SAN FRANCISCO BAY CONSERVATION AND DEVELOPMENT COMMISSION
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TO: Commissioners and Alternates

FROM: Lawrence J. Goldzband, Executive Director (415/352-3653, lgoldzband@bcdc.ca.gov)
Ellie Knecht, Coastal Program Analyst (415/352-3668, elliek@bcdc.ca.gov)

SUBJECT: **Staff Recommendation for Material Amendment No. One to BCDC Permit No. M2013.009.01 for the East Bay Regional Park District's Breuner Marsh Restoration and Public Access Project**
(For Commission consideration on March 6, 2014)

Recommendation Summary

The staff recommends that the Commission approve Material Amendment No. One to BCDC Permit No. M2013.009, which, as conditioned, would result in the following:

1. Creation of 6.12 acres of new tidal wetlands and 4.19 acres of new seasonal wetlands, and enhancement of 27.05 acres of existing tidal wetlands and 4.2 acres of existing seasonal wetlands;
2. Opening the site for public access, including constructing an approximately 1.25-mile-long segment of the Bay Trail, an approximately 0.25-mile-long spur trail, public access parking, picnic areas, overlooks, and boardwalks; and
3. Habitat monitoring to provide information to facilitate adaptive management and track the success of the project relative to target habitat goals.

The project will create new and enhanced seasonal and tidal marsh, and provide transitional and upland habitat for resident small mammals and birds. The project will also improve water quality, increase water surface area, and improve Bay-oriented public access and recreation.

Staff Note

Because the project involves a material amendment to an existing administrative permit, the format of the recommendation is different than recommendations for new permit applications. The recommendation includes the language of the existing permit as well as the changes proposed by the amendment. Language to be deleted from the permit has been struck through and language to be added to the amended permit has been underlined. Language that has neither been struck through nor underlined is language of the existing permit that will remain unchanged with the adoption of Amendment No. One.

Staff Recommendation

The staff recommends that the Commission adopt the following resolution:

I. Authorization

A. **Authorized Project**. Subject to the conditions stated below, the permittee, the East Bay Regional Park District (EBRPD), is hereby authorized to do the following:

Location: In the Bay and within the 100-foot shoreline band, largely within an area designated as a waterfront park priority use area in the *San Francisco Bay Plan* (Bay Plan Map No. 4), at Breuner Marsh and Giant Marsh, within the Point Pinole Regional Shoreline, at 3800 Goodrick Avenue in the City of Richmond, Contra Costa County.

Description: **In the Bay:**

1. Excavate approximately 28,900 cubic yards of material over approximately 653,125 square feet (15.0 acres) to create three new tidal sloughs totaling approximately 4,000 feet in length and to enhance tidal wetlands by removing debris and lowering site elevations to improve drainage and the frequency of tidal inundation (Amendment No. One);
2. Place, use, and maintain in-kind approximately 7,500 cubic yards of excavated material over approximately 47,070 square feet of the project site (1.08 acres) to elevate areas proposed for public access and to create transitional habitat, including an approximately 700-foot-long berm covering approximately 36,400 square feet for a trail with transitional habitat on the slopes of the berm (Amendment No. One);
3. Remove an existing 200-square-foot box culvert from Rheem Creek, place, use, and maintain in-kind approximately 40 cubic yards of riprap over an approximately 300-square-foot area to prevent erosion following the removal of the culvert, and install, use, and maintain in-kind an approximately 16-foot-wide and 47-foot-long section of a free-span bridge over Rheem Creek (Amendment No. One);
4. Install, use, and maintain in-kind a 13-foot-wide, approximately 861-foot-long section of a concrete boardwalk over Giant Marsh, supported by approximately 42, 18-inch-in-diameter pilings (Amendment No. One);
5. Install temporary construction elements to be removed upon project completion, including: (a) a construction access route using rubber matting placed on geotextile fabric (or similar method) to facilitate the construction of the boardwalk; (b) a perimeter berm around areas to be graded to prevent inundation during grading activities; (c) two coffer dams to divert water during work in Rheem Creek; and (d) other erosion and sediment control measures deemed necessary to comply with water quality permits (Amendment No. One); and
6. Install, use, and maintain four-foot-tall fencing that would restrict human and domestic pet access into habitat areas (Amendment No. One).

Within the 100-foot shoreline band:

1. Begin the first phase of park construction by doing the following (original authorization):

    a. Install, use, and maintain in-kind approximately 650 feet of an approximately 6,165-foot-long, 4-foot-high property fence with 6- to 8- inch base clearance and multiple access gates to adjacent properties to help prevent resource damage associated with trespassing from adjacent lands along the south side of the property (original authorization); and

    b. Remediate an area of contaminated soils by: (a) installing a temporary silt fence; (b) excavating approximately 900 cubic yards of contaminated soils over an approximately 8,100-square-foot area; (c) removing excavated soils and disposing of them at an authorized upland location outside of the Commission's jurisdiction; and (d) backfilling the excavated area with clean fill material and seeding the excavated area with native plants (original authorization).

2. Excavate approximately 18,500 cubic yards of material from upland areas to create approximately 14,810 square feet (0.34 acres) of new seasonal wetlands and 182,950 square feet (4.20 acres) of new tidal wetlands. Use the excavated material to construct the public access trail and to create transitional and upland habitat providing area for the marsh to retreat with sea level rise (Amendment No. One);

3. Excavate approximately 15,000 cubic yards of material from seasonal wetlands to restore 369,390 square feet (8.48 acres) of tidal wetlands. Use the excavated material to construct the public access trail and to create transitional and upland habitat providing area for the marsh to retreat with sea level rise (Amendment No. One);

4. Remove an existing 16,500-square-foot asphalt road to surrounding grade and scarify the road surface to promote plant establishment (Amendment No. One);

5. Install, use, and maintain in-kind an approximately 16-foot-wide and 43-foot-long section of a free-span bridge over Rheem Creek (Amendment No. One);

6. Install, use, and maintain in-kind the following public access improvements: (a) an approximately 6,000-square-foot portion of a 24-space, approximately 12,000-square-foot parking lot, as well as a restroom and information kiosk; (b) a 760-foot long portion of a 16-foot-wide (12-foot-wide trail with two, two-foot-wide shoulders), 1.25-mile-long paved trail and a twelve-foot-wide (eight-foot-wide tail with two, two-foot-wide shoulders), 0.25-mile-long, stabilized gravel spur trail; (c) an approximately 432-foot-long section of a 13-foot-wide concrete boardwalk adjacent to Giant Marsh; and (d) an approximately 125-foot-long section of a nine-foot-wide concrete boardwalk over a newly created slough (Amendment No. One); and

7. Install, use, and maintain in-kind four-foot-high fencing to prevent intrusion into habitat areas and six-foot-high fencing adjacent to the Union Pacific Railroad tracks on the east side of the project area (Amendment No. One).

B. **Application Dates.** This authority is generally pursuant to and limited by the application for the original permit dated June 12, 2013, and the application for Material Amendment No. One dated June 3, 2013, including ~~its~~ all accompanying and subsequently submitted exhibits and correspondence and all conditions of this amended permit.

C. **Permit Expiration Dates**

1. **Original Authorization.** Work authorized ~~herein must~~ in the original permit was to commence prior to September 1, 2015, or this permit ~~will~~ would have lapsed and become null and void. ~~Such work must~~ All work originally authorized was also to be diligently pursued to completion, and ~~must be~~ completed within two years of commencement, or by September 1, 2017, whichever is earlier, unless an extension of time is granted by amendment of the permit.

2. **Amendment No. One**. Work authorized in Amendment No. One must commence prior to April 30, 2015 or this amended authority will lapse and become null and void. Such work must also be diligently pursued to completion and completed within four years of commencement or by December 31, 2018, whichever is earlier, unless an extension of time is granted by further amendment of this amended permit.

D. **Summary of Authorized Work**. The originally authorized project involved installation of a property fence and remediation of contaminated soils as part of the initial phase of park construction.

Material Amendment No. One authorizes creation and restoration of tidal and seasonal wetlands and the installation of public access improvements. Material Amendment No. One involves the placement of approximately 47,070 square feet of solid fill to create broad transition slopes for current and future habitats and public access, 300 square feet of solid fill for riprap, approximately 11,193 square feet of pile-supported fill for bicycle/pedestrian public access, and approximately 752 square feet of cantilevered fill for a free-span bridge over Rheem Creek. The majority of the solid fill is for the creation of the 700-foot-long berm, authorized herein. The project will result in the removal of approximately 200 square feet of solid fill by removing a culvert over Rheem Creek (Table 1). Material Amendment No. One will result in approximately 160,000 square feet (3.67 acres) of new public access, of which approximately 42,325 square feet (0.97 acres) is within the Commission's jurisdiction.

