans, and signage, available to the public during museum hours, estimated to be from 10 a.m. to 5 p.m., Tuesday through Sunday, but that could be closed for up to 8 hours/week for special events, subject to Special Condition II-B-4 below; and
 - f. **View Corridor.** An approximately 60-foot-wide dedicated view corridor located between Pier 17 and the Observatory Building, subject to Special Condition II-B-4 below.
3. **Phase 2 – Areas and Improvements.** No later than the opening of the museum or museum-related uses within the Pier 17 shed, the permittees shall construct and make available to the public for public access uses including walking, running, sitting, viewing, picnicking and related purposes, the following public access areas and improvements, as generally shown on Exhibit A:
 - a. **Entry Plaza Extension.** An approximately 1,700-square-foot extension of the entry plaza northwest of Pier 15;

- b. **PortWalk Extensions.** Approximately 14,880 square feet (0.34 acre) of additional public access walkways within the Piers 15/17 courtyard and the east apron of Pier 17, that includes: (1) an approximately 13,110-square-foot (0.30 acre) extension of the 700-foot-long Pier 17 south apron, increasing the width of the 14-foot-wide walkway to between 23- to 35-foot-wide and including approximately four additional benches; and (2) an approximately 1,770-square-foot, 100-foot-long and between 16- to 25-foot-wide extension of the east apron at Pier 17 and the approximately 750-square-foot area of designated parking in Phase 1 that includes approximately two benches, lighting signage and railings;
- c. **Pier 17 Bayside History Walk.** An approximately 4,270-square-foot (0.10 acre), 23-foot-wide by 160-foot-long Bayside History Walk within the Pier 17 shed building, providing views of the building's interior and interpretive exhibits of San Francisco's maritime history, and includes lighting and signage.

4. **Public Access Restrictions**

- a. **East Apron Navy Berthing.** To accommodate navy ship berthing along the Piers 15/17 east apron, the east apron may be closed to public access pursuant to Exhibit B for up to 53 days per year for security reasons. To ensure the public will not be hampered in crossing the end of Pier 15 due to such closures, an alternative public access route and a method for facilitating continued public access across the eastern portion of Pier 15 in the event of such closure shall be provided. The alternate route and method for facilitating access shall be described in a public access plan that shall be reviewed and approved by or on behalf of the Commission with a schedule for implementation prior to issuance of a certificate of occupancy. If such a method includes escorting the public in or outside the Pier 15 shed, that escort shall be stationed at the crossing point and the permittees shall place appropriate signage throughout the project site informing the public of the possible closure and location of alternate access.
 - b. **Observatory Building Second-Floor Public Access.** The approximately 640-square-foot interior public access space on the second-floor of the northeast corner of the Observatory Building shall be made available for public access during regular museum hours, estimated to be from 10 a.m. to 5 p.m., Tuesday through Sunday. This space may be closed for up to 8 hours per week for special events. The permittees shall provide Commission staff on January 1st and June 1st of each year, a list of the potential upcoming special events and times that would require closure of the public access area within the Observatory Building during museum hours. On days of closure, the permittees shall notify the public of the closed hours, including placing appropriate signage throughout the project site.
 - c. **View Corridor.** A dedicated 60-foot-wide view corridor located between the north end of the Observatory Building and the south edge of Pier 17 shall be provided. Any structures within the dedicated view corridor, other than the public access improvements required herein, shall require plan review approval pursuant to Special Condition II-A of this permit, to ensure that structures do not interfere with Bay views from the Embarcadero promenade.
5. **Vehicle Restrictions.** No service vehicles shall be operated in any public access area required herein with the exception of service vehicles required during an emergency, periodic maintenance vehicles needed to deliver materials necessary for the museum, moving vans and small trucks, and vehicles provisioning/servicing ships docked at the east apron during the limited hours of 10 p.m., and 10 a.m., daily. All service vehicles shall only drop-off and/or pick-up materials, or provide necessary

services and shall depart from the public access areas as soon as possible; except that vehicles provisioning/servicing Navy ships docked at the east apron may park on the east apron when it is closed to public access.

- a. **Phase 1.** During Phase 1 of the project, all service and catering vehicles needed to access the east end of the pier shall drive through the Pier 17 shed. Catering vehicles servicing special events may park within the designated parking area located at the southeast corner of Pier 17 only, as shown on Exhibit A. The permittees shall stripe or otherwise demarcate the designated parking area to separate this space from the adjoining public access area.
 - b. **Phase 2.** During Phase 2 of the project, service vehicles may access the east end of the pier along the Pier 17 south apron public access area during the limited hours of 10 p.m. to 10 a.m. only. A maximum of six catering vehicles per day needed to service special events, may access the east end of the pier along the Pier 17 south apron public access area during the daytime hours of 10 a.m. to 10 p.m. but must be accommodated within the Pier 17 shed and may not park or load/unload within public access areas. Parking of catering vehicles within the designated parking area permitted in Phase 1 (and Special Condition II-B-5-a above) shall terminate in Phase 2 and this area shall be made available to public access unless the permittees can demonstrate to the Commission's satisfaction that there is no feasible alternative to accommodate parking within the Pier 17 shed and that public access is not adversely impacted by vehicle parking. Any extension of parking within this designated space will require an amendment to the permit and a strong showing that such parking is needed, cannot be reasonably accommodated within the Pier 17 shed as part of the Phase 2 programming, and that public access is not adversely impacted by vehicle parking.
 - c. **Small Electric Carts.** During both Phase 1 and Phase 2 of the project, the permittees may drive small electric carts along the Pier 17 public access south apron during special events to shuttle patrons to the east end of the piers. The carts shall be stored within the Pier 17 shed and shall be no wider than four feet to allow adequate access along the public access apron. The permittees shall ensure that drivers of the electric carts maintain an adequate speed and drive in a safe and appropriate manner to prevent conflicts between pedestrians and the carts.
6. **Future Public Access – Pier 17 North Apron.** If, at any time after the Exploratorium has completed the Phase 2 improvements and the Pier 17 north apron ceases to be used by Baydelta Maritime and is not replaced within two years by another public trust use that precludes public access, the permittees shall: (1) submit a public access plan for the north apron of Pier 17 within 20 months of Baydelta Maritime vacating the site; (2) receive approval for a public access plan for the north apron within two years of Baydelta Maritime vacating the site; and (3) install the approved public access improvements within 30 months of Baydelta Maritime vacating the site. If public access is implemented, the permittees shall construct a utility enclosure, no larger than 1,675 square feet and similar to the enclosure located at the southwest corner of Pier 15, to enclose and screen the transformer and generator on the north apron, and the permittees shall connect the north apron to the Embarcadero promenade and the east apron of Pier 17. Any future public access on the north apron of Pier 17 shall ensure a direct connection to the Embarcadero promenade and the east apron of Pier 17 (as shown on Exhibit A to this permit), including, but not limited to, removing the gate currently located at the northwest corner of the Pier 17 north apron and assuring a seamless connection of the trail surface.

7. **Permanent Guarantee of Public Access.** At least six months prior to the issuance of a certificate of occupancy, the permittees shall, by instrument or instruments acceptable to counsel for the Commission, dedicate to a public agency or otherwise permanently guarantee such rights for the public to the new 99,100-square-foot public access areas. The instrument(s) shall create rights in favor of the public which shall commence no later than after completion of construction of any public access improvements required by this authorization and prior to the use of any structures authorized herein. Such instrument shall be in a form that meets recordation requirements of the City and County of San Francisco and shall include a legal description of the property being restricted and a map that clearly shows the shoreline (Mean High Water Line or edge of seawall), the property being restricted for public access, the legal description of the property and of the area being restricted for public access, and other appropriate landmarks and topographic features of the site, such as the location and elevation of the top of bank of any levees, any significant elevation changes, and the location of the nearest public street and adjacent public access areas. Approval or disapproval of the instrument shall occur within 30 days after submittal for approval and shall be based on the following:
- (a) Sufficiency of the instrument to create legally enforceable rights and duties to provide the public access area required by this authorization;
 - (b) Inclusion of an exhibit to the instrument that clearly shows the area to be reserved with a legally sufficient description of the boundaries of such area; and
 - (c) Sufficiency of the instrument to create legal rights in favor of the public for public access that will run with the land and be binding on any subsequent purchasers, licensees, and users.
8. **Recordation of the Public Access Instrument.** Within 30 days after approval of the instrument, the permittees shall record the instrument on all parcels affected by this permit and shall provide evidence of recording to the Commission. No changes shall be made to the instrument after approval without the express written consent by or on behalf of the Commission. The instrument shall create rights in favor of the public which shall commence no later than the date of occupancy and shall continue so long as any use or improvements authorized herein remain. Such improvements shall be fully consistent with the plans approved pursuant to Special Condition II-A of this authorization and substantially conform to Exhibit A.
9. **View Corridor Dedication or Restriction Document.** At least six months prior to the issuance of a certificate of occupancy, the permittees shall submit to the Commission's Executive Director a legal instrument that dedicates to a public entity other than the Bay Commission or otherwise restrict in perpetuity as open space for visual access purposes the 60-foot-wide view corridor as required by Special Condition II-B-2-f to this permit. The instrument shall include a map that shows the shoreline (Mean High Water Line or edge of seawall) and a metes and bounds description of the area being restricted as open space and shall be in a form suitable for recording in the City and County of San Francisco.

