

# San Francisco Bay Conservation and Development Commission

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**TO:** Commissioners and Alternates

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**SUBJECT:** **Staff Recommendation for Consistency Determination No. C2014.004.00 for the U.S. Fish and Wildlife Service's Sonoma Creek Enhancement Project**  
(For Commission consideration on December 4, 2014)

## Recommendation Summary

The staff recommends concurrence with BCDC Consistency Determination No. C2014.004.00, which, as conditioned, authorizes the following:

1. Enhancement of approximately 284 acres of tidal marsh by improving water circulation, providing upland refugia and transitional habitat. The project will create 9.42 acres of tidal channels and 11.76 acres of upland transition and refugia habitat;
2. Construction of a 1,400-foot trail segment approximately 3.8 miles west of the project site with a widened area that will include benches and interpretative signage; and
3. Habitat monitoring to provide information needed to adaptively manage the site, to track the reestablishment of marsh vegetation in disturbed areas, and to understand how the transitional habitat ramp responds to sea level rise.

## Staff Recommendation

The staff recommends that the Commission adopt the following resolution:

### I. Authorization

- A. **Authorized Project.** Subject to the conditions stated below, the Commission concurs with the U.S. Fish and Wildlife Service, that the following project is consistent with the Commission's federally approved coastal management program.

**Location:** In the Bay, within an area designated as a wildlife refuge in the *San Francisco Bay Plan* (Bay Plan Map No. 1), along the western shoreline of the mouth of Sonoma Creek, within the San Pablo Bay National Wildlife Refuge, in an unincorporated area of Sonoma County.

**Description: In the Bay:**

1. Within the "Central Basin Area": (a) dredge approximately 33,630 cubic yards of material (103,673 square feet/2.38 acres) to create a 5,700-foot-long central tidal channel ranging in width from 57 feet to 16 feet at the southern end; and (b) dredge approximately 5,700 cubic yards of material to create 2,605 linear feet (24,829 square feet/0.57 acre) of lateral starter and internal connector channels;
2. Within the "Relic Berm Area," excavate 1,350 cubic yards of material to create 3,850 linear feet (19,166 square feet (0.44-acre)) of new and enhanced drainage channels; and
3. Place dredged material as follows: (a) place approximately 4,865 cubic yards of dredged material to create as many as 35 marsh mounds covering a total of approximately 87,120 square feet (2 acres) of tidal marsh; (b) place 2,500 cubic yards of dredged material in 130,680 square feet (3 acres) of ponded areas ("high lift areas") to raise elevations to support tidal marsh vegetation; and (c) place 24,200 cubic yards of material to create a 435,600-square-foot (10 acres) transitional habitat ramp along approximately 3,200 linear feet of the adjoining levee, that will provide wetland, transitional, and upland refugia habitat. The remaining 9,115 cubic yards of dredged material will be placed along the adjoining Vallejo Sanitation District Levee pursuant to BCDC Permit No. M1994.025.

- B. **Date of Submitted Consistency Concurrence.** This authority is generally pursuant to and limited by the request for consistency concurrence dated April 15, 2014, including all accompanying and subsequently submitted exhibits and correspondence, and all conditions of this consistency determination.
- C. **Consistency Concurrence Expiration Date.** Work authorized herein must commence prior to December 1, 2015, or this consistency determination will lapse and become null and void. Such work must also diligently pursued to completion, and be completed within two years of commencement, or by December 1, 2017, whichever is earlier, unless an extension of time is granted by amendment of the consistency determination.