Table 1. Fill Areas for the Project (in square feet)

Description	Type of Fill	To Be Removed	To Be Placed	Total Net Area
Free-span bridge over Rheem Creek	Cantilevered	0	752	752
Total Cantilevered Fill		**0**	**752**	**752**
Areas Elevated to Support Public Access Features and Transitional Habitat	Solid	0	47,070	47,070
Riprap in Rheem Creek	Solid	0	300	300
Culvert Removal in Rheem Creek	Solid	(200)	0	(200)
Total Solid Fill		**(200)**	**47,370**	**47,170**
Boardwalk in Giant Marsh	Pile-Supported	0	11,193	11,193
Total Pile-Supported Fill		**0**	**11,193**	**11,193**
TOTAL FILL		**(200)**	**59,315**	**59,115**

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. **Original Authorization ~~Construction Plans~~.** The improvements authorized ~~herein~~ in the original authorization shall be built generally in conformance with the figure entitled "Exhibit 1: Stewardship Actions," prepared by the East Bay Regional Park District and Questa Engineering Corporation, and dated July 1, 2013. No substantial changes shall be made to these plans without prior review and written approval by the Commission staff. No additional plan review is required for the work authorized in the original permit.

2. **Amendment No. One.** Except as specified above, no work whatsoever within the Commission's jurisdiction or required by this authorization shall be commenced pursuant to this authorization until final precise site, public access, engineering, restoration, and grading 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. The specific drawings and information required will be determined by staff. To save time, preliminary drawings should be submitted and approved prior to final drawings. Final plans submitted pursuant to this condition for work at the site shall generally conform to the plans entitled, "Breuner Marsh Restoration and Public Access Project," prepared by Questa Engineering and the East Bay Regional Park District and dated January 28, 2014 (Amendment No. One).

   a. **Site Plans**. Site, public access, restoration, engineering and grading plans shall include and clearly label the Bay shoreline (Mean High Water or the inland edge of marsh vegetation in marshlands up to the five-foot contour line above Mean Sea Level), property lines, grading, details showing the loca-

tion, types, dimensions, and materials to be used for all public access improvements, the bridge, boardwalks, fences and other proposed improvements. Additional dimension lines shall be provided as necessary to indicate where this minimum dimension occurs in relation to either the property line, the top of bank, or some other fixed point upon the site.

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.

3. **Plan Approval.** 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 (Amendment No. One):

a. completeness and accuracy of the plans in showing the features required above, particularly the shoreline (Mean High Water Line or the inland edge of marsh vegetation up to 5 feet above Mean Sea Level if tidal marsh is present), property lines, and the line 100-feet inland of the shoreline, and any other criteria required by this authorization;

b. consistency of the plans with the terms and conditions of this authorization;

c. 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, but limited to ensuring: (1) the public's use and enjoyment of the access area; (2) public safety; (3) accessibility for persons with disabilities; (4) sufficient durability and maintenance; and (5) the access is clear and continuous and encourages public use;

d. assuring that any fill in the Bay does not exceed this authorization and will consist of appropriate shoreline protection materials as determined by or on behalf of the Commission; and

e. assuring that appropriate provisions have been incorporated for safety in case of seismic event.

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

4. **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 (Amendment No. One).

5. **Discrepancies between Approved Plans and Special Conditions**. In case of any discrepancy between final approved plans and Special Conditions of this authorization, the Special Conditions shall prevail. The permittee is responsible for assuring that all plans accurately and fully reflect the Special Conditions of this authorization submitted pursuant to this authorization (Amendment No. One).

6. **Appeals of Plan Review Decisions**. Any plan approval, conditional plan approval, or plan denial may be appealed by the permittee 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 (Amendment No. One).

B. **Public Access**

1. **Public Access Improvements.** Within two years of completing all grading activities authorized in Amendment No. One or by December 31, 2018, whichever is earlier, the permittee shall install the following public access improvements, as generally shown on Exhibit A, and make the improvements available exclusively to the public for unrestricted public access (Amendment No. One):

   a. A parking lot with space for 24 vehicles, including two ADA-accessible spaces, a restroom, and information kiosk at the northern terminus of Goodrick Avenue;

   b. A public access crossing over Rheem Creek (either the bridge authorized herein or the existing culvert);

   c. An approximately 1.25-mile-long, 16-foot-wide paved pedestrian/bicycle section of the Bay Trail between Goodrick Avenue and trails within the Point Pinole Regional Shoreline, spanning existing and proposed wetlands on constructed uplands or elevated boardwalks, consisting of a 12-foot-wide paved trail and two, two-foot-wide shoulders;

   d. A pedestrian-only, approximately 0.25-mile-long, twelve-foot-wide stabilized gravel spur trail leading to a vista overlook and interpretive point, consisting of an eight-foot-wide trail and two, two-foot-wide shoulders;

   e. A temporary (until inundated with anticipated sea level rise), unimproved pedestrian-only trail extending past the spur trail to the shoreline spit along an existing footpath;

   f. A small picnic area with four picnic tables;

   g. Two overlook areas, each with a minimum of three benches and two interpretive signs; and

   h. At least six Bay Trail or public shore signs.

All public access improvements shall be subject to final plan review approval pursuant to Special Condition II-A of this permit. With the exception of the temporary, unimproved trail extending past the spur trail (B-1-e, all public access improvements required herein shall be barrier free and accessible to persons with disabilities. On limited and rare occasions, if the permittee wishes to use the required public access improvements for other than the uses described above, the permittee must obtain written approval by or on behalf of the Commission at least 30 days prior to such use of the public access area.

2. **Proof of Adequate Legal Property Interest.** Prior to constructing any segment of Bay Trail east of property owned by the EBRPD as of February 2014 (the preferred alignment is along the eastern edge of the site on land owned by and adjacent to the Union Pacific Railroad), the permittee shall obtain property interest for this area in the form of a fee title, easement, or lease to allow for the construction, use, and maintenance of the Bay Trail, and provide evidence of the property interest to Commission staff. The dimension of the Bay trail authorized by Amendment No. One is essentially the same regardless of what alignment is chosen (Amendment No. One).

3. **Maintenance**. The public access improvements described above shall be maintained by and at the expense of the permittee or its assignee. Such maintenance shall include, but is not limited to: repairs to all path surfaces; in-kind maintenance of all authorized structures; replacement of any landscaping plant materials that die or become unkempt; repairs or replacement as needed of any amenities such as signs, benches, trash containers, and lights; periodic cleanup of litter and other materials deposited; removal of any encroachments into the access areas; and repairs to and possible relocation of any public access improvements that are damaged by future subsidence, uneven settlement, or flooding. Within 30 days after notification by staff, the permittee shall correct any maintenance deficiency noted in a staff inspection of the site. The permittee shall obtain approval by or on behalf of the Commission of any maintenance that involves more than in-kind repair and replacement (Amendment No. One).

4. **Climate Change**. With the exception of the temporary unimproved footpath along the shoreline spit (which may be closed if changing shoreline conditions and/or sea level rise render it unsafe for access), the public access improvements required in Amendment No. One shall be constructed and maintained to avoid damage and flooding caused by changing shoreline conditions and/or sea level rise for as long as the site may feasibly remain open for public use. If necessary, such maintenance of the public access improvements shall include raising land elevations and structures or redesigning or relocating public access features to ensure the usability of the public access improvements. When such maintenance becomes infeasible (e.g., the maintenance required to prevent damage or flooding from sea level rise is exceedingly costly, impractical, or potentially damaging to natural resources), the permittee shall work with the Commission and other stakeholders to provide alternative public access inland (Amendment No. One).

5. **Reasonable Rules and Restrictions.** The permittee 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 permittee has both identified and substantiated. Rules may include restricting hours of use and delineating appropriate behavior (Amendment No. One).