The Executive Director shall review and either approve or disapprove the proposed instrument within 30 days of its receipt. Approval or disapproval shall be based on the sufficiency of the instrument to create the required open space condition. If the Executive Director approves the instrument, the permittees shall record the instrument on all parcels affected by the instrument within 30 days of its approval and shall thereafter provide the Commission with a copy of the recorded instrument. If the Executive Director disapproves the instrument, the permittees shall correct all deficiencies and resubmit the corrected instrument for further staff review within 30

days of receipt of the written notification of disapproval. The Executive Director shall then review the corrected instrument in accordance with this review procedure, and the permittees shall record the approved instrument on all parcels affected by the instrument within 30 days of its approval.

10. **Maintenance.** The areas and improvements within the 99,100-square-foot (2.28 acres) public access area described above shall be permanently maintained by and at the expense of the permittees or their assignees. Such maintenance shall include, but is not limited to: repairs to all path surfaces; replacement of any plant materials that die or become unkempt; repairs or replacement as needed of any public access amenities such as signs, benches, trash containers, and lights; periodic cleanup of litter and other materials deposited within the access areas; removal of any encroachments into the access areas; assurance that the public access signs remain in place and visible; and repairs to any public access areas or improvements that are damaged by future subsidence, uneven settlement, or flooding, or inundation caused by sea level rise, including raising land elevations or redesigning public access features to protect and ensure the usability of the public access areas and improvements at all times. Within 30 days after notification by staff, the permittees shall correct any maintenance deficiency noted in a staff inspection of the site. The permittees shall obtain approval by or on behalf of the Commission of any maintenance that involves more than in-kind repair and replacement.
11. **Assignment.** The permittees shall transfer maintenance responsibility to a public agency or another party acceptable to the Commission at such time as the property transfers to a new party in interest but only provided that the transferee agrees in writing, acceptable to counsel for the Commission, to be bound by all terms and conditions of this permit.
12. **Reasonable Rules and Restrictions.** The permittees may impose reasonable rules and restrictions for the use of the public access areas 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 will not significantly affect the public nature of the area, will not unduly interfere with reasonable public use of the public access areas, and will tend to correct a specific problem that the permittees have both identified and substantiated. Rules may include restricting hours of use and delineating appropriate behavior.

C. Embarcadero Promenade Improvements

1. **Curb Indents.** Prior to constructing the Embarcadero curb indents, the Port shall submit a request for a permit amendment to BCDC Permit No. 8-90 to authorize the Embarcadero curb indents in front of Piers 15 and 17 and the flattening of the art ribbon in front of Piers 15 and 17. No construction on the curb indents shall commence until after a permit amendment to Permit No. 8-90 has been issued for these improvements and a Transportation Management Plan has been submitted to the Commission staff for its review and approval. The Transportation Management Plan shall include the measures taken to minimize vehicle and bus loading/unloading conflicts, including, but not limited to, the measures taken to ensure bicycle safety such as installing appropriate signage, a system to separate bicycle traffic from loading/unloading vehicles, and appropriate curb indent widths; the measures to prevent bus and vehicle back-up along the Embarcadero; and the measures to prevent public access conflicts along the Embarcadero promenade from loading, off-loading and waiting passengers and school children. Construction of the curb indents shall not be completed until after the art ribbon in front of Piers 15 and 17 has been flattened.

2. **Embarcadero Roadway Improvements.** The Port shall use its best efforts to ensure that the improvements to the Embarcadero roadway, which the Mayor's Office has committed to in a letter dated March 9, 2009, are completed by the issuance of a certificate of occupancy for the Phase 1 project. These improvements, include, but are not limited to, the straightening of the Green Street crosswalk, constructing sidewalk bulb-outs at the northwest and southwest corners of the Green Street/Embarcadero intersection, and removing the existing southbound left turn lane from Embarcadero into Piers 15/17.
- D. **Fill Removal.** A total of 108,310 square feet (2.49 acres) of Bay fill will not be removed from the Piers 15/17 valley under the project. The Port shall remove fill at another location on the San Francisco waterfront, pursuant to the requirements of the *San Francisco Waterfront Special Area Plan* (as amended pursuant to BCDC Resolution No. 09-01), no later than 10 years from the date of issuance of a certificate of occupancy for the Pier 15 project (Phase 1). Upon issuance, the permittees shall submit to Commission staff, a copy of the certificate of occupancy for the Pier 15 project (Phase 1). No later than eight years from the issuance of a certificate of occupancy for the Pier 15 project (Phase 1), the Port shall identify the location, amount, and type (whether pile-supported, decked structures or pile fields) where the remaining fill not removed from the Piers 15/17 valley will be removed and the expected timing of the removal. The Port shall identify whether the fill removal will occur within the northeastern waterfront or elsewhere and the ratio of the fill not removed from within the Piers 15/17 valley to the fill proposed to be removed elsewhere.
- E. **Dredging**
1. **Ten-Year Permit for Dredging.** The approximately 75,100 cy or less of authorized maintenance dredging shall be completed within ten years of the date of issuance of this permit. No further dredging is authorized.
 2. **Limits on Dredging.** This permit authorizes maintenance dredging only within area(s) as shown on Exhibit C to an authorized project depth of -20 feet MLLW plus two feet allowable over-dredge depth. No dredging in other areas is authorized.
 3. **Dredging and Disposal Activity**
 - a. **Pre- Dredging and Disposal Report and Notice.** At least 45 days before the commencement of any dredging and disposal episode authorized herein, the permittees shall submit to the Commission's Executive Director:
 - (1) A bathymetric map showing the location of all areas authorized to be dredged, the authorized depth including over-dredge depth based on MLLW, the volume of material proposed to be dredged, and the approximate date of project commencement. At least two (2) weeks prior to any dredging episode, the permittees shall notify the Commission staff of the commencement date by telephone or in writing. If the date of commencement changes, the permittees shall provide an updated schedule as soon as it is available.
 - (2) A written statement to the Executive Director that contains: (1) the proposed disposal site and quantity of material to be disposed, and dates within which the disposal episode is proposed; (2) if applicable, a discussion as to how the volume proposed for disposal is consistent with in-Bay disposal allocations and disposal site limits; (3) the results of chemical and biological testing of sediment proposed for disposal; and (4) an alternatives analysis or integrated alternatives analysis to explain why ocean disposal, upland dis

posal or beneficial reuse of dredged material is infeasible or a signed Small Dredger Programmatic Alternatives Analysis agreement form if the permittees fit the criteria of a small dredger.

- b. **Authorization of Disposal.** The authorization for the proposed in-Bay disposal shall become effective only if the Commission staff: (1) informs the permittees in writing via letter or email that the episode is consistent with the authorization provided herein, alternative disposal and beneficial reuse options are infeasible, the volume proposed for disposal is consistent with both in-Bay disposal allocations, if applicable, and the disposal site limits, and the material is suitable for in-Bay disposal; or (2) does not respond to the permittees' pre-disposal report within 30 days of its receipt. If the Commission staff determines that: (a) ocean disposal, upland disposal, or beneficial reuse of the material is feasible; (b) the material proposed for disposal is unsuitable for the Bay; or (c) the proposed disposal is inconsistent with in-Bay allocations and disposal site limits, the Commission's authorization for in-Bay disposal shall be terminated.
- c. **Post-Dredging Requirements**
 - (1) Within 30 days of completion of each dredging episode authorized by this permit, the permittees shall submit to the Commission a bathymetric map showing the actual area(s) and depths dredged including over-dredge depth based on MLLW, any dredging that occurred outside the area or below the depths authorized herein, and a written statement indicating the total volume of material dredged and disposed and the disposal location.
 - (2) If a dredging episode stops for longer than six consecutive months, the permittees must submit, before the dredging episode has resumed, notification to the Commission that dredging will begin again. If a dredging episode is suspended for more than six months, the Commission may require the permittees to complete: (1) new sediment characterization; (2) a re-survey of the dredge area; and/or (3) a revised alternative disposal option analysis.
 - (3) If the dredging episode continues longer than one year, whether dredging is continual throughout the year or is fragmented within the episode, the permittees must provide the Commission with the following dredging report: (1) the actual areas and the depth dredged based on MLLW, and any dredging that occurred outside the area dredged; (2) the actual volume of the material dredged; and (3) the volume and location of the material disposed. The dredging report must be submitted no later than one year after the commencement of the episode, and must be submitted every six months thereafter throughout the life of the permit or until the episode is complete. The Commission may require additional sediment characterization, bathymetric surveys, and/or alternative disposal analyses at the commencement of the next episode. Within 30 days of the completion of the episode, the permittees must submit a dredging report as described in Special Condition II-E-3-a.
4. **Seasonal Limitations.** Except as provided below, all dredging and disposal activities shall be confined to the work window, between June 1st and November 30th of any year, to minimize disturbance to the following special status species:

Species of Concern	Work Window	Agency
Pacific Herring	March 1 st -November 30 th	CDFG
Steelhead Trout	June 1 st -November 30 th	NOAA, CDFG
Chinook Salmon	June 1 st -November 30 th	NOAA

CDFG-California Department of Fish and Game,

NOAA-NOAA Fisheries

This work window June 1st and November 30th is established by Tables F-1 and F-2 of Appendix F, "In-Bay Disposal and Dredging," and Figures 3.2 and 3.3 of the Long-Term Management Strategy (LTMS) Management Plan (2001) as amended by U.S. Fish and Wildlife Service (FWS) on May 28, 2004. No work inconsistent with the time and location limits contained in these figures may be conducted without the approval of the Executive Director, provided that such approval may only be issued after (1) consultation between the U.S. Army Corps of Engineers (USACE) and the FWS and/or NOAA has occurred; and (2) the Executive Director has determined that dredging and disposal outside of the work window is consistent with the Commission's laws and policies.