**D. Summary of Work found to be Consistent.** The project found to be consistent with the Commission's federally authorized coastal management program involves the enhancement of tidal marsh habitat, the creation of high tide refugia and transitional habitat, and the installation of a public access trail at an off-site location (the levee separating Sonoma Baylands and Sears Point). The project involves dredging a total of 40,680 cubic yards of sediment to enhance the existing marsh channel network and create new tidal channels to improve tidal circulation in existing wetlands. A total of 31,565 cubic yards of material will be placed in the marsh to create the following habitat features: 4,865 cubic yards to create up to 35 marsh mounds covering a total of 2.0 acres (87,120 square feet); 2,500 cubic yards to raise elevations within three acres of ponded areas ("high marsh lifts") to support tidal marsh vegetation; and 24,200 cubic yards to construct a 10-acre transition and upland refugia habitat ramp. All fill placed with the project is located in the Commission's "Bay" jurisdiction. While the project will result in the conversion of an approximately 3-acre area from tidal marsh to transition/upland refugia habitat, this area will remain in the Commission's "Bay" jurisdiction following project completion. Upon project completion, approximately 28 acres of tidal marsh wetlands will be enhanced because of improved tidal circulation and the creation of a mosaic of habitats typical of tidal marshes, including 11.76 acres of transition/upland refugia.

Public access improvements associated with the project will be provided at an off-site location, within a nearby portion of the San Pablo Bay Wildlife Refuge, approximately 3.8-miles west of the project site along the levee that separates the Sonoma Baylands and Sears Point site(s).

## 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. Plan Review

1. **Specific Plans and Plan Review.** No work whatsoever within the Commission's jurisdiction or required by this consistency concurrence shall be commenced 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.
  - a. **Site Plans.** Site, public access, restoration, engineering and grading plans shall include and clearly label the Bay shoreline (Mean High Water (NAVD88) 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 location, types, dimensions, and materials to be used for all public access improvements, path surfaces, seating, interpretive signs, 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.
2. **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 the following:
- 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 consistency determination;
  - b. consistency of the plans with the terms and conditions of this consistency determination;
  - 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 consistency determination, 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 consistency determination 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.

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 this consistency determination 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 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 consistency determination, the Special Conditions shall prevail. The USFWS is responsible for assuring that all plans accurately and fully reflect the Special Conditions of this consistency determination.

## B. Public Access

### 1. Public Access Improvements

- a. By January 1, 2017, the USFWS shall install the following public access improvements, as generally shown on Exhibit A:
  - i. By January 1, 2017, A 1,400-foot-long, approximately 10-foot-wide public access trail with an ADA-accessible surface located along the levee that separates the Sonoma Baylands and Sears Point sites. The trail shall connect with the completed Sonoma Baylands trail and the Sears Point trail, currently under construction; and
  - ii. A wider area along the trail with two benches and two interpretative signs.

All public access improvements shall be subject to Design Review Board review, if deemed necessary by Commission staff, and final plan review approval pursuant to Special Condition II-A of this permit.

- b. The USFWS shall maintain the 2.5-mile long levee trail constructed as part of the Sears Point Restoration project as shown generally on Exhibit A, in accord with Special Condition II-B-3, below.

### 2. Additional Commission Authorizations

- a. Amending **C2011.003.01 for Sonoma Baylands.** Prior to the commencement of project construction or by January 1, 2016, whichever is earlier, the USFWS shall request an amendment to Consistency Determination No. C2011.003.001 issued to the USFWS for the Sonoma Baylands project, to amend that consistency determination to include the construction and

maintenance of the 1,400-foot public access trail and public access amenities required on the levee between Sonoma Baylands and Sears Point.

Concurrence will be based on submittal of an approved plan pursuant to Special Conditions II-A (plan review and approval) and II-B-3 (maintenance) contained in this consistency determination.

3. **Maintenance.** The public access improvements described above shall be maintained by and at the expense of the USFWS or its assignee. Such maintenance shall include, but is not limited to: repairs to all path surfaces; regular mowing (at least four times a year) to keep the trails easily passable; in-kind maintenance of all authorized structures; repairs or replacement as needed of any amenities such as signs, benches, and trash containers; 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 USFWS shall correct any maintenance deficiency noted in a staff inspection of the site. The USFWS shall obtain approval by or on behalf of the Commission of any maintenance that involves more than in-kind repair and replacement.