C. **Marsh Restoration Plan and Monitoring Program.** Prior to the commencement of any work located within the Commission's jurisdiction pursuant to Amendment No. One, the permittee shall submit a marsh restoration plan and monitoring program, to be approved by or on behalf of the Commission pursuant to Special Condition II-A, for the restoration and enhancement of the site. The plan shall be generally in accord with the plans entitled "Breuner Marsh Restoration and Public Access Project," prepared by Questa Engineering and the East Bay Regional Park District and dated January 28, 2014. All restoration activities shall be constructed in accord with the approved marsh restoration plan. The restoration plan and monitoring program shall contain the following (Amendment No. One):

1. **Restoration Plan**

   a. **Site Conditions and Modifications.** A topographic map of the site in one-foot contour intervals showing the proposed modifications. All elevations shall be relative to National Geodetic Vertical Datum (NGVD 29) or North American Vertical Datum (NAVD 88). The map shall include typical cross-sections showing the proposed elevations of the marsh plain, channels, and high spots. The map shall show: (1) figures for the ratios of typical horizontal to vertical slopes for existing and proposed marsh surface, channels, and embankments, particularly for areas where either grading, excavation, or fill will take place; (2) expected plant species along the cross-sections according to their expected zone of growth; (3) the elevation of surrounding upland areas; (4) estimated Mean Higher High Water, Mean High Water, Mean Lower Low Water, Mean Sea Level, the maximum predicted tide, and the 100-year tide; and (5) the typical elevation ranges of four dominant marsh plant species found at Breuner Marsh (cordgrass, pickleweed, salt grass, and gum bush). To promote positive drainage, constructed elevations shall grade gently toward constructed channels and breaches.

   b. **Earth Moving Schedule.** A schedule indicating when excavation, fill, and grading will occur, the amount of time to be allowed for settlement, the time when newly constructed sloughs are expected to function, and the time when planting will occur, if any planting is proposed.

   c. **Soil.** If off-site soil material is proposed to be imported into the tidal restoration area, a report identifying the type of soils found at the site and the soil type of any fill to be imported to the site shall be submitted for approval by or on behalf of the Commission pursuant to Special Condition II-A. Information shall be provided on the quantitative soil measurements of salinity, pH, organic content, and bulk density. All imported soils must be within 10% of the range of values found at the existing Breuner or Giant marsh for soil qualities such as grain size, organic content, salinity, and pH.

2. **Monitoring Program**

   a. **Sedimentation and Erosion.** The monitoring program shall include provisions for monitoring sedimentation and erosion in the tidal restoration area using sedimentation pins/plates or staff gauges. A minimum of six sedimentation measuring stations shall be installed at typical locations throughout the site and monitored during each monitoring event until the stations indicate the

site has achieved an elevation of one foot above Mean Sea Level (the approximate elevation for the establishment of cordgrass). This information is necessary to understand when the site can be reasonably expected to support marsh vegetation and to inform adaptive management decisions.

The creation of first order sloughs and some natural channel scouring is expected to occur during the first several years following grading as the tidal marsh reaches equilibrium. No major erosion or sediment transport related to unstable graded areas is expected to occur during the ten-year monitoring period. If major erosion or sediment transport is observed, the monitoring report shall describe where erosion is occurring, suggest reasons for why the site or specific areas of the site are experiencing greater than expected erosion, and recommend potential remedial actions.

b. **Hydrology.** A visual evaluation of site hydrology using aerial imagery and field inspection to describe channel development occurring in both created and enhanced wetland areas. Soils in areas designed to support wetlands shall be either inundated or saturated within the root zone (12 inches from the soil surface) within the first year following completion of grading.

c. **Tidal Marsh Vegetation Establishment.** Provisions for monitoring tidal marsh vegetation species composition and percent cover in new and existing wetlands that will be enhanced in accord with the schedule outlined below. Photo-documentation of restored tidal marsh areas shall be conducted from permanent locations throughout the site. At least 10 photo-documentation points shall be established to show representative views of wetland areas, tidal sloughs, and vegetation. Species composition and percent cover for the six most prevalent plant species shall be calculated using transects in tidally influenced areas extending from high marsh to the upper limit of low marsh habitat. In low marsh habitat, visual estimates of species composition and percent cover shall be made from photo-documentation points. Monitoring of wetland vegetation shall be conducted at the end of the growing season, typically late summer. During the 10-year monitoring period natural recruitment of native tidal marsh vegetation shall be visible and cover shall meet or exceed the following criteria:

Monitoring Year	Tidal Marsh Vegetation Percent Cover in Restored Areas
Year 1	≥ 10%
Year 2	≥ 20%
Year 3	≥ 30%
Year 5	≥ 50%
Year 7	≥ 75%
Year 10	≥ 90%

d. **Invasive Plant Control.** Provisions for surveying and controlling invasive plant species on site. During the 10-year monitoring period the following invasive plant species shall not exceed five percent cover: ice plant, broom, star thistle, pampas grass, giant reed, fennel, perennial pepperweed, and non-native or hybrid spartina. If non-native or hybrid spartina becomes a problem within the restoration area, remedial actions shall be initiated in coordination with the Invasive Spartina Project.

e. **Avian Surveys.** If possible, the permittee shall coordinate with existing avian survey efforts of the area conducted by the U.S. Fish and Wildlife Service (USFWS), US Geological Survey, or local Audubon groups, to conduct bird surveys and report on the use of the site by avian species.

f. **Reference Site.** Identification of a suitable reference site that shall be evaluated as part of the monitoring program and shall provide a reference for evaluating the progress of tidal restoration. Areas of the existing Breuner or Giant Marsh that are well away from areas slated for construction could be suitable reference sites.

g. **Monitoring Reports.** Monitoring shall commence after one full rainy season following completion of grading (e.g. Year 1) and shall occur thereafter over a ten-year monitoring period at Year 2, Year 3, Year 5, Year 7, and Year 10, or until those portions of the restoration site subject to tidal action are approximately 95% vegetated as compared with nearby reference marshes, whichever occurs first. Monitoring reports shall be submitted by April 1 of the year following monitoring, and shall present the data collected, evaluate progress in light of restoration goals and criteria and provide information to inform any needed adaptive management. Reports shall include measures of sedimentation and erosion, wetland hydrology, channel formation, percentage of native tidal marsh vegetation establishment and composition, and percentage of invasive plant species cover. Should adverse conditions be identified during the ten-year monitoring period, the permittee shall recommend and proceed with remedial actions in coordination with the Commission.

D. **Marsh and Water Quality Protection, Best Management Practices and Mitigation Measures**. The work authorized by this amended permit shall be performed in a manner that will prevent, avoid, or minimize to the extent possible any significant adverse impact on water quality, tidal marsh, and other sensitive wetland resources. If any unforeseen adverse impacts occur to any such area as a result of the activities authorized herein, the permittee shall restore the area to its previous condition.

The permittee shall implement the mitigation measures, best management practices, and other conditions described in the Breuner Marsh Restoration and Public Access Project Final Environmental Impact Report dated June 12, 2012, the USFWS Biological Opinion for the project dated November 1, 2013, the California Department of Fish and Wildlife (CDFW) Streambed Alteration Agreement dated March 6, 2013, and the San Francisco Regional Water Quality Control Board (RWQCB) Water Quality Certification dated February 19, 2014. Such measures shall include, but are not limited to: (1) minimizing work in tidal marsh areas; (2) avoiding work within or adjacent to tidal areas during extreme high tide events; (3) using geotech matting or other protective groundcover where access routes through wetlands are necessary; (4) carefully removing, storing, and replacing high quality native wetland vegetation

that has been removed or "peeled back" from construction areas as soon as possible following construction; (5) installing erosion and sediment control measures such as silt fences and straw hay bales; and (6) locating temporary staging and storage areas in dry upland areas (Amendment No. One).