To protect the herring fishery, no dredging shall occur between December 1st and February 28th of any year without the written approval of the Executive Director, provided that such approval may only be issued: (1) after the permittees' representative requests from the California Department of Fish and Game (DFG) that they be allowed to dredge outside of the work window, discussions between the permittees' representative and the DFG has occurred and the outcome of those discussions has been provided to the Commission staff; and (2) the Executive Director has determined that dredging and disposal outside of the work window is consistent with the Commission's laws and policies.

5. **Longfin Smelt.** If, at any time during the life of this permit, any new laws, policies or regulations require measures to protect longfin smelt from potential adverse impacts of dredging, dredged material disposal, and/or beneficial reuse of dredged material, this permit shall become null and void unless the permittees agree to amend this authorization to comply with the new laws, policies, or regulations in a manner specified by or on behalf of the Commission. For example, if DFG requires an incidental take permit under the California Endangered Species Act, the permittees must obtain the DFG take permit, provide the take permit to the Commission and amend the Commission's permit or the Commission's permit will become null and void.
6. **Barge Overflow Sampling and Testing.** Results of any effluent water quality or other testing required by the California Regional Water Quality Control Board, San Francisco Bay Region shall be submitted in writing to Commission staff at the same time such testing is submitted to the Regional Board.
7. **Monitoring and Enforcement.** The permittees shall allow the Commission staff or representatives of other state or federal agencies to come aboard the dredge or barge associated with any dredging or disposal episode subject to reasonable safety and operational considerations and observe the operation(s) to ensure that these activities are consistent with pre-dredging reports required herein and other terms and conditions of this permit. Further, the Commission reserves the right to have post-dredging reports inspected by a reliable third party familiar with bathymetric mapping in order to verify the contents of these reports. If a third party selected by or on behalf of the Commission indicates that a post-dredging report is inaccurate,

the Commission reserves the right to require the permittees to submit a revised report that meets the conditions of this permit. If the Commission determines that the post-dredging report indicates that work has occurred beyond that authorized by this permit such violation may result in the initiation of enforcement action by or on behalf of the Commission.

8. **Long-Term Management Strategy Program.** If, at any time during the effective life of this permit, the Commission's laws, Bay Plan policies, or regulations are changed and are in effect regarding dredging, dredged material disposal, and beneficial reuse consistent with the multi-agency Long-Term Management Strategy Program (LTMS), this permit shall become null and void unless the permittees agree to amend this authorization to meet the new laws, policies, or regulations in a manner specified by or on behalf of the Commission.

F. Pile Driving Restrictions

1. **Pile Driving Method.** The permittees shall use a vibratory hammer to install all steel piles in the Bay to avoid potential impacts to fish species from elevated underwater sound pressure levels. If geotechnical studies indicate that an impact hammer is necessary due to unforeseen hard driving conditions, the permittees shall inform the Commission in writing that an impact hammer is needed, shall limit pile-driving to between June 1 and November 30 of each year to minimize impacts to fish species such as steelhead trout and Chinook salmon, shall use a wood cushion between the pile and impact hammer, and shall limit pile-driving during periods of minimal current (slack tide). If it is not feasible to use a wood cushion, the permittees shall use an air bubble curtain to attenuate sound levels from the steel piles, or shall assure that sound pressure levels generated from the pile-driving do not exceed the maximum decibels and accumulated sound pressure levels established by NOAA Fisheries. A qualified biologist shall monitor pile driving to ensure that the air curtain is functioning properly and project-generated sound waves do not exceed these thresholds.
2. **Herring Monitoring.** If pile driving occurs between December 1 and February 28 of any year, the permittees shall have an on-site biological monitor, as approved by the California Department of Fish and Game (DFG) for monitoring herring. If herring spawning is observed, pile driving shall cease for two weeks following the spawning event. The biological monitor shall survey the area prior to resuming work to ensure that further work does not impact spawning or newly hatched herring.
3. **Marine Mammals.** If marine mammals are observed within 1,000 feet of the project site, pile driving shall cease and only resume once the mammals have completely exited the project site.

G. Minimizing Impacts to Western Gulls. To the extent feasible, the permittees shall not undertake construction or demolition activities between March 1 and August 1, the nesting season for western gulls. If construction or demolition occurs during the nesting season, the permittees shall employ an avian biologist and shall employ appropriate measures to prevent nesting of western gulls on the project site, prior to the nesting season. Such measures may include:

1. Netting all potential nesting areas on the roofs of the structures to prevent gulls from nesting there with weekly inspections by the avian biologist to ensure that the barrier is functioning properly; or

2. Setting up a grid of wires (no more than 1 foot squares) across nesting areas, approximately 1 foot or more above the surface, that are thin enough so that they do not provide a stable surface for gulls to perch on but that are strong enough so that they do not break, with weekly inspections by the avian biologist to ensure that the barrier is functioning properly; or
 3. Netting smaller areas where gulls are known to nest and hazing gulls in areas outside the netted areas. Hazing is the intentional disturbance and removal of nests prior to egg laying to prevent birds from nesting during the construction period. Beginning at least two weeks prior to the onset of the nesting season, one or more avian biologists shall inspect the roof at least every other day and use a broom or leaf blower to disrupt any nests outside the netted areas before they have eggs in them. If eggs are observed within nests, they may not be disturbed. Avian biologists shall inspect the roofs at least every two days and continue hazing throughout the nesting season, while construction is occurring.
- H. **Bay Water Cooling and Heating System.** The permittees shall not operate the bay water cooling and heating system until after all required approvals for the system have been obtained and submitted to Commission staff for review, including a National Pollutant Discharge Elimination System (NPDES) permit from the Regional Water Quality Control Board. The permittees shall incorporate all mitigation measures and design specifications required by the applicable resource agencies to mitigate for potential water quality and fish impingement and entrainment impacts. If, within two years of installing the bay water cooling and heating system, the permittees are unable to obtain the required approvals to operate the system, the permittees shall remove all Bay fill associated with the system, including two, 48-inch-in-diameter steel pipes, totaling approximately 25 square feet and 100 cubic yards of fill under the Pier 15 deck (Phase 1) and similarly under the Pier 17 deck (Phase 2).
- I. **Seismic Monitoring.** The permittees shall evaluate the cost and benefits of placing seismic instruments at the project site to monitor seismic activity for use by seismologists. If the seismic instruments prove too costly, the permittees shall, at a minimum, install an informative museum exhibit that measures the seismic activity at the site.
- J. **Future Reviews of Phase 2.** Prior to the construction of Phase 2 of the project, the permittees shall:
1. **Public Trust Consistency.** Submit to Commission staff, a trust consistency determination from the State Lands Commission staff that the proposed uses in Phase 2 of the project are consistent with the public trust.
 2. **Engineering Criteria Review Board.** Submit for final review by the Engineering Criteria Review Board (ECRB), required engineering plans for the construction of Phase 2 for consideration by the Board at a scheduled ECRB meeting.
 3. **Plan Review.** Submit final plans for the construction of Phase 2 of the project, for final review and approval by Commission staff, pursuant to Special Condition II-A of this permit. Changes to the conceptual plan shown on Exhibit A to this permit may require a permit amendment.
- K. **Mitigation Measures and Best Management Practices.** In order to minimize impacts to natural resources, the permittees shall implement the mitigation measures, best management practices and other conditions required in an approved Mitigation and Monitoring and Reporting Program (MMRP), Environmental Protection Plan (EPP) and Storm Water Quality Control Plan (SCP). In addition, the following conditions apply:

1. **Creosote Treated Wood.** No pilings or other wood structures that have been pressure treated with creosote shall be used in any area subject to tidal action in the Bay or any certain waterway, in any salt pond, or in any managed wetland within the Commission's jurisdiction as part of the project authorized herein.
 2. **Construction Operations and Debris Removal.** All construction operations shall be performed to prevent construction materials from falling, washing or blowing into the Bay or drifting and becoming a navigation or pollution hazard. In the event that such material escapes or is placed in an area subject to tidal action of the Bay, the permittees shall immediately retrieve and remove such material at its expense. 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 permittees, their assignees, or successors in interest, or the owners of the improvements, shall remove such material, at their expense, within ten days after it has been notified by the Executive Director of such placement.
- L. **In-Kind Repairs and Maintenance.** Any in-kind repairs and maintenance of all areas shall only use construction material that is approved for use in San Francisco Bay. Construction shall only occur during current approved months during the year to avoid potential impacts to fish and wildlife. Commission staff should be contacted to confirm current restrictions. Repair and maintenance work shall be confined to existing structural footprints and shall not result in the enlargement of the existing pier, gangway or dock structures.
- M. **Pile Removal.** All piles to be removed under this permit shall be cut at least two feet below the mudline to ensure adequate navigational safety.
- N. **Recording.** The permittees shall record this permit or a notice specifically referring to this permit on all parcels affected by this permit with the City and County of San Francisco within 30 days after execution of the permit issued pursuant to this authorization and shall, within 30 days after recordation, provide a copy of the recorded permit to the Commission.
- O. **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.
- P. **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 permittees, 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.