If the USFWS determines at a later date that it can no longer maintain the public access improvements required along the levee separating the Sonoma Baylands and Sears Point site(s) due to the requirements of federal law, the USFWS will provide to the Commission an amended consistency determination explaining how the USFWS program and management of the Sonoma Creek restoration site is consistent to the maximum extent practicable with the Commission's coastal management program notwithstanding the elimination of the maintenance of public access improvements. Any change in the maintenance or management of these improvements that will have substantially different coastal effects than those concurred with in this consistency determination shall occur no sooner than 90 days after submitting an amended consistency determination.

4. **Public Access Use.** The public access area (the 1,400-foot trail segment and associated public access amenities) that is necessary for the Commission to make its finding that the project provides the maximum feasible public access consistent with the project shall be made available exclusively to the public for unrestricted public access for walking, bicycling, sitting, viewing, fishing, picnicking, and related purposes. If the USFWS wishes to use the public access area for other than public access purposes, it must obtain prior written approval by or on behalf of the Commission, except when and where needed for maintenance, monitoring and security.
5. **Climate Change.** The public access improvements required herein 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 and the continuity of the shoreline path. 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 USFWS shall work with the Commission and other stakeholders to provide alternative inland public access.

6. **Reasonable Rules and Restrictions.** The USFWS may impose reasonable rules and restrictions for the use of the public access area 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.
- C. **Marsh Restoration Plan and Monitoring Program.** Prior to the commencement of any work located within the Commission’s jurisdiction, the USFWS 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 “Sonoma Creek Marsh Enhancement Project, Quality Assurance Project Plan,” prepared by Audubon California and Wetlands and Water Resources (WWR), and dated May 1, 2013, and “Memorandum-10-year Post Construction Monitoring Plan for the Sonoma Creek Marsh Enhancement Project,” prepared by WWR, Lux Environmental and the USFWS, and dated May 30, 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:
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 (the Base Flood Elevation); and (5) the typical elevation ranges of four dominant marsh plant

species found at Sonoma Creek Marsh (cordgrass, pickleweed, salt grass, and gum bush). To promote positive drainage, constructed elevations shall grade gently toward constructed or existing 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 be open to tidal action, and the time when planting will occur, if any planting is proposed.
- c. **Soil.** A report identifying the type of soils found at the site and the soil type of any fill to be imported to the site, if applicable, 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.

## 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 sediment measuring stations shall be installed at representative locations throughout the site and monitored during each monitoring event. This information is necessary to help understand why vegetation may or may not be growing in particular areas, helping 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.** The monitoring program shall include a visual evaluation of site hydrology using aerial imagery and field inspection to describe channel development occurring in the enhanced wetland areas. Soils in areas expected 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.** The monitoring program shall include provisions for monitoring the vegetation of tidal marsh, transitional habitat, and upland/refugia, including measurements and evaluation of species composition, percent cover, and plant vigor and health in and along the new channels, the mounds, the filled pond bottoms and the transitional habitat ramp. Monitoring shall include photo-documentation of these from permanent locations throughout the site. At least 10 photo-documentation points shall be established to show representative views of enhanced

wetland and transitional habitat areas and areas not directly impacted by project construction, including new tidal channels and mounds. Species composition and percent cover for the six most prevalent plant species shall be calculated using at least 12 transects in tidally influenced areas extending from high marsh to the upper limit of low marsh habitat. Monitoring of wetland vegetation shall be conducted at the end of the growing season, typically late summer. The enhanced 305 acres of tidal marsh and associated transitional and upland habitat shall be monitored approximately every other year for a 10-year monitoring period to assess and report on the natural recruitment of native tidal marsh vegetation. During the monitoring period, tidal marsh vegetative cover shall meet or exceed the following criteria:

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

- d. **Invasive Plant Control.** The monitoring program shall include 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. **Marsh Transgression.** The monitoring program shall include a simple process (such as the use of physical markers) for monitoring marsh transgression along the transition habitat ramp over a 25-year monitoring period with monitoring events occurring at Years 5, 10, 15, 20, and 25. Such provisions shall include an assessment of the limits of tidal marsh vegetation along the habitat ramp and how wetland species have migrated up the ramp. Results of the assessment shall be submitted graphically (e.g., aerial photography, cross section plan, etc.) with a brief narrative of the transgression of the marsh over time.