~~C. **Construction Windows to Avoid Special-Status Species and Resident Nesting Birds.** All work shall take place between September 1 and January 31 of each calendar year to reduce or eliminate potential impacts to the salt marsh harvest mouse and the California clapper rail, as well as other resident nesting birds. The East Bay Regional Park District shall implement such conservation measures as having a qualified biological monitor present during excavation and backfilling work, training construction personnel on the sensitivity of the tidal marsh habitat, installing silt fences around all work areas, and setting up equipment maintenance, staging and refueling areas in upland locations at least 30 feet from the edge of the Bay or Rheem Creek.~~

1. **Protection of Special-Status Fish and Wildlife Species.** The permittee shall take all precautions to avoid adverse impacts to special-status species such as the salt marsh harvest mouse, California clapper rail, black rail, San Pablo song sparrow, San Pablo vole, white tailed kite, Northern harrier, Chinook salmon, steelhead, and Green Sturgeon. The permittee shall implement the measures described in the USFWS Biological Opinion for the project dated November 1, 2013, the NOAA National Marine Fisheries Service (NMFS) letter of concurrence dated September 5, 2013, and the CDFW Streambed Alteration Agreement dated March 6, 2013 to ensure that impacts to special-status species are minimized. The following avoidance and minimization measures shall be implemented to avoid impacts to special-status species (Amendment No. One).

   a. Work within streams shall be limited to June 1 to October 31 to minimize impacts to fish.

   b. Work within 700 feet of potential California clapper rail nesting habitat shall take place between September 1 and January 31, except where noted below, to avoid the California clapper rail breeding season.

   c. Work within 700 feet of potential California clapper rail nesting habitat that may occur between June 1 and September 1 shall be limited to: (1) installation of temporary construction fencing; (2) installation of stormwater pollution prevention measures; (3) clearing and grubbing vegetation using small equipment; and (4) limited soil disturbance. Mass grading, excavation, and other construction work within 700 feet of potential rail nesting habitat shall occur only between September 1 and January 31 of any year.

   d. If work is proposed between January 31 to September 1, surveys for California clapper rail shall be conducted to determine the extent and location of nesting California clapper rails. Results of the surveys shall be submitted to the USFWS and CDFW for a determination of whether work proposed within 700 feet of California clapper rail nest may occur between January 31 to September 1 and the conclusions of these consultations shall be provided to the Commission.

   e. The permittee shall minimize disturbance to salt marsh harvest mice by: (1) conducting pre-construction surveys; (2) removing all suitable vegetation within work areas using small equipment only (e.g., mower, string trimmer) and in a manner that provides salt marsh harvest mice an escape route to

adjacent areas of suitable habitat; (3) installing temporary salt marsh harvest mouse-proof exclusion fencing around all work areas; and (4) covering all steep-sided trenches overnight or installing escape routes at least every 50 feet.

f. A qualified biologist shall be present during all construction work taking place within and adjacent to tidal marsh habitats, shall provide environmental awareness training for construction crews, and shall have the authority to install or require additional wildlife protective measures such as fencing and noise buffers, as well as have stop work authority.

g. If a California clapper rail or any mouse species is observed at any time during construction, work shall be halted until the rail or mouse leaves the vicinity of the work area on its own volition or upon consultation with the USFWS regarding how to proceed with work activities.

h. The permittee shall avoid conducting construction activities at nighttime near suitable habitat for the salt marsh harvest mouse and California clapper rail. If nighttime work cannot be avoided, the permittee shall implement a lighting plan in consultation with USFWS that minimizes light spillover in tidal marsh habitat.

i. The permittee shall prepare and provide to the Commission a construction management plan for review and approval pursuant to Special Condition II-A prior to construction that will include designated staging areas, haul routes, temporary soil and material stockpiles, and any phasing that may occur during construction.

2. **Water Quality.** The permittee shall comply with the RWQCB's Water Quality Certification, issued February 19, 2014, to ensure that potential water quality impacts of the project are minimized. The following avoidance and minimization measures shall be implemented:

a. The permittee shall prepare and implement a Storm Water Pollution Prevention Plan that specifically states which best management practices will be used onsite to prevent the discharge of sediment into the Bay;

b. Project activities occurring in areas connected to or planned to be connected to tidal action shall be isolated from tidal inundation during grading and construction by placing earthen berms along the outer perimeter of the site. Berms shall be lowered or removed upon completion of the work. Lowering or removal of the berm to introduce tidal waters into the restoration area shall be timed to avoid extreme high tides;

c. To the maximum extent possible, work in tidal areas shall be completed at low tide so as to minimize in-water work. If the timing of tides does not allow for a completely dry work area, a turbidity curtain or a floating debris boom shall be placed in the Bay around the perimeter of the work site. Sediment-laden water from dewatering shall be held in a settling container or discharged in an upland location where it will not drain directly into surface waters; and

d. If contaminated fill is encountered during excavation operations, the material shall be stockpiled and appropriately disposed at an authorized upland location.

E. **Riprap.** To the extent feasible, the bed and banks of Rheem Creek shall be restored to a natural earthen channel following removal of the box culvert. It is anticipated that some riprap may be needed to stabilize the channel following the removal of the culvert in Rheem Creek. However, no riprap work whatsoever shall commence before the placement of riprap is justified and final riprap plans have been submitted to, reviewed, and approved in writing by or on behalf of the Commission pursuant to Special Condition II-A. Professionals knowledgeable of coastal processes should participate in any proposed riprap design (Amendment No. One).

1. **Riprap Plan Review.** The riprap plans shall consist of appropriate diagrams and cross-sections that: (1) show and clearly label the 5-foot contour lines, the mean high water line, property lines, grading limits, and details showing the location, types, and dimensions of all materials to be used; (2) indicate the source of all materials to be used; and (3) indicate who designed the proposed shoreline protection improvements and their background in coastal engineering. Approval or disapproval of the plans shall be based upon: (1) whether the riprap is necessary to stabilize the channel; (2) completeness and accuracy of the plans in showing the features required above; (3) consistency of the plans with the terms and conditions of this amended permit; (4) assuring that the proposed amount of fill material does exceed the amount authorized by this amended permit; (5) the appropriateness of the types of fill material and their proposed manner of placement; and (6) the preparation of the plans by professionals knowledgeable of the Commission's concerns. All improvements constructed pursuant to this amended permit shall conform to the final approved plans. No changes shall be made thereafter to any final plans or to the constructed shoreline protection improvements without first obtaining written approval of the change(s) by or on behalf of the Commission.

2. **Riprap Material.** Riprap material shall be either quarry rock or specially cast or carefully selected concrete pieces free of reinforcing steel and other extraneous material and conforming to quality requirements for specific gravity, absorption, and durability specified by the California Department of Transportation or the U. S. Army Corps of Engineers. The material shall be generally spheroid-shaped. The overall thickness of the slope protection shall be no more than three feet measured perpendicular to the slope. Use of dirt, small concrete rubble, concrete pieces with exposed rebar, large and odd shaped pieces of concrete, and asphalt concrete as riprap is prohibited.

3. **Riprap Placement.** Riprap material shall be placed so that a permanent shoreline with a minimum amount of fill is established by means of an engineered slope not steeper than two (horizontal) to one (vertical). The slope shall be created by the placement of a filter layer protected by riprap material of sufficient size to withstand wind and wave generated forces at the site.

4. **Riprap Maintenance.** Any shoreline protection improvements shall be regularly maintained by and at the expense of the permittee. Maintenance shall include, but not be limited to, collecting any riprap material that becomes dislodged and repositioning them in appropriate locations within the riprap covered areas, replacing in-kind riprap material that is lost, repairing the required filter fabric as needed, and removing debris that collects on top of the riprap. Within 30 days after notification by the Commission, the permittee shall correct any maintenance deficiencies noted.

F. **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 within the Commission's jurisdiction as part of the project authorized herein (Amendment No. One).

G. **Recording**. The permittee shall record this permit or a notice specifically referring to this permit on all parcels affected by this permit with Contra Costa County 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 (Amendment No. One).

~~D. **Notice to Contractor.** The permittee shall provide a copy of this permit to any contractor or person working in concert with the permittee to carry out the activities authorized herein and shall point out the special conditions contained herein.~~

H. **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 approved plans, particularly as they pertain to any public access required herein, or environmentally sensitive areas (Amendment No. One).

~~E.~~ I. **Hold Harmless and Indemnify**. The permittee shall hold harmless and indemnify the Commission, all Commission members, Commission employees, and agents of the Commission from any and all claims, demands, losses, lawsuits, and judgments accruing or resulting to any person, firm, corporation, governmental entity, or other entity who alleges injuries or damages caused by work performed in accordance with the terms and conditions of this permit. This condition shall also apply to any damage caused by flooding of or damage to property that is alleged to be caused as a result of some action or lack of action by the Commission growing out of the processing of and issuance of this permit.