III. 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 *San Francisco Waterfront Special Area Plan* (SAP), the California Environmental Quality Act (CEQA), and the Commission's amended coastal zone management program for San Francisco Bay for the following reasons:

- A. **Bay Fill.** The Commission may allow fill only when it meets the fill requirements identified in Section 66605 of the McAteer-Petris Act, which states, in part: (a) the public

benefits from fill must clearly exceed the public detriment from the loss of water areas, and fill should be limited to water-oriented uses, including water-oriented recreation and public assembly; (b) no alternative upland location exists for the uses proposed on fill; (c) the fill should be the minimum amount necessary; (d) the fill should minimize harmful effects to the Bay including the water volume, circulation, and quality, and fish and wildlife resources; (e) the fill should be constructed in accordance with sound safety standards; and (f) the fill should be authorized when the applicant has valid title to the affected property.

With adoption of the *San Francisco Waterfront Special Area Plan* (SAP), some non-water-oriented uses can be authorized on piers as long as the uses are consistent with the Public Trust and the Port's Legislative Trust Grant (Burton Act).

- a. **Public Benefit v. Public Detriment and Water-Oriented Use.** The project will substantially strengthen the piers, substructure and marginal wharf of Piers 15/17 to support the proposed new uses by repairing and/or replacing approximately 2,500 existing piles and installing approximately 118 new piles.

In its informal opinion of October 8, 1986, the Attorney General's office advised the Commission that when a proposed development upon a pier involves work to the pier itself or its substructure, the scope of the Commission's permit review, and whether the water-oriented use requirement is triggered, varies with the physical extent, nature and purpose of the work. The Attorney General's office advised that routine repairs, such as those that are necessary to keep pace with the ordinary wear and tear suffered by an existing structure that do not change the essential utility of the structure or allow the structure to be perpetuated indefinitely through the periodic repetitions of such work, would not extend the Commission's Bay jurisdiction to piers that were constructed prior to September 17, 1965, the date the Commission obtained its permit jurisdiction over San Francisco Bay. However, the Attorney General's Office also advised that "...Anything beyond such routine repairs tends toward creation of what is essentially a 'new' structure, in that the structure is, at the very least, one that is significantly different from what existed prior to the work in terms of its utility or life expectancy or time period that will be necessary to amortize its overall cost...Accordingly, any such work on a pier should be treated as 'further filling' of the Bay within the meaning of Section 66605, and must be assessed for the water-oriented nature of the uses supported by the pier."

The strengthening and repair of the substructure, marginal wharves and piers go beyond routine repairs because the proposed improvements will significantly upgrade and increase the life expectancy of these structures. Therefore, the Commission should treat the bulkhead buildings, shed building and piers as if they were located in the Commission's Bay jurisdiction under the McAteer-Petris Act and the Bay Plan, and any uses within the buildings on the piers must be water-oriented or otherwise permissible within the Commission's Bay jurisdiction.

The proposed new fill will fulfill four functions: (1) seismically strengthen the substructure, marginal wharf and piers supporting historic buildings to house a museum, related office space, event space, café and retail uses, and to relocate Bay-delta Maritime to Pier 17; (2) improve public access to the Bay; (3) provide a dock for water taxi service; and (4) allow up to two Bay-water heating and cooling systems associated with the museum. The rehabilitated structures will be used primarily to house the Exploratorium's museum program, related cafes and retail, various public assembly uses, to support water-oriented uses such as Baydelta Maritime and a water taxi dock, and to increase public access to the Bay.

According to the permittees, because the majority of the project site is currently inaccessible, rehabilitation of the project site as a museum will provide substantial new public benefits. The proposed project will attract large numbers of people to enjoy the Bay and the shoreline to an area that currently has no access. The museum has been designed to take advantage of its nearness to the Bay. The permittees state “[b]y its very nature, the Project, a museum of science, art and human perception, will support and encourage the expansion of scientific information concerning the Bay. Many of the museum’s exhibits will be Bay and water-oriented, designed in a manner to increase the public’s understanding and appreciation of the bay’s ecosystem.” In addition to the museum uses and relocation of Baydelta Maritime, the project will provide approximately 99,100 square feet (2.28 acres) of new public access at the site and access from the Bay to the site, with the construction of a new water taxi dock. The proposed project will meet a LEED Silver accreditation with the goal of becoming a net-zero energy facility by installing solar panels on the pier shed rooftops and two Bay-water heating and cooling systems – one for Pier 15 in Phase 1 and another for Pier 17 in Phase 2. Although the pipes associated with each Bay-water heating and cooling system will require placing approximately 25 square feet of Bay fill, the systems will significantly reduce carbon-emissions.

On February 8, 2010, the Executive Director of the State Lands Commission (SLC) determined that the proposed project was consistent with the Public Trust and with the terms and conditions of the Burton Act. Please see the “**Public Trust Consistency**” section below for a discussion on the project’s consistency with the Public Trust.

For these reasons, the Commission finds that the public benefits associated with the fill for the project exceed the public detriment from the placement of that fill and that the fill serves water-oriented uses or is otherwise permissible within the Commission’s Bay jurisdiction as enabling uses consistent with the Public Trust.

- b. **No Alternative Upland Location.** According to the permittees, “[t]he Exploratorium was unable to identify an alternative upland location that would enable it to meet its project objectives.” Prior to selecting Piers 15/17, the project sponsor considered and ultimately rejected several upland sites. Of the potentially available and economically feasible sites, only Piers 15/17 met the Exploratorium’s objectives related to: total program space and opportunity for expansion; appropriate museum exhibit space, with a continuous floor plan; provision of outdoor exhibit space for Bay-oriented learning; a site that lends itself to interpretation of the Bay; a centrally located, highly visible, and transit-accessible location; and the ability to develop revenue-generating uses, such as a multi-purpose rental event space, to sustain its operations.

For these reasons, the Commission finds that there is no alternative upland location for the project.

- c. **Minimum Amount of Fill.** As discussed above, the project will result in an overall net reduction of 21,410 square feet (0.49 acre) of Bay fill at the site. While the amount of solid and floating fill will be increased, the amount of pile-supported fill will be reduced and the overall Bay fill footprint decreased. According to the permittees, the minor amount of new fill is required “primarily in the form of new decking for seismic safety and public access, which is necessary to accommodate the new museum use and to meet contemporary life safety, accessibility, mechanical-electrical, and programmatic requirements.”

In addition, under the terms of the SAP amendment allowing retention of a portion of the Piers 15/17 valley and the non-historic shed additions, the permittees are required to offset any fill not removed at this location at another location along the San Francisco waterfront within 10 years of issuance of a certificate of occupancy for a major development at Pier 15 at a ratio of 1 to 1 if removed from within the north-eastern waterfront and consisting of the same type of pile-supported decked structures. The ratio is 2 to 1 if removed from outside of the northeastern waterfront, with at least 1 to 1 consisting of decked structures; additional fill removal can include pile fields. As an incentive for early removal, the fill removal requirement for fill removed outside of the northeastern waterfront shall be 1.5 to 1 if removed within 5 years of issuance of a certificate of occupancy for a major development at Pier 15, with at least 1 to 1 of the fill removal consisting of decked structures; additional fill removal can include pile fields.

Prior to the December 3, 2009 SAP amendment, the SAP required that 153,450 square feet (3.52 acres) of the valley and non-historic shed additions be removed. The Exploratorium will remove fill within the Piers 15/17 valley to create an approximately 54,880-square-foot (1.26 acres) open water area initially during Phase 1 of the project but will retain existing piles within the valley to support new decking in Phase 2 for public access and an expanded ticketed outdoor exhibit area. Upon build-out of Phase 2, the project will result in an approximately 34,540-square-foot (0.79 acre) open water area. According to the permittees, at least 10,600 square feet (0.24 acre) of fill is required for seismic strengthening and is permitted under the SAP as new fill within open water areas. Under the terms of the SAP amendment, the remaining 108,310 square feet of fill not removed from the valley will be offset at another location on the San Francisco waterfront. Several locations have been identified where the remaining fill could be removed, including piers and pilings, including decked structures, at portions of Piers 30-32 in the northeastern waterfront, Pier 70, Pier 98 Lash Pier, Carmen's Restaurant on China Basin Channel, Pier 64 and Islais Creek.