- f. **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.
- g. **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.
- h. **Monitoring Reports.** Marsh monitoring shall commence after one full rainy season following completion of channel construction, anticipated by the end of November 2015 (e.g. Year 1) and shall occur thereafter over a 10-year monitoring period at Year 3, Year 5, Year 7, and Year 10 for tidal marsh vegetation establishment. Evaluations of the marsh transgression shall occur over a 25-year monitoring period at, Year 5, Year 10 Year 15, Year 20, and Year 25. Tidal marsh vegetation establishment monitoring shall occur over the 10-year monitoring period or until those portions of the restoration site subject to tidal action are approximately 90% vegetated as compared with nearby reference marshes, whichever occurs first.

Monitoring reports shall be submitted by March 31 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 invasive plant species cover.

- i. **Technical Advisory Committee.** If adverse conditions are identified at any time during the ten-year vegetation establishment monitoring period, the USFWS, in coordination with BCDC staff, shall assemble a technical advisory committee (TAC) or utilize the expertise of an existing TAC (e.g., the TAC for the Cullinan Ranch project). If, in consultation with the TAC and the BCDC staff, it is determined that remedial action is necessary by the USFWS in coordination with the TAC and BCDC staff, the USFWS shall recommend remedial actions request and receive further Commission authorization, if deemed necessary by Commission staff, to implement the remedial activities

#### D. Marsh Protection

1. **Minimize Work in Wetland Areas.** The work authorized by this consistency determination 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.

2. **No Creosote 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.
- E. **Protection of Special-Status Fish and Wildlife Species.** The USFWS shall take all precautions to avoid adverse impacts to special-status species such as the salt marsh harvest mouse, California clapper rail, delta smelt, longfin smelt, Chinook salmon, steelhead, and Green Sturgeon. The USFWS shall implement the measures described in the USFWS Biological Opinion for the project dated June 5, 2014, and the NOAA National Marine Fisheries Service (NMFS) letter of concurrence dated June 3, 2014, 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:
1. All in-water work shall be restricted to June 1 through November 30 over the two-year construction period to avoid impacts to special-status fish species;
  2. All suitable salt marsh harvest mouse habitat within the project footprint shall be removed prior to construction;
  3. To minimize disturbance and avoid the loss of individual salt marsh harvest mice and California clapper rail, activities within or adjacent to suitable habitat for these species shall not occur within two hours before or after extreme high tides at 6.5 feet NGVD or above, as measured at the Golden Gate Bridge (and time corrected for the site) or when the marsh plain is inundated because upland refugia cover is limited and activities could prevent the species from reaching available cover;
  4. Work within or adjacent to tidal marsh areas shall be avoided during California clapper rail breeding season (February 1 through August 31) unless surveys are conducted in accord with USFWS protocols to determine if clapper rail locations and territories can be avoided, or the marsh is determined to be unsuitable habitat for clapper rail by a USFWS-approved biologist;
  5. Work within areas containing suitable salt marsh harvest mouse habitat shall be limited to December 1 through February 28 (outside of the mouse breeding season) to minimize disturbance to the mouse; and
  6. To minimize or avoid the loss of individual salt marsh harvest mice resulting from excavation, fill or construction activities within suitable tidal marsh areas, vegetation removal shall be limited to the minimum amount necessary to permit the activity to occur. Prior to commencement of construction in areas containing suitable tidal marsh habitat, efforts shall be made to ensure that salt marsh harvest mice are not present in wetland areas subject to potential impact, by removing suitable marsh vegetation and "flushing" for the species. Once vegetation removal is complete, at the end of each day, exclusion fencing shall be installed around the cleared area to prevent mice from moving back into the cleared area.