III. Findings and Declarations

This amended 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*, the California Environmental Quality Act, and the Commission's amended coastal zone management program for San Francisco Bay for the following reasons:

A. **Original Authorization**

~~a.~~ 1. **Minor Repair or Improvement.** The project authorized by ~~this~~ the original permit involved installing a fence and remediating contaminated soils, all within the 100-foot shoreline band. These activities involved the placement of small amounts of inert inorganic fill and the extraction of small amounts of material within the shoreline band that will not have a significant adverse effect on present or possible future maximum feasible public access to the Bay consistent with the project, as defined in Regulation Section 10601(b)(1), and routine repairs, reconstruction, replacement, removal, and maintenance within the 100-foot shoreline band that will not involve any substantial enlargement or any substantial change in uses, as defined in Regulation Section 10601(b)(5), and thus is a "minor repair or improvement" for which the Executive Director may issue a permit, pursuant to Government Code Section 66632(f) and Regulation Section 10622(a).

~~b.~~ 2. **Consistency with Commission Law and Policies**. The project authorized ~~herein is~~ in the original permit was found to be consistent with the McAteer-Petris Act and with the Bay Plan in that it will not adversely affect the Bay nor public access to and enjoyment of the Bay. Portions of the project area fall within an area designated as a Waterfront Park Priority Use Area in the Bay Plan. The activities authorized herein are being undertaken to prepare the site for future habitat restoration and the creation of a regional shoreline park at the site and are therefore consistent with the priority use designation and the development of the site as a park. Because the activities authorized in this permit do not change or intensify the uses at the project site, no new public access was required as part of th~~is~~e original authorization. Special Conditions ~~have been~~ were included ~~in this permit~~ with the original authorization to assure that the project does not adversely impact marshlands, sensitive wildlife species, and Bay water quality.

B. **Bay Plan Priority Use Area.** The project site is largely within an area designated as a Waterfront Park Priority Use Area in the Bay Plan (Bay Plan Map No. 4). The goals of the project are to create and enhance Bay habitat and provide the public opportunities to enjoy these habitats while assuring that Bay wildlife is buffered from potential impacts posed by increased public access. The Commission finds that the project is consistent with the site's Waterfront Park Priority Use Area designation.

C. **Fill.** The Commission may allow fill only when it meets the requirements identified in Section 66605 of the McAteer-Petris Act, which states, in part, that: (a) the public benefits from fill must clearly exceed the public detriment from the loss of water areas, and fill should be limited to water-oriented uses or minor fill for improving shoreline appearance and public access; (b) no alternative upland location is available; (c) the fill authorized should be the minimum necessary to achieve the purpose of the fill; (d) the fill should minimize harmful effects to the Bay including the water volume, circulation, fish and wildlife resources, and marsh fertility; and (e) the fill should be authorized when the applicant has valid title to the properties in question.

The project will result in the net placement of approximately 59,115 square feet (1.36 acres) of fill in the Bay for a variety of uses, all related to the co-equal goals of creating habitat and providing improved public access at the site. Solid fill will be placed primarily in areas of isolated, infrequently flooded tidal marsh south of Giant Marsh. This area is only flooded by storm surges and a few extreme high tides each year due to varied topography from past fill placement. The goal of the fill in these areas is to provide public access, create more contiguous wetlands, provide transitional habitat, and provide areas for tidal marsh to colonize with future sea level rise. Specifically, the fill will include the following elements: (a) a free-span bridge over Rheem Creek to provide access to the site (the bridge will cover approximately 752 square feet above the water surface; (b) riprap covering approximately 300 square feet in Rheem Creek following removal of the culvert; (c) solid earth fill covering approximately 47,070 square feet (1.08 acres) of marshlands to both elevate areas supporting public access and to create transitional habitat, including a constructed berm for a trail south of Giant Marsh covering approximately 36,400 square feet (0.84 acres) of infrequently flooded tidal marsh; and (d) a pile-supported public access boardwalk constructed on approximately 11,193 square feet of Giant Marsh.

1. **Alternative Upland Location.** There is no alternative upland location for the project because the purpose of the project is wetland enhancement and creation. There is no feasible Bay Trail alignment that does not include some portion of the trail within the Commission's Bay jurisdiction because the Commission's Bay jurisdiction extends nearly to the eastern property boundary in the northern portion of the site; any public access connection to the neighboring Point Pinole Regional Shoreline Park requires fill.

2. **Minimum Amount Necessary.** Overall the project will result in approximately 59,115 square feet (1.36 acres) of Bay fill. Approximately 47,070 square feet (1.08 acres) of solid fill will be used to elevate areas supporting public access trails and to create gradual transition zones between uplands and existing, created, and graded wetlands. Solid fill materials will be generated from creating new tidal and seasonal wetlands on-site. The EBRPD states that the quantity of solid fill is the minimum necessary to serve the dual purpose of providing public access and creating transitional habitat. The design also takes into account projections of sea level rise by elevating all public access areas above projected flood and sea level rise elevations and establishing broad slopes to allow room for future marsh migration. The project involves approximately 11,193 square feet (0.26 acres) of pile-supported fill for a boardwalk over Giant Marsh and approximately 752 square feet of cantilevered fill for a free-span bridge over Rheem Creek. According to the EBRPD, the bridge and the boardwalk have been designed to result in the minimum amount of Bay fill to provide access through the site.

   Commission staff asked the EBRPD whether the quantity of solid fill could be reduced by constructing a boardwalk in the area south of Giant Marsh in place of the berm proposed in this area. The EBRPD responded that extending the boardwalk would add significant costs related to constructing the boardwalk. In addition, hauling materials excavated to improve tidal circulation in the new and existing wetlands off-site rather than reusing the material on site would significantly increase costs. Further, a boardwalk would not achieve the dual purpose of providing public access and creating transitional habitat. The EBRPD also explained that the berm will be constructed in an area of historic fill, which, although within the Commission's Bay jurisdiction, is infrequently inundated and has marginal habitat value due to reduced hydroperiod and dominance by non-native grasses. Public access through Giant Marsh, which is inundated more frequently, will be on a boardwalk.

3. **Effects on Bay Resources.** The project will involve filling tidal marsh areas to improve existing habitat and create a mosaic of wetland, transition, and upland habitat typical of natural Bay marshes. The project will result in creating far more tidal marsh than will be filled with the project. Approximately 6.1 acres of new tidal marsh will be created, approximately 27.0 acres of existing tidal marsh will be enhanced, and approximately 1.3 acres of existing marsh will be filled. The permittee has developed a Habitat Mitigation and Monitoring Plan for the project to assess how the project is progressing toward meeting the project's goals of restoring marshlands, the project's potential impacts to natural resources, and how the project could be adaptively managed over time to improve habitat functions and increase the likelihood that the marsh restoration efforts are successful.

   In addition to Section 66605 of the McAteer-Petris Act regarding effects of fill on water volume and circulation, the Bay Plan policies on Water Surface Area and Volume state that, "[w]ater circulation in the Bay should be maintained, and improved as much as possible. Any proposed fills, dikes or piers should be

thoroughly evaluated to determine their effects on water circulation and then modified as necessary to improve circulation, or at least to minimize harmful effects." The project will improve tidal circulation throughout the site, increasing plant health and improving habitat conditions for marsh- and Bay tideland-dependent species.

4. **Valid Title**. The EBRPD owns Breuner Marsh and Giant Marsh. The shallow offshore area and a constructed spit are jointly owned by the State Lands Commission and the EBRPD, and are managed by the EBRPD.

   The EBPRD hopes to align a portion of the Bay Trail in the vicinity of Giant Marsh on lands currently owned by Union Pacific Railroad, east of property currently owned by the EBRPD. Special Conditions have been included to ensure that the EBRPD secures easements for the eastern trail alignment prior to construction of the Bay Trail, if in fact EBRPD obtains rights to build the trail within the Union Pacific right-of-way. This eastern alignment is desired because it will locate the Bay Trail closer to the Union Pacific Railroad line (and the edge of the marsh), thereby minimizing the adverse impacts of the trail on the enhanced and newly created habitat. Should these easements not be secured at the time of construction, the trail will be constructed entirely within property currently owned by the EBRPD. The difference in alignment is approximately 15 horizontal feet and will not substantially alter the dimensions of the project.

For these reasons, the Commission finds that there is no alternative upland location for the fill placed with the project, that the amount of fill is the minimum necessary to achieve the purpose of the fill, that the placement of fill will minimize impacts on the Bay and its resources, and that the EBRPD possesses or will possess valid legal interest in the property.