Special Condition II-D has been included in the permit requiring the permittees to remove the 108,310 square feet (2.49 acres) of fill not removed at Piers 15 and 17, elsewhere on the San Francisco waterfront pursuant to the SAP amendment, and to provide Commission staff with a copy of the certificate of occupancy for Pier 15 (Phase 1) when it is issued, and notification, no later than eight years from the date of certificate of occupancy, where the fill will be removed.

For these reasons, the Commission finds that the fill is the minimum necessary to complete the project.

- d. **Minimizing Impacts.** The proposed project will involve driving up to 118 new steel piles in the Bay and constructing two Bay-water cooling systems, resulting in an increase of 434 cubic yards of solid Bay fill. As discussed more fully in the "**Natural Resources Policies**" section below, the measures incorporated into the project minimize the fill impacts to the Bay including the water volume, circulation and quality, and fish and wildlife resources. The Final Environmental Impact Report (FEIR) for the project determined that with implementation of identified mitigation measures, any potential impacts to biological resources and water quality will be reduced to a less than significant level. On February 8, 2010, the Regional Water Quality Control Board (RWQCB) issued a water quality certification for the dredging element of the project.

For these reasons, the Commission finds that, as conditioned, the project minimizes harmful effects to the Bay including the water volume, circulation, and quality and fish and wildlife resources.

- e. **Sound Safety Standards.** Policy 1 of the Bay Plan Safety of Fills section states, in part: “The 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....” Policy 3 states: “To 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. Coast and Geodetic Survey, for purposes of data comparison and evaluation.” Policy 4 states: “To prevent damage from flooding, structures on fill or near the shoreline should have adequate flood protection including consideration of future relative sea level rise as determined by competent engineers.” Policy 5 states, in part: “To minimize the potential hazard to Bay fill projects and bayside development from subsidence, all proposed developments should be sufficiently high above the highest estimated tide level for the expected life of the project...”

The Commission’s Engineering Criteria Review Board (ECRB) reviewed the proposed project for seismic and engineering design safety on March 12, 2009. The scope of the work reviewed included the work in Phase 1 of the project only. The ECRB was satisfied with the engineering criteria used in the design of the proposed project and strongly encouraged the permittees to set up an array of seismic instruments to monitor the behavior of the structure in future earthquakes. The Exploratorium has agreed to consider incorporating some form of seismic monitoring equipment in the proposed project. However, due to the expense of such instrumentation, this may take the form of an informative museum exhibit rather than a seismic instrumentation plan for use by seismologists. Special Condition II-I requires the Exploratorium to evaluate incorporating seismic instrumentation at the site for use by seismologists. Should the expense of such instrumentation prove too costly, the condition requires that the Exploratorium, at a minimum, install an informative museum exhibit that measures the seismic activity at the site.

According to the permittees, the project will be constructed in a manner that complies with projected sea level rise associated with long-term increases to the mean high tide. The rehabilitated pile-supported Piers 15 and 17 will not be raised higher than the existing elevation of 12.80 feet mean lower low water (MLLW). The permittees provided information from the tidal gauge at Alameda as well as predicted data for Rincon Point at Pier 22½, based on tide data from the tidal station at Golden Gate. Based on projected sea-level rise predictions used by the Commission of 16 inches by 2050 and 55 inches by 2100¹, Piers 15 and 17 will have approximately 1.63 feet of freeboard clearance during mean higher high tide in 2100. This means that at high tides, and in storm events with wave run-up, portions of the piers may be inundated by 2100. Because the Exploratorium will receive a 66-year lease from the Port of San Francisco, which is expected to expire in the year 2076, sea level rise effects will be addressed at the time of lease renewal.

For these reasons, the Commission finds that the project will be constructed in accordance with sound safety standards, consistent with Bay Plan policies regarding safety of fills.

¹ Projected sea-level rise numbers are based on numbers provided by the California Climate Action Team established by Governor Schwarzenegger and included in a report prepared by BCDC entitled, “Living With a Rising Bay: Vulnerability and Adaptation in San Francisco Bay and On the Shoreline”, dated April 7, 2009.

- f. **Valid Title of Project Site.** The project site is owned by the City and County of San Francisco and operated by and through the San Francisco Port Commission, and is subject to the Public Trust. On September 8, 2009, the Port of San Francisco approved a Lease Disposition and Development Agreement with the Exploratorium that authorizes the Port to lease the Piers 15/17 project site to the Exploratorium, upon satisfaction of certain conditions and pursuant to the Lease Disposition and Development Agreement. On October 22, 2009, the State Lands Commission approved a dredging lease with the Exploratorium for the Piers 17/19 water basin where dredging will occur.

For all the reasons listed above, the Commission finds that the project is consistent with the Commission's law and related policies on the placement of fill.

- B. **Public Access.** Section 66602 of the McAteer-Petris Act states that "...maximum feasible public access, consistent with a proposed project, should be provided." In assessing whether a project on the San Francisco waterfront provides maximum feasible public access consistent with the project, the Commission relies on the McAteer-Petris Act, the policies of the San Francisco Bay Plan, and the policies of the SAP.

Policy 1 and Policy 6 of the Bay Plan policies on Public Access state that "a proposed fill project should increase public access to the Bay to the maximum extent feasible" and that the public access 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 the physically handicapped to the maximum extent feasible, should include an ongoing maintenance program, and should be identified with appropriate signs." Policy 11 states that, "the Design Review Board should advise the Commission regarding the adequacy of the public access proposed" and Policy 2 of the Bay Plan's Appearance, Design and Scenic Views section state that "all bayfront development should be designed to enhance the pleasure of the user or viewer of the Bay" and that "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."

With regard to public access, the SAP states that "[f]or a major development project occupying all or most of a pier(s), a project that provides 35% of the project pier area for public access should be deemed to provide maximum feasible public access..." Projects on finger piers where there is no change to the pier shed footprint must provide, to the maximum extent feasible, public access on the entire apron, a "Bayside History Walk," and an additional public access feature that is consistent with the project, the size of the pier and with the Secretary of Interior's standards. According to the SAP, non-public access uses may extend to a pier's platform edge, provided that such uses enhance the total design of the project, serve to make the public access more interesting, and do not divert the public way along more than twenty percent (20%) of the total platform edge. The Bayside History Walk is required to "provide public access to the Bay's intimate and quiet spaces behind historic bulkhead and connector buildings, provide views of the inner structure of the pier sheds and the bulkhead buildings, and to provide interpretation of, and make accessible to the public, these unique physical assets of San Francisco's maritime history." Public access should emphasize passive recreation and focus its proximity to the Bay and on the views and unique experiences that nearness to the Bay affords, be provided free of charge to the public, and be generally accessible at any time. However, reasonable restrictions on public access may be approved to promote public safety and security.

The project will provide approximately 99,100 square feet (2.28 acres) of new public access to the Bay, or approximately 26% of the total project pier area (the area of Pier 17 reserved for Baydelta Maritime is included in this calculation). Although this number is

less than 35%, according to the permittees, “the project will provide significant public access features” that include a public lobby connecting the Pier 15 bulkhead arch and shed with clear views of the building’s historic trusses above and the expanse of the shed space beyond, a Bayside History Walk within both the Pier 15 (Phase 1) and Pier 17 (Phase 2) sheds with interpretive exhibits for the public to view and enjoy, and a new Observatory Building with a public café and a second-floor access area that is protected from inclement weather and provides expansive Bay views. A new 60-foot-wide Bay view corridor will also be provided between Piers 15 and 17. In addition to these public access features, the project will provide approximately 78,910 square feet (1.81 acres) of perimeter public access along the Piers 15/17 aprons and a new entry plaza. Apron access will vary in width to create distinct seating areas and benches (both with backs and without backs), lighting, railings and other furnishings in appropriate areas to accommodate a diversity of users. Although a portion of the Pier 15 north apron will be reserved for the ticketed outdoor exhibit area and not available for continuous perimeter public access, according to the permittees, this area represents only a 15% section of the total platform edge, less than the 20% permitted in the SAP. Moreover, the permittees state that, “the valley/courtyard area will incorporate strategically-located bridges that will be angled to provide a natural flow of non-ticketed visitors around the Open Water Area and to other areas of the project site.”