- F. **Water Quality.** The permittee shall comply with the San Francisco Bay Regional Water Quality Control Board's Water Quality Certification, issued June 26, 2014, to ensure that potential water quality impacts of the project are minimized. The following avoidance and minimization measures shall be implemented:
1. 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;
  2. The permittee shall install silt fences or straw wattles along the toe of slopes and designated staging areas on the landward side of the perimeter levee to minimize soil erosion and prevent sediment from spreading off-site;
  3. Construction equipment shall be staged in upland or agricultural areas when not in use and refueling or maintenance of equipment shall occur in designated upland areas; and
  4. All contractors working on the site shall receive environmental sensitivity training regarding the environmental sensitivity of the site and the need to minimize impacts.
- G. **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.

### III. Findings and Declarations

This consistency concurrence 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. **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 would result in the placement of dredged materials (Bay muds dredged on-site during the excavation of tidal channels) on approximately 15 acres (653,400 square feet) of tidal marsh to construct tidal marsh habitat features including marsh

mounds, raising pond bottoms (high marsh lifts), and a 10-acre upland/transitional habitat ramp within an area that is designated as a “wildlife refuge” on Bay Plan Map No.1.

The USFWS determined that the approximately 305-acre marsh was not as productive or valuable as it could be due to poor tidal circulation and a lack of high tide refugia for marsh animal species. Also, because of poor tidal circulation at the marsh, the marsh produced high numbers of mosquitoes, requiring regular and expensive chemical treatment. All of the proposed work is designed to address these three problems.

Tidal circulation will be improved by creating and enhancing 12,155 linear feet of tidal channels and by filling ponds where water collects and takes several weeks to drain. This improvement in tidal circulation and drainage is expected to significantly reduce mosquito production. High tide refugia will be created by using the dredged material to create marsh mounds adjacent to the new and enhanced tidal channels and by creating a 10-acre gently sloping ramp (the transitional habitat ramp) from the marsh plain to the top of the adjacent levee. While placing the dredged materials within the marsh will reduce cost for disposing of dredged materials, using dredged materials to raise pond bottoms and create marsh mounds has been done successfully elsewhere in the Bay.

BCDC Consistency Determination No. C1998.011.01 issued to the USFWS for lower Tubbs Island and BCDC Permit No. M2012.016 issued to the Coastal Conservancy to create high tide refugia for the California clapper rail at various locations around the Bay, including Belmont Slough in the City of Belmont, Cooley Landing in the City of Menlo Park, and Martin Luther King Jr. Marsh in the City of Oakland both authorized the use of dredged material to improve habitat for marsh-dependent species, although in smaller amounts than authorized herein.

While habitat transitional ramps have not been proposed within tidal marshes in San Francisco Bay, they have been a design feature in large marsh restoration projects in diked bayland projects that have been recently authorized by the Commission (e.g., Consistency Determination No. C2004.005 to the U.S. Army Corps of Engineers to construct the Hamilton Wetland Restoration Project, and Consistency Determination No. C2005.007 to USFWS for restoring Cullinan Ranch). While the primary goal of the transitional habitat ramp will be to provide high tide refugia habitat, the ramp will also provide opportunities for marsh transgression with sea level rise (the inland retreat of tidal marsh to adjoining upland areas). There are at least two proposals for creating such ramps within former salt ponds in the southern part of San Francisco Bay that will likely come before the Commission in the future.

1. **Alternative Upland Location.** There is no alternative upland location for the project because the purpose of the project is tidal marsh enhancement for the purposes of providing improved habitat for special-status species and improving public health conditions by decreasing mosquito-breeding habitat.