C. **Public Access**

1. **Maximum Feasible Public Access.** Section 66602 of the McAteer-Petris Act states that "…existing public access to the shoreline and waters of the…[Bay] is inadequate and that maximum feasible public access, consistent with a proposed project, should be provided." The Bay Plan Public Access policies state that "a proposed fill project should increase public access to the Bay to the maximum extent feasible…" and that "access to and along the waterfront should be provided by walkways, trails, or other appropriate means and connect to the nearest public thoroughfare where convenient parking or public transportation may be available."

   Currently the site is not open to the public. According to the EBRPD there has been some unauthorized use of the area, including vandals and temporary encampments. The EBRPD will formally open the site to the public and provide opportunities for passive recreation and public education that are compatible with the existing and restored habitats. The project is expected to generate approximately 9,000 to 10,000 visits per year, a maximum of 43 vehicle trips per hour, and approximately 57 bicycle users per day (of which 40 are projected to be commuters).

   To ensure that the project provides the maximum feasible public access, the permittee is required to provide the following, as generally shown on Exhibit A: (1) a 24-space parking lot, restroom, and information kiosk at the northern terminus of Goodrick Avenue; (2) a crossing over Rheem Creek; (3) an approximately 1.25-mile-long paved extension of the Bay Trail between Goodrick Avenue and trails within the Point Pinole Regional Shoreline for bicycle and pedestrian use; (4) a pedestrian-only, approximately 0.25-mile-long, stabilized gravel spur trail;

(5) a temporary (until inundated with anticipated sea level rise), unimproved pedestrian only trail extending past the spur trail to a shoreline spit; and (6) a small picnic area and two overlook areas.

For comparison, the Commission concurred with the USFWS's Consistency Determination No. CN5-04, for Cullinan Ranch, a marsh restoration project near the City of Vallejo, Solano County involving restoration of 1,549 acres of marshland and 26 acres of upland habitat. The Commission concurred with the USFWS's determination that providing two kayak launches, an overlook, a viewing platform, a fishing pier, a trail, and interpretive signs provided maximum feasible public access consistent with the project. The Commission also concurred with the US Army Corps of Engineers' Consistency Determination No. 7-05 for the Hamilton restoration project in the City of Novato, Marin County involving the placement of 7.1 million cubic yards of dredged material to restore 630 acres of tidal and seasonal wetlands, tidal pannes, and transitional uplands. In that Consistency Determination, the Commission concurred that the Corps' project, which included 2.66 miles of paved Bay Trail and five overlooks, provided maximum feasible public access, consistent with the project.

2. **Minimize Impacts to Wildlife.** The Bay Plan Public Access policies state, "[p]ublic access to some natural areas should be provided to permit study and enjoyment of these areas. However, some wildlife are sensitive to human intrusion. For this reason, projects in such areas should be carefully evaluated in consultation with appropriate agencies to determine the appropriate location and type of access to be provided…" The policies further state, "[p]ublic access should be sited, designed and managed to prevent adverse effects on wildlife…" and "…[p]ublic access improvements provided as a condition of any approval should be consistent with the project and the physical environment, including protection of Bay natural resources, such as aquatic life, wildlife and plant communities, and provide for the public's safety and convenience. The improvements should be designed and built to encourage diverse Bay-related activities and movement to and along the shoreline…." Finally, the policies state, "[p]ublic access should be integrated early in the planning and design of Bay habitat restoration projects to maximize public access opportunities and to avoid significant adverse effects on wildlife."

   The public access for the Breuner Marsh restoration project has been designed to avoid or minimize potential adverse effects on wildlife from public access through a variety of design, siting, and management actions. The park entrance and parking area will be sited at the perimeter of the property away from the most sensitive habitats. Trails will be located and configured so that the most heavily used segments are as far from tidally influenced areas as possible and will not bisect major sections of the marsh. The staging area and Bay Trail will be paved to incorporate water quality swales to reduce erosion and impacts to adjacent habitats. The spur trail will be stabilized with crushed gravel. Perimeter fencing and gates will restrict access to designated trails, picnicking, and viewing areas throughout the site. Habitat fencing will protect restored areas while also allowing for wildlife movement underneath the fencing. Some vegetation will be planted at strategic locations to screen the trail system from sensitive habitat where such habitat occurs near the trail. Interpretive signs will be located at the parking area and along the trail to educate the public about the need to protect sensitive wetland habitat.

3. **Barrier Free Access.** The Bay Plan policies state that public access improvements "should permit barrier free access for the physically handicapped to the maximum extent." All public access improvements will be accessible, as defined by the Americans with Disabilities Act (ADA). The parking area will include two ADA van-accessible spaces. The picnic area will include four tables, two of which will be ADA-compliant. The Bay Trail and spur trail will be ADA-compliant. The existing volunteer footpath along the shoreline spit (opened to the public as part of this project, but not improved) will not be ADA-compliant because meeting ADA standards would require additional Bay fill and would not be sustainable with anticipated sea level rise. The EBRPD anticipates that at some point in the near future, the footpath along the shoreline spit will either erode away, or be so frequently flooded to necessitate being closed to the public for safety reasons.

4. **Appearance, Design, and Scenic Views.** The Bay Plan policies on appearance, design and scenic views state 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."

   The project's public access features are designed to take advantage of views of the Bay. This is accomplished by elevating portions of the trail on fill along the east side of the project area and by locating observation points on existing mounded high points.

For the reasons stated above, the Commission finds that the project provides maximum feasible public access, consistent with the project, and that the access is consistent with the Bay Plan policies on public access, including those policies pertaining to public access and wildlife, barrier free access, and appearance, design, and scenic views.

D. **Safety of Fills and Climate Change.** The McAteer-Petris act states "[t]hat public safety, and welfare require that fill be constructed in accordance with sound safety standards." With the exception of a relatively small amount of rock revetment in Rheem Creek, the project is designed to use nonstructural methods of shoreline protection, including tidal marsh and transitional vegetation, to protect the site from tidal erosion and to allow the site to naturally adapt to rising tides. The EBRPD states that the fill for the Rheem Creek bridge, boardwalks, and elevated berms will meet public safety standards.

The Bay Plan policies on Safety of Fills state that "[a]dequate measures should be provided to prevent damage from sea level rise and storm activity that may occur on fill or near the shoreline over the expected life of a project…." The policies also state that "[n]ew projects on fill or near the shoreline should…be built so the bottom floor level of structures will be above a 100-year flood elevation that takes future sea level rise into account for the expected life of the project." The Bay Plan policies on Climate Change state, "within areas that a risk assessment determines are vulnerable to future shoreline flooding that threatens public safety, all projects… should be designed to be resilient to mid-century sea level rise projection" and "[i]f it is likely the project will remain in place longer than mid-century, an adaptive management plan should be developed to address the long-term impacts that will arise…." The Climate Change policies go on to state that, "[u]ntil a regional sea level rise adaptation strategy can be completed, the Commission should evaluate each project proposed in vulnerable areas on a case-by-case basis to determine the project's public benefits, resilience to flooding, and capacity to adapt to climate change impacts." The policies also state that natural resource restoration projects "should be encouraged, if their regional benefits and their advancement of regional goals outweigh the risk from flooding."

The EBRPD evaluated a rise in sea level of 16 inches by 2050 and 55 inches by 2100 in the project design (see Table 2). The estimated 100-year tide elevation based on the Federal Emergency Management Agency's Flood Insurance Rate Map and 2014 sea levels is 9.2 feet (NAVD88). The current mean high water elevation at the project area is 5.3 (NAVD88). By 2050, assuming a 16-inch rise in sea level, the 100-year tide elevation would be 10.5 feet (NAVD88). This is a still water elevation; storm surge and wave runup could add an additional 2 to 2.5 feet (12.5 – 13.0 feet NAVD 88). All public access improvements will be constructed to a minimum elevation of 12 feet (NAVD88).

Taking these sea level rise projections into account, the EBRPD has designed the site to allow wetlands to gradually migrate inland with low-lying marshlands reverting to mudflats and high marsh reverting to low marsh in the future as a result of anticipated sea level rise. The restoration design will establish gradual transition zones between newly graded tidal wetlands and adjacent habitats. A portion of areas designed to support transition zones in 2014 will likely become future tidal marsh as sea level rises. Over time, if sea level rose such that most, or all, of the site were inundated, the site would continue to provide valuable wildlife and fish habitat.