The Exploratorium will install science exhibits throughout the project site, including significant areas that are available to the public, and views into the museum through the transparent glass from the Pier 15 south apron. The permittees state, “[s]uch exhibits will draw the public to the project site and will help to foster a greater appreciation and understanding of the Bay” and thus, “...will help achieve the Bay Plan objective of protecting the Bay as a natural resource benefitting present and future generations.” The project will provide a variety of public access areas and improvements to accommodate a diversity of users. According to the permittees, “[t]he layout of the outdoor public access areas will permit users multiple and varied views of the Bay, the Bay Bridge, the east Bay hills and back towards the shoreline and the City” and “[t]he decking in the Valley will allow the public immediate access to the water level to observe tidal action.” The project was reviewed by the Commission’s Design Review Board (DRB) seven times and, based on the DRB’s feedback, the project site plan and public access were revised several times. At the second to last meeting on the project, the DRB concluded that the site planning and architecture had improved and that the project was going in a “wonderful, positive direction.”

- a. **East Apron Navy Berthing.** The Port proposes to continue berthing ceremonial and navy ships along the east apron of Piers 15/17, which could result in the closure of the east apron precluding public access for up to 53 days/year for security reasons. The permittees have agreed to work with the Navy to establish an access program for the east apron that will provide military escorts or otherwise ensure no material interference with public access during the Exploratorium’s normal hours of operation. If, during the Exploratorium’s normal hours of operation there are periods when no public access to the east apron is allowed by the Navy, alternate public access will be provided through the eastern portion of Pier 15, either by escort or other means through the museum. Special Condition II-B-4-a of the permit limits the number of days the east apron of Piers 15/17 can be closed to public access to 53 days/year, and requires the permittees to prepare and submit an access program for review and approval by Commission staff, and to place appropriate signage throughout the project site to inform the public of the possible closure and the location of alternate access.

- b. **Observatory Building Second-Floor Public Access.** The project will provide an approximately 640-square-foot interior public access space on the second-floor of the northeast corner of the Observatory Building with seating, trashcans and lighting, accessible from the north side of the Observatory Building and via an ADA-accessible elevator. The public access space will provide a quiet, sheltered area, protected from inclement weather. In addition, the permittees state the area will “draw the public to the eastern end of Pier 15 and will provide expansive views...” of the Bay and possibly of ships when berthed on the east end. This area will be available for public access during regular museum hours, currently estimated to be from 10 a.m. to 5 p.m., Tuesday through Sunday, but could be closed for up to 8 hours/week during these times for special events. In order to monitor the closure times and prevent impacts to public access users, Special Condition II-B-4-b requires the permittees to provide Commission staff with a bi-annual report listing upcoming special events and the times the Observatory public access area will be closed during museum hours, and to notify the public of closures with appropriate signage.
- c. **Vehicle Circulation.** According to the SAP, “[v]ehicle circulation in public access areas should be limited to service and maintenance vehicles necessary to serve the facility and should be concentrated during late nights and early morning hours.”

According to the permittees, catering truck access to the east apron of Piers 15/17 is necessary to service special events which could occur anytime throughout the day. During Phase 1 of the proposed project, the permittees will drive through the interior drive lane of the Pier 17 shed to access the east apron and will limit parking to the designated area at the southeast corner of Pier 17 to service special events (see Exhibit A). The permittees may park in other non-public access areas during Phase 1, such as the northern portion of the east apron and the Port may park vehicles on the east apron when the apron is closed to public access due to the berthing of a navy ship. Vehicle access through the Pier 17 shed will require trucks to occasionally cross the Embarcadero and the Pier 17 marginal wharf public access area to enter the pier shed.

During Phase 2 of the project, when the Pier 17 shed interior becomes part of the museum, the permittees will access the east apron by driving vehicles on the expanded Pier 17 south apron through the public access area. Special Condition II-B-5 limits vehicles in this area to service vehicles during the limited hours of 10 p.m. to 10 a.m., and a maximum of six catering vehicles per day during the daytime hours of 10 a.m. to 10 p.m. However, parking for catering vehicles within the designated area at the east end of the pier (permitted in Phase 1) will no longer be permitted in Phase 2 and this area will be converted to public access unless the permittees can demonstrate to the Commission’s satisfaction that there is no feasible alternative to accommodate parking within the Pier 17 shed or elsewhere and that public access is not adversely impacted by the vehicle parking on the east apron. Special Condition II-B-5 also requires that all catering vehicles be accommodated within the Pier 17 shed and prohibits any parking or loading/unloading within the public access areas.

During both Phase 1 and Phase 2, the permittees will drive small electric carts along the Pier 17 south apron during special events to shuttle patrons to the east end of the piers. The carts will be stored within the Pier 17 shed and will be approximately four feet in width. Because the south apron of Pier 17 will initially be 13’-9” wide during Phase 1 and then later widened to between 23’-9” and 39’-5” wide during Phase 2, there will be at least approximately ten feet of clearance for public access when electric carts are using this area.

- d. **Embarcadero Curb Indents.** The permittees propose to extend an existing 75-foot curb indent in front of Pier 15, another 73 feet south for a total curb indent of 148 feet for passenger car drop-off and to create a new curb indent in front of Pier 17 of approximately 225 feet for field trip bus drop-off. Because the curb indents are outside of the Exploratorium's leasehold, these changes require an amendment to BCDC Permit No. 8-90, issued to the Port of San Francisco and the City of San Francisco, Department of Public Works. Special Condition II-C-1 requires the Port to submit an amendment request prior to constructing the Embarcadero curb indents, to authorize construction of these curb indents and to flatten the art ribbon in front of Piers 15 and 17 prior to completion of the construction of the curb indents.

When the curb indents were discussed at the DRB meetings, several members of the public, including bicyclists, were concerned that the indents would cause traffic to back-up on the Embarcadero from queuing cars and buses, causing conflicts with bicyclists and members of the public using the Embarcadero promenade.

To address these concerns, the permittees have reduced the length of the curb indents to the current proposal and have agreed to do the following: (1) install and maintain a separation system along the Embarcadero Roadway at the Pier 15 passenger loading indent to limit access to the curb to two points located at the north and south ends of the curb indent; (2) stencil a standard bicycle symbol at the start of the bicycle lane section adjacent to the Pier 15 passenger loading curb indent and adjacent to the Pier 17 bus loading curb indent to increase driver awareness of the presence of the bicycle lane; (3) install appropriate signage at the curb in advance of the two curb indents alerting motorists to the possible presence of bicycles; and (4) increase the depth of the bus drop-off curb indent from the standard 8.5 feet to 9 feet to help prevent buses from encroaching into the adjacent bicycle lane. With these modifications, the Final EIR concluded that the proposed project would have less than significant traffic impacts on bicyclists.

In order to prevent a back-up of waiting buses on the Embarcadero, the permittees will prepare a Transportation Management Plan to address how buses will be received at the site and directed to a temporary staging area along Green Street when the curb indent is full. The Plan will also address how school children loading, unloading and waiting for buses will be safely directed and managed to an area along the Pier 17 marginal wharf so as not to conflict with the public along the Embarcadero promenade. In addition, the Mayor's Office and the Mayor's Office of Economic and Workforce Development has agreed to take a lead role in working with the Port to make improvements to the Embarcadero roadway and sidewalk adjacent to Piers 15/17 that were suggested by members of the public and the DRB, including straightening the Green Street crosswalk, constructing sidewalk bulb-outs at the northwest and southwest corners of the Green Street/Embarcadero intersection, and removing the existing southbound left turn lane from Embarcadero into Piers 15/17.

Special Condition II-C-2 requires the Port to use best efforts to ensure that these Embarcadero roadway improvements are completed by the issuance of a certificate of occupancy for the Phase 1 project.

- e. **Pier 17 North Apron.** The permittees will install a transformer at the northwest corner of Pier 17 during Phase 1 of the project and a generator during Phase 2 of the project. There is currently a gate preventing public access and views along the north apron from the Embarcadero. Because the north apron will not be accessible to the public while Baydelta Maritime or another maritime user is leasing this space and this area will be appropriately screened from the Embarcadero promenade by the gate, the location of these structures will not impact views to the Bay. If, at any time

after the Exploratorium has completed the Phase 2 improvements and the Pier 17 north apron ceases to be used by Baydelta Maritime and is not replaced within two years by another public trust use that precludes public access, Special Condition II-B-6 requires the permittees to submit and receive approval for a public access plan and to install the public access improvements, within a period of time, to convert the Pier 17 north apron to public access. These changes include requiring the permittees to enclose the generator and transformer with an approximately 1,675-square-foot utility enclosure, similar to what is proposed within the southwest corner of Pier 15, and creating a seamless public access connection with the Embarcadero promenade and the Pier 17 east apron.

For these reasons, the Commission finds that the project's public access improvements, as conditioned, are the maximum feasible consistent with the project.

- C. **Public Trust Consistency.** According to the SAP, "...[t]he advice of the State Lands Commission, by letter from its Executive officer, will be used by BCDC in determining the consistency of the proposed use with the Public Trust Doctrine and the Port's Legislative Trust Grant [The Burton Act]...." The Bay Plan provides that the "purpose of the public trust is to assure that the lands to which it pertains are kept for trust uses, such as commerce, navigation, fisheries, wildlife habitat, recreation and open space."

On February 8, 2010, the State Lands Commission (SLC) determined that, "the Exploratorium Museum at Piers 15/17 project...is in compliance with the common law Public Trust..." In particular, the letter states that, "[t]he historical preservation of Piers 15/17 is a public trust activity, given that significant public trust uses and public access, including access to view historic maritime structures from the interior and exterior are incorporated into the project." The SLC made four additional comments as part of its trust consistency review.

First, with regard to Pier 17, when the Exploratorium commences the Phase 2 improvements or proposes to permanently occupy the Pier 17 shed, the Port is required to provide SLC staff with a detailed description of how Pier 17 will contain a balance of public trust uses that are at least equal to those in Pier 15. In the event the Exploratorium occupies two-thirds of the Pier 17 shed for museum related purposes on an interim basis, the Port is required to provide SLC staff with a detailed description of the use of Pier 17 by the Exploratorium and a further trust consistency determination by SLC staff will be required.

Second, to ensure that the public is not hampered in crossing the east end of Piers 15/17 when a naval vessel is berthed along the east apron, an alternative public access route is required to be provided, as discussed in Special Condition II-B-4-a.

Third, the SLC requires that, while it may be used for special events, the primary use of the second floor of the Observatory Building shall be for water-related exhibits that are accessible by Exploratorium visitors.

Fourth, the SLC states that, at any time after the Exploratorium has completed the Phase 2 improvements, and the Pier 17 north apron ceases to be used by Baydelta Maritime, that a further trust consistency determination by SLC staff is required, as discussed in Special Condition II-B-6.

The points made in the State Lands Commission's letter have been incorporated into the permit as special conditions. For these reasons, the Commission finds that the uses will be consistent with the Public Trust doctrine and the Burton Act.

- D. **Natural Resources Policies.** Policy 1 of the Bay Plan policies on Subtidal Areas state: "Any proposed filling or dredging project in a subtidal area should be thoroughly evaluated to determine the local and Bay-wide effects of the project on: (a) the possible

introduction or spread of invasive species; (b) tidal hydrology and sediment movement; (c) fish, other aquatic organisms and wildlife; (d) aquatic plants; and (e) the Bay's bathymetry. Projects in subtidal areas should be designed to minimize and, if feasible, avoid any harmful effects." Policy 2 of the Bay Plan policies on Fish, Other Aquatic Organisms, and Wildlife states, in part: "Specific habitats that are needed to conserve, increase, or prevent the extinction of any native species, species threatened or endangered...should be protected...." Policy 4 states that the Commission should "...consult with the California Department of Fish and Game and the U.S. Fish and Wildlife Service or [NMFS] whenever a proposed project may adversely affect an endangered or threatened...species" and "...Give appropriate consideration to the recommendations of the [state and federal resource agencies] in order to avoid possible adverse effects of a proposed project on fish, other aquatic organisms and wildlife habitat." Policy 1 of the Bay Plan policies on Water Quality states, "Bay water pollution should be prevented to the greatest extent feasible..." and Policy 2 states that, "...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."

The project's FEIR identified four state- or federally-listed species that have the potential to occur within the project site: green sturgeon, central California coast steelhead, Chinook salmon, and the California brown pelican. The FEIR concluded that for each of these four species, there is a low to moderate likelihood that the species will occur within the project site. Green sturgeon, steelhead and Chinook salmon may pass the project site during migration, but would not use it as foraging or spawning habitat. The California brown pelican may occasionally roost on pier buildings and forage in the area, but none were observed on the project site during a survey conducted by a biologist for the FEIR, and the California Natural Diversity Database does not report occurrences of California brown pelicans in the vicinity of the project site. In addition to these listed species, a July 18, 2008 survey revealed that western gulls use the roof of Piers 15/17 for nesting. The FEIR found that demolition or other construction-related activities conducted during the nesting season could result in potentially significant impacts and a violation of the Migratory Bird Treaty Act. The FEIR, however, determined that with implementation of identified mitigation measures, any potential impacts on these species would be reduced to a less than significant level.

Special Condition II-F of the permit requires the permittees to use a vibratory hammer rather than an impact hammer to install the proposed steel piles to minimize the effects associated with elevated underwater sound levels during pile driving. If geotechnical studies indicate that an impact hammer is necessary due to unforeseen hard driving conditions, the permittees will limit pile driving to between June 1 and November 30 to avoid potential impacts on fish species, will use a wood cushion between the pile and the impact hammer to attenuate sound levels, and will limit pile driving during periods of minimal current (slack tide). If it is not feasible to use a wood cushion, either a bubble curtain or air barrier will be used to attenuate sound levels from the steel piles. In addition, Special Condition II-F requires that pile driving cease if marine mammals are observed within 1,000 feet of the project site, and resume only when the marine mammals have completely exited the project site.

Special Condition II-F also requires the permittees to have a biological monitor approved by the California Department of Fish and Game (CDFG) on site for herring monitoring during pile driving between December 1 and February 28 of any year. If herring spawning is observed, work is required to cease for a period of two weeks following the spawning event. The area is required to be surveyed by the biological monitor prior to resuming work to ensure that further work will not impact spawning or newly hatched herring.

To address the potential impacts to western gulls, Special Condition II-G requires the permittees to, to the extent feasible, not undertake construction or demolition activities between March 1 and August 1, the nesting season for western gulls, as required in the Final EIR for the project. If construction must occur during the nesting season, the permit requires the permittees to employ an avian biologist and employ appropriate measures to prevent nesting of western gulls on the project site, prior to the nesting season.

Regarding the possible introduction of invasive species, the dredging footprint has previously been dredged and maintained at the proposed depth. Ships that will likely use this berthing area would likely berth in an alternate site if this site were not available, therefore, the dredging portion of this project will not create a new opportunity for introduction or spread of invasive species. Similarly, because this area has been dredged, no changes to sediment movement, Bay bathymetry or tidal hydrology are anticipated.

Special Condition II-E requires the permittees to dredge during the time period of June 1st through November 30th, the work window established for this location by Tables F-1 and F-2 of Appendix F, "In-Bay Disposal and Dredging", and Figures 3.2 and 3.3 of the Long-Term Management Strategy (LTMS) Management Plan (2001) as amended by U.S. Fish and Wildlife Service (FWS) on May 28, 2004. These windows are designed to reduce or eliminate impacts to listed species by dredging projects. It is also anticipated that fish and wildlife will likely move away from the area during the actual dredging process. However, the dredging equipment will likely entrain benthic fish and organisms. Because this is a relatively small area in the Bay, the benthic fish and invertebrate community will likely regenerate in this area from adjacent areas.

The green sturgeon is listed as threatened by NOAA Fisheries. There is currently no take prohibition for this species. However, it is likely that there will be a take prohibition in the coming months. At that time, the permittees may need to apply additional management or mitigation measures to avoid take of this listed species.

A RWQCB water quality certification is required for the proposed construction and demolition activities on Piers 15/17 and a National Pollutant Discharge Elimination System (NPDES) permit is required for the operation of the Bay water heating and cooling system, including the outfall. The permittees are required to obtain the water quality certification prior to the construction of the project and Special Condition II-H requires the permittees to obtain the NPDES permit prior to operating the Bay water heating and cooling system. These approvals will include conditions that the permittees must incorporate in the project to mitigate for potential water quality and fish impingement and entrainment impacts, including installing intake screens with a minimum wire size and maximum water speed, and returning Bay water that is not chemically treated over a wider surface area, and at an appropriate temperature. In order to prevent unnecessary fill in the Bay, Special Condition II-H requires that if the NPDES permit is not received within two years of the installation of the in Bay water heating and cooling system, all Bay fill associated with the system be removed.

In addition, Special Condition II-K requires the permittees to implement the mitigation measures, best management practices, and other conditions contained in an approved Mitigation Monitoring and Reporting Program (MMRP), Environmental Protection Plan (EPP), and Storm Water Quality Control Plan (SCP) to avoid possible impacts to natural resources.

For all these reasons, the Commission finds that with the incorporation of the mitigation measures found in the FEIR, the RWQCB's recommendations, and those in Special Conditions II-E, II-F, II-G, II-H, II-K, and II-L of the permit, the project is consistent with the Bay Plan policies regarding fish, other aquatic organisms, and wildlife, and water quality.

- E. **Dredging.** Policies 1 and 2 of the Bay Plan policies on dredging state that, "dredging and dredged material disposal should be conducted in an environmentally and economically sound manner" and that "dredging should be authorized when the Commission can find: (a) the applicant has demonstrated that the dredging is needed to serve a water-oriented use or other important public purpose...; (b) the materials to be dredged meet the water quality requirements of the [RWQCB]; (c) important fisheries and Bay natural resources would be protected through seasonal restrictions established by the California Department of Fish and Game, the U.S. Fish and Wildlife Service and/or [NMFS]...; (d) the siting and design of the project will result in the minimum dredging volume necessary for the project; and (e) the materials would be disposed of in accordance with Policy 3." Policy 3 states, "Dredged materials should, if feasible, be reused or disposed outside the Bay and certain waterways...[D]redged material should not be disposed in the Bay and certain waterways unless disposal outside these areas is infeasible and the Commission finds: (a) the volume to be disposed is consistent with applicable dredger disposal allocations and disposal site limits adopted by the Commission by regulation; (b) disposal would be at a site designated by the Commission; (c) the quality of the material disposed of is consistent with the advice of the [RWQCB] and the inter-agency Dredged Material Management Office (DMMO); and (d) the period of disposal is consistent with the advice of the California Department of Fish and Game, the U.S. Fish and Wildlife Service and/or [NMFS]."