With the exception of the existing unimproved footpath along the shoreline spit, all public access improvements are designed above projected high tide elevations accommodating sea level rise past 2050, although storm surge and wave runup could result in occasional flooding of some public access amenities by 2050. The public access improvements will be constructed using durable, non-erosive material in order to withstand occasional flooding. Furthermore, the effects of storm surge and wave runup will likely be partially buffered by the presence of wetlands. The existing unimproved footpath along the shoreline spit is expected to be subject to flooding prior to 2050, and will likely be closed to the public if it is unsafe for access.

As Table 2 indicates, with 55 inches of sea level rise and a 100-year flood (prediction for 2100), many of the public access areas will likely become inundated. However, the most recent National Science projections predict that by 2100, sea level is projected to rise from 17-66 inches. It is thought that the most likely sea level rise will occur within the mid-to high-end of that range, or 42 to 66 inches (3.5 to 5.5 feet). The public access improvements will be constructed just below the low end of that range. As the design life of many of the public access improvements is far less than 100 years, the permittee intends, and this authorization requires, that the EBRPD maintain, modify, or replace public access improvements in response to actual sea level rise. Special Conditions have been included to ensure that the public access improvements will avoid damage and flooding from sea level rise, or be resilient to the effects of such flooding, for as long as the site may feasibly remain open for public use. When maintenance of the public access areas becomes infeasible (e.g., the maintenance required to prevent damage from sea level rise is exceedingly costly, impractical, or potentially damaging to Bay natural resources), the permittee is required to consult with the Commission and other stakeholders to provide alternative access inland.

Table 2. Water Surface and Public Access Elevations

	Elevation (NAVD88)
Current Mean High Water (2014) *(Based on tidal datum at Point Pinole)*	5.3 feet
100-Year Tide (2014) *(Based on the Federal Emergency Management Agency's Flood Insurance Rate Map)*	9.2 feet
Projected 100 Year High Tide Level 2050 (100-Year Tide + 16 inches sea level rise)*	10.5 feet
Projected 100 Year High Tide Level 2100 (100-Year Tide + 55 inches sea level rise)*	13.8 feet
Minimum Design elevation of Public Access Improvements	12.0 feet

* **Storm surge and wave runup could add an additional 2 to 2.5 feet.**

For the reasons discussed above, the Commission finds that fill proposed for the project, and the fill proposed for the public access improvements, are consistent with the Commission's safety of fills and climate change policies.

E. **Natural Resources**

1. **Tidal Marshes and Tidal Flats.** The Bay Plan policies on tidal marshes and tidal flats state, "where and whenever possible, former tidal marshes and tidal flats that have been diked from the Bay should be restored to tidal action in order to replace lost historic wetlands or should be managed to provide important Bay habitat functions…" The policies also state, "[a]ny ecosystem restoration project should include clear and specific long-term and short-term biological and physical goals, and success criteria, and a monitoring program to assess the sustainability of the project. Design and evaluation of the project should include an analysis of: (a) how the system's adaptive capacity can be enhanced so that it is resilient to sea level rise and climate change; (b) the impact of the project on the Bay's sediment budget; (c) localized sediment erosion and accretion; (d) the role of tidal flows; (e) potential invasive species introduction, spread, and their control; (f) rates of colonization by vegetation; (g) the expected use of the site by fish, other aquatic organisms and wildlife; (h) an appropriate buffer, where feasible, between shoreline development and habitats to protect wildlife and provide space for marsh migration as sea level rises; and (i) site characterization. If success criteria are not met, appropriate adaptive measures should be taken." The policies further state that "[b]ased on scientific ecological analysis and consultation with the relevant federal and state resource agencies, a minor amount of fill may be authorized to enhance or restore fish, other aquatic organisms or wildlife habitat…"

   The proposed project will restore previously filled historic tidal marsh habitat, enhance existing marshlands, increase and enhance upland transitional habitats, and create seasonal and tidal wetlands. Overall the project will establish 6.12 acres of new tidal wetlands and enhance 27.05 acres of tidal wetlands (Table 3).

   After project construction, the EBRPD is required to conduct a 10-year monitoring program evaluating physical processes, vegetation establishment, and invasive vegetation on the site to determine if restoration performance criteria are met. If success criteria have not been met, the EBRPD will analyze the cause

of failure and propose remedial actions. The permittee will consult with the Commission to determine whether the proposed adaptive mitigation measures are consistent with the Commission's laws and policies and whether additional Commission authorization will be required.

Table 3. Habitat Restoration-Related Activities

Habitat Activities	Acres
New Tidal Wetland – Created	6.12
New Seasonal Wetland – Created	4.19
Tidal Wetland – Enhanced	27.05
Seasonal Wetland – Enhanced	4.20
Tidal Wetland – Preserved	42.14
Seasonal Wetland – Preserved	14.78
TOTAL:	**98.48**

2. **Fish, Other Aquatic Organisms and Wildlife.** The Bay Plan policies on Fish, Other Aquatic Organisms and Wildlife state that "[t]o assure the benefits of fish, other aquatic organisms and wildlife for future generations… the Bay's tidal marshes, tidal flats, and subtidal habitat should be conserved, restored, and increased." These policies also state that "[t]he Commission should consult with the California Department of Fish and Wildlife and the U.S. Fish and Wildlife Service or the National Marine Fisheries Service whenever a proposed project may adversely affect an endangered or threatened plant, fish, other aquatic organism or wildlife species…and give appropriate consideration of (their) recommendations in order to avoid possible adverse impacts of a proposed project on fish, other aquatic organisms and wildlife habitat."

   The federally-endangered California clapper rail and salt marsh harvest mouse and the state-threatened California black rail may be affected by the project. The project is not likely to affect the Green sturgeon, Central California Coast steelhead, and Central Valley Spring-run Chinook salmon because little direct impacts to fish-bearing waters are anticipated. While the project will temporarily affect some tidal marsh habitats, those closest to the Bay margin will not be impacted. Impacted tidal marsh habitats will largely be limited to pickleweed-dominated habitats that are farther inland and infrequently subject to tidal action. Several new tidal sloughs will also be created as part of the project, but they will not be connected to the Bay until they have been completely graded. These new tidal habitats will create new nursery habitat for fish species.

   On September 5, 2013, NMFS issued a consultation letter, pursuant to Section 7 of the Clean Water Act, for the project. The letter made a determination that the proposed project "is not likely to adversely affect listed fish and designated critical habitat under the jurisdiction of NMFS" and overall is likely to "result in long-term beneficial effects to designated critical habitat by expanding tidal marsh habitat along the southeastern shoreline of San Pablo Bay." On November 1, 2013, USFWS issued a Biological Opinion that states the "level of anticipated

take is not likely to result in jeopardy to the salt marsh harvest mouse and the California clapper rail." On March 6, 2013, CDFW issued a Streambed Alteration Agreement for the project. Special Conditions included herein require the permittee to implement the specific conservation measures identified in the NMFS consultation letter, the USFWS Biological Opinion, and the CDFW Streambed Alteration Agreement to avoid impacts to special-status species and their habitats.

3. **Water Quality.** The Bay Plan policies on Water Quality state that "Bay water pollution should be prevented to the greatest extent feasible. The Bay's tidal marshes, tidal flats, and water surface area and volume should be conserved and, whenever possible, restored and increased to protect and improve water quality." The policies also state that "[w]ater quality in all parts of the Bay should be maintained at a level that will support and promote the beneficial uses of the Bay as identified in the San Francisco Bay Regional Water Quality Control Board's (RWQCB) Basin Plan and should be protected from all harmful or potentially harmful pollutants." The policies, recommendations, decisions, advice, and authority of the State Water Resources Control Board and the Regional Board should be the basis for carrying out the Commission's water quality responsibilities." Finally, the Bay Plan policies on Water Quality state that "new projects should be sited, designed, constructed, and maintained to prevent or, if prevention is infeasible, to minimize the discharge of pollutants into the Bay by: (a) controlling pollutant sources at the project site; (b) using construction materials that contain nonpolluting materials; and (c) applying appropriate, accepted, and effective best management practices; especially where water dispersion is poor and near shellfish beds and other significant biotic resources."