As part of the project, Baydelta Maritime, an existing tug and tow operator leasing space inside the Pier 15 bulkhead and the Pier 15 south apron, will be relocated to the interior shed of Pier 17 and its tugboats will be relocated to the north apron of Pier 17. The proposed project involves maintenance dredging of approximately 75,100 cy of material from the Pier 17/19 water basin to a depth of -20 feet mean lower low water (MLLW) plus two feet of overdredge allowance, and disposal of the material at the state and federally-designated Alcatraz (SF-11) disposal site or an upland or deep ocean disposal site. The dredging will be for a water-oriented use, i.e., the berthing of Baydelta Maritime's tugboats. According to the permittees, the amount of dredged material is the minimum necessary to maintain the berthing area to safely accommodate the tugboats, which require a minimum draft of -17 feet MLLW.

The RWQCB, in conjunction with the DMMO, reviewed the report characterizing the suitability of dredged sediments for aquatic disposal in San Francisco Bay: *Exploratorium, Pier 17/19 Maintenance Dredging, Sediment Characterization Results Report*, dated September 2009. On September 17, 2009, the DMMO determined that the dredged sediments were suitable for unconfined aquatic disposal (SUAD) at the Alcatraz disposal site (SF-11). On February 8, 2010, the RWQCB issued a water quality certification for the project based on this determination. The disposal amount and location was approved by the LTMS agencies as consistent with the allocations for in-Bay disposal.

As discussed above in the "**Natural Resources Policies**" section, because the dredging will occur within the LTMS work windows of June 1st and November 30th, the project will not likely adversely affect listed species or designated critical habitat.

For these reasons, the Commission finds that, as conditioned, the dredging is consistent with the Bay Plan's dredging policies.

G. Review Boards

1. **Engineering Criteria Review Board.** On March 12, 2009, the Commission's Engineering Criteria Review Board (ECRB) reviewed the proposed project for seismic and engineering design safety. The scope of the work reviewed included the work in Phase 1 of the project only, including the physical repair and upgrade of the Pier 15 substructure, bulkhead and pier shed, the removal of deck sections and the addition of pedestrian bridges within the open water area between Piers 15/17, the construction of the new Observatory Building, and the reconstruction of the Pier 17 north apron for Baydelta Maritime's relocation. The ECRB discussed the stability and integrity of the existing seawall, the proposed installation of new large diameter piles and concrete pile caps at the four corners of the project site for lateral stiffness, the permittees' sea-level rise analysis, and the possibility of installing seismic instrumentation at the site to provide information on the effects of earthquakes at the site. The ECRB was satisfied with the engineering criteria used in the design of Phase 1 improvements of the proposed project and strongly encouraged the permittees to set up an array of seismic instruments to monitor the behavior of the structure in future earthquakes. The ECRB requested that the permittees return for review of Phase 2 project improvements.
2. **Design Review Board.** The Design Review Board (DRB) reviewed this project seven times at its meetings of January 7, 2008, March 10, 2008, May 5, 2008, September 8, 2008, November 10, 2008, March 9, 2009 and July 6, 2009. Over one-and-a-half years, the DRB focused its review on various aspects of the project, including public access, architecture and vehicular circulation. The site plan was revised several times in response to the DRB's comments.

With the early iterations of the site plan, the DRB recommended that schemes of the courtyard allow more flexible spaces. The DRB was concerned with pedestrian circulation and suggested that maximizing the water area between the buildings may work at odds with improving pedestrian circulation.

To remedy these concerns, the DRB recommended that views of the Bay be increased and that the project's public access move the public towards those Bay views. The DRB recommended greater variety in public spaces. For example, ceremonial ships and research vessels should be prominently displayed at the end of the pier and incorporated into the overall public access design. (However, the DRB cautioned that any proposal for closing the public access at the east end of the pier while ships are present should be carefully considered). Revisions were made to the plan over time, and the DRB eventually approved the public access proposal, including the relationship between the free-of-charge public spaces and the paid outdoor-ticketed area.

The DRB recommended that the design of all the site furnishings relate to the Exploratorium's overall mission and concept of place. The DRB approved of the public pedestrian bridges and gates and railings, but recommended that some benches include backs, and that the Exploratorium provide more diverse seating styles and increase the number of seating options, particularly on the south side.

Due to the expected increase in school buses, personal vehicles, taxis and bicycles, the DRB acknowledged that adverse impacts to existing vehicular and public access use on the Embarcadero and Herb Caen Way could result from the success of the project. To improve access along Herb Caen Way and the Embarcadero, the DRB recommended that the raised sections of the concrete "art ribbon" be lowered. The DRB also recommended improvements that would foster safe access for children between the bus drop-off area and the Exploratorium entry, and a safe crossing of

the Embarcadero for the general public. To accommodate this, the DRB suggested that the entire crossing of the Embarcadero roadway be redesigned. To create a safe crossing, the DRB recommended that the crosswalk on the north side of the Green Street intersection be straightened, that there be safe refuges for pedestrians in the middle of the Embarcadero Roadway, that the southbound left turn pocket be deleted and that the timing of the signals be revised to accommodate pedestrians. (A letter from Michael Cohen of the San Francisco's Mayor's Office to Dan Hodapp of the Port of San Francisco, dated March 9, 2009, offers the Mayor's Office's support to ensure that these recommended Embarcadero Roadway and sidewalk improvements are financed and built.) Regarding bus loading and unloading, the DRB recommended that the bus pull out extend from the "open water" north of Pier 17 to the Green Street crosswalk. The DRB expressed concern about the interface between bicyclists and bus turning movements. The DRB agreed that a variety of measures would be needed to reduce potential conflicts, including active management, signage for and adaptive management of the bus operations at the curb indents.

The DRB supported the electric shuttles, believing that there would not be so many shuttle trips that such shuttles would impact public access.

Regarding the new Observatory Building between the east end of Piers 15 and 17, the permittees repeatedly revised the structure over one-and-a-half years based, in part, on the DRB's advice. The earliest designs raised a concern about height and massing, particularly as it affected views of the Bay and the proposed open space in the valley between the piers. The DRB also commented on the materials of the new building and its relationship with the adjacent existing structures. After reviewing several designs for this structure, the DRB agreed at its March 9, 2009 meeting, that the design of the Observatory Building was successful and achieved the Commission's public access goals. Further, the DRB noted that the architectural contrast between Pier 15 and the Observatory Building highlighted the difference between the two structures and, in so doing, enhanced both. The DRB encouraged, however, that the east wall of the Observatory Building be further studied in an effort to reduce the contrast of texture, light and shadow. The public access within the Observatory Building was added late in the process and was not reviewed by the DRB.

Regarding special public access features, the value of a roof deck on the Observatory Building was considered. Initially, the DRB stated that a roof deck would be an asset to the public and that public access on the roof should be explored.

At its July 6, 2009 meeting the DRB stated that the site planning and architecture had improved and that the project was going in a "wonderful, positive direction."

- H. **Environmental Review.** On July 9, 2009, City and County of San Francisco, the lead agency, certified an Environmental Impact Report (EIR) for the proposed project in accordance with the California Environmental Quality Act (CEQA), including the adoption of CEQA findings that address the environmental topics pertaining to activities subject to this BCDC permit, including a Mitigation Monitoring and Reporting Program, and found that with those mitigation measures the project would avoid or substantially lessen the environmental effects identified in the EIR. In addition, the Commission has incorporated the applicable mitigation measures as Special Conditions to this permit and therefore the Commission finds this project, as so conditioned, is consistent with the requirements of Section 21080.5(d)(2)(A) of CEQA that requires that an activity may not be approved if there are feasible alternatives or mitigation measures available that would substantially lessen significant adverse effects on the environment.

- I. **Conclusion.** For all the above reasons, the Commission finds, declares, and certifies that, subject to the Special Conditions stated herein, the project authorized herein is consistent with the McAteer-Petris Act, the *San Francisco Bay Plan*, the *San Francisco Waterfront Special Area Plan*, the Commission's Regulations, the California Environmental Quality Act, and the Commission's Amended Management Program for the San Francisco Bay segment of the California coastal zone.

IV. Standard Conditions

- A. **Permit Execution.** This permit shall not take effect unless the permittees 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.
- C. **Permit Assignment.** The rights, duties, and obligations contained in this permit are assignable. When the permittees 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 permittees/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 assignee executes and the Executive Director receives an acknowledgment that the assignee has read and understands the permit and agrees to be bound by the terms and conditions of the permit, and the assignee is 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 permittees 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 permittees 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 permittees 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 permittees 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 permittees 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.