   The project will provide important functions and values, including improving water quality of run-off entering local waters through the natural water-filtering action of native wetland vegetation. As is typical for construction projects, the permittee may use small quantities of hazardous materials such as fuels, oils, paints and varnishes, concrete and asphalt in the construction of the proposed facilities. The permittee has stated that chemicals would be handled in compliance with OSHA health and safety regulations and in accordance with the requirements of a RWQCB-approved Stormwater Pollution Prevention Plan. Special Conditions have been included to avoid violating water quality standards or waste discharge requirements related to sediment-laden runoff from disturbed work areas entering the Bay, to minimize increasing turbidity, and to prevent fuel or other construction chemicals from accidentally spilling or leaching into the water. In addition, newly constructed tidal sloughs will not be connected to the Bay until they have been completely graded and stabilized to minimize impacts to water quality from the release of newly excavated and graded soils.

   On February 19, 2014, the RWQCB issued a Water Quality Certification for the project which finds that the project does not violate state water quality standards.

The Commission finds that, with implementation of the Special Conditions contained herein, the project is consistent with its laws and policies regarding natural resources and water quality.

F. **Dredging.** The Bay Plan policies on Dredging state that "[d]redging and dredged material disposal should be conducted in an environmentally and economically sound manner." They also state that the Commission should authorize dredging when it can find that: (a) it serves 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; (d) the project will result in the minimum dredging volume necessary; and (e) that dredged materials, if feasible, would be reused or disposed outside the Bay and certain waterways. Except when reused in an approved fill project, dredged material should not be disposed in the Bay.

As part of the project, sediment would be dredged from the Commission's Bay jurisdiction to extend newly created tidal channels into the Bay and to lower marsh elevations in areas of historic fill. Most of the excavated material will be deposited and used to create transitional and upland habitat in the southern portion of the site. Some of this material will be beneficially reused in the Commission's Bay jurisdiction to raise portions of the site that will support public access features and to create transitional habitat. The dredging is a water-oriented use, namely the enhancement of tidal wetlands. The permittee completed soil sampling investigations of the property, focused on disturbed areas and areas where fill had previously been placed. A narrow upland area was found to contain arsenic and other metals. The contaminated soils will be removed and appropriately disposed of in 2014 under the original authorization of this permit.

On February 19, 2014, the RWQCB issued a Water Quality Certification for the project which does not require the permittee to perform further testing of the sediment proposed for dredging and finds the proposed dredging activities are consistent with the provisions of the Clean Water Act.

The Commission finds that that the project is consistent with its laws and policies regarding dredging.

G. **Extension of the Commission's Jurisdiction.** With the activities authorized herein, this project will extend the Commission's Bay jurisdiction inland to tidal marsh areas five feet above Mean Sea Level and will extend the 100-foot shoreline band jurisdiction one hundred feet inland from the edge of the Bay.

H. **Review Boards**

1. **Engineering Criteria Review Board.** The Commission's Engineering Criteria Review Board did not review the proposed project.

2. **Design Review Board.** The Commission's Design Review Board (DRB) reviewed the project on March 27, 2013. The DRB commented that the public access was in keeping with the natural setting of the site and appeared to be consistent with the anticipated use of the site.

~~C.~~ I. **Public Trust.** The Commission finds that the fill authorized herein is consistent with public trust needs for the area because it improves the welfare of the Bay Area and will not adversely affect public access to and enjoyment of the Bay.

~~D.~~ J. **Coastal Zone Management Act.** The Commission further finds, declares, and certifies that the activity or activities authorized herein are consistent with the Commission's Amended Management Program for San Francisco Bay, as approved by the Department of Commerce under the Federal Coastal Zone Management Act of 1972, as amended.

~~E.~~ K. **California Environmental Quality Act.** Pursuant to the California Environmental Quality Act, the East Bay Regional Park District, the lead agency, certified an Environmental Impact Report for this project on July 2, 2012.

~~F.~~ L. **Administrative Listing.** Pursuant to Regulation Section 10620, ~~this project~~ the original authorization was listed with the Commission on August 1, 2013.

~~G.~~ M. **Enforcement Program and Civil Penalties.** The Commission has an enforcement program that reviews its permits for compliance. The Commission may issue cease and desist and civil penalty orders if violations are discovered. The McAteer-Petris Act provides for the imposition of administrative civil penalties ranging from $10 to $2,000 per day up to a maximum of $30,000 per violation. The Act also provides for the imposition of court-imposed civil penalties of up to $30,000 in addition to any other penalties, penalties for negligent violations of between $50 and $5,000 per day, knowing and intentional penalties of between $100 and $10,000 per day, and exemplary penalties, which are supplemental penalties, in an amount necessary to deter future violations. In addition, anyone who places fill, extracts materials, or makes any substantial change in use of any water, land or structure within the area of the Commission's jurisdiction without securing a permit from the Commission is guilty of a misdemeanor.

IV. Standard Conditions

A. **Permit Execution**. This amended permit shall not take effect unless the permittee executes the original of this amended permit and returns it to the Commission within ten days after the date of the issuance of the amended 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 amended permit are assignable. When the permittee transfers 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 amended permit, the permittee/transferor and the transferee shall execute and submit to the Commission a permit assignment form acceptable to the Executive Director. An assignment shall not be effective until the assignees execute and the Executive Director receives an acknowledgment that the assignees have read and understand the amended permit and agree to be bound by the terms and conditions of the amended permit, and the assignee is accepted by the Executive Director as being reasonably capable of complying with the terms and conditions of the amended permit.

D. **Permit Runs With the Land**. Unless otherwise provided in this amended permit, the terms and conditions of this amended 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~~ RWQCB, and the city or county in which the work is to be performed, whenever any of these may be required. This amended permit does not relieve the permittee 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 amended permit and any plans approved in writing by or on behalf of the Commission.

G. **Life of Authorization**. Unless otherwise provided in this amended permit, all the terms and conditions of this amended permit shall remain effective for so long as the amended permit remains in effect or for so long as any use or construction authorized by this amended 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 amended 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 amended 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 amended 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 amended permit reflects the location of the shoreline of San Francisco Bay when the amended 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 amended 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 amended permit shall be grounds for revocation. The Commission may revoke any amended permit for such violation after a public hearing held on reasonable notice to the permittee or its assignee if the amended permit has been effectively assigned. If the amended permit is revoked, the Commission may determine, if it deems appropriate, that all or part of any fill or structure placed pursuant to this amended permit shall be removed by the permittee or their assignee if the amended permit has been assigned.

K. **Should Permit Conditions Be Found to be Illegal or Unenforceable**. Unless the Commission directs otherwise, this amended permit shall become null and void if any term, standard condition, or special condition of this amended permit shall be found illegal or unenforceable through the application of statute, administrative ruling, or court determination. If this amended permit becomes null and void, any fill or structures placed in reliance on this amended permit shall be subject to removal by the amended permittee or its assignee if the amended permit has been assigned to the extent that the Commission determines that such removal is appropriate. Any uses authorized shall be terminated to the extent that the Commission determines that such uses should be terminated.

L. **Permission to Conduct Site Visit**. The permittee shall grant permission to any member of the Commission's staff to conduct a site visit at the subject property during and after construction to verify that the project is being and has been constructed in compliance with the authorization and conditions contained herein. Site visits may occur during business hours without prior notice and after business hours with 24-hour notice.

M. **Abandonment**. If, at any time, the Commission determines that the improvements in the Bay authorized herein have been abandoned for a period of two years or more, or have deteriorated to the point that public health, safety or welfare is adversely affected, the Commission may require that the improvements be removed by the permittee, its assignees or successors in interest, or by the owner of the improvements, within 60 days or such other reasonable time as the Commission may direct.

N. **Best Management Practices**

1. **Debris Removal.** All construction debris shall be removed to an authorized location outside the jurisdiction of the Commission. In the event that any such material is placed in any area within the Commission's jurisdiction, except as described in the restoration plans, the permittee, its assigns, or successors in interest, or the owner of the improvements, shall remove such material, at their expense, within ten days after they have been notified by the Executive Director of such placement.

2. **Construction Operations.** All construction operations shall be performed to prevent construction materials from falling, washing or blowing into the Bay. In the event that such material escapes or is placed in an area subject to tidal action of the Bay, the permittee shall immediately retrieve and remove such material at its expense.

O. **In-Kind Repairs and Maintenance.** Any in-kind repair and maintenance work authorized herein shall not result in an enlargement of the authorized structural footprint and shall only involve construction materials approved for use in San Francisco Bay. Work shall occur during periods designated to avoid impacts to fish and wildlife. The permittee shall contact Commission staff to confirm restricted periods for construction.