- 2. Minimum Amount Necessary.** Overall the project will result in the placement of dredged material on approximately 15 acres (653,400 square feet) of tidal marsh to create habitat features designed to enhance the productivity, functioning and habitat value of the surrounding marshlands. Dredged material will be placed on approximately two acres (87,120 square feet) to construct marsh mounds in the “Central Basin Area”. The mounds will be elevated one to two feet above the marsh plain (7.25- to 8.25-feet NAVD88) and will support high marsh vegetation. The mounds will provide habitat heterogeneity within the interior of the marsh and will be no greater than 100 feet long and 25 feet wide. The USFWS states that the amount of fill associated with the mounds is the minimum amount necessary to provide meaningful benefit to marsh dependent wildlife. The original project design called for five acres of marsh mounds, however this design was revised to reduce fill in the marsh.

Dredged material will be placed on approximately three acres (130,680 square feet) of tidal marsh to raise the elevation of low lying areas behind a series of relic berms to improve tidal circulation and drainage. The lifts of dredged material will be no higher than mean higher high water (6.4 feet NAVD88). It is anticipated that the lifts will vegetate with high marsh vegetation within two years following completion of construction. The USFWS states that the area and volume of fill associated with the lift areas represent the minimum amount of material needed to improve drainage conditions within the “Relic Berm Area” and provide areas that will support high-marsh vegetation.

Construction of the transitional habitat ramp will result in the placement of 10 acres (435,600 square feet) of fill. The ramp will improve drainage within the “Relic Berm Area” and provide transition and upland refugia habitat for marsh-dependent wildlife during extreme high tides and storm events. The ramp will have a three percent slope and vary in height from 0.001-feet to 2-feet above mean higher high water and the existing marsh plain. The lower- and mid- portions of the ramp are designed to support marsh plant species while the upper portion will support vegetation typical of transition and upland habitat (e.g., coyote bush, creeping wildrye). The USFWS states that the original design of the ramp called for filling the entire “Relic Berm Area” which would have involved 25 acres of fill within this tidal marsh. After discussions with BCDC staff, and an evaluation of funds available for the project, the ramp was reduced in size to a 10-acre ramp and sited in a portion of the “Relic Berm Area” where tidal waters often pond and stagnate. A 10-acre ramp was determined to be the minimum necessary to provide transitional habitat at the project site at a scale that would provide value to marsh-dependent wildlife, while improving drainage and habitat conditions.

- 3. Effects on Bay Resources.** As has been stated above, the project has been designed to address two problems that have been identified as affecting the habitat function and value of the marsh at the mouth of Sonoma Creek – poor tidal circulation and the lack of transitional habitat and upland refuge. The poor tidal circulation and drainage has also led to this marshland being a large source

of mosquito production. The dredged material generated in creating and enhancing channels to improve tidal circulation will be used to fill tidal marsh areas that pond water and to create a mosaic of tidal and transition habitats typical of natural Bay marshes. While the project will result in a net loss of approximately three acres of tidal marsh, it is expected the overall health and function of the 305-acre marsh will be improved with the project. The project will provide habitat for marsh-dependent species, in particular the special-status California clapper rail and the salt marsh harvest mouse. USFWS has developed a "Post-Construction Monitoring Plan" for the project to assess the project's potential impacts to natural resources, to allow adaptive management of the restoration efforts over time, and to increase the likelihood that the marsh restoration efforts are successful. This plan, with a few revisions to provide information on marsh transgression, have been required in this conditional consistency determination.

4. **Valid Title.** The USFWS has a 66-year renewable lease with the California State Lands Commission for the water and wetland areas of the site (all areas south of the levee).

The levee that borders the project site on the north and west is owned by the Vallejo Sanitation and Flood Control District and will be used to access the site during construction and monitoring activities. In addition, the upper portions of the habitat ramp will abut the District's levee. The USFWS has obtained a "Right of Entry, Temporary Construction Staging, Stockpiling and Material Placement Agreement" with the District for the portions of the project that involve the levee. This agreement allows the USFWS to access the project site via the levee for construction and on-going monitoring activities, as well as to construct portions of the transitional habitat ramp that abut the District's levee.

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 USFWS possesses valid legal interest in the property.

## B. 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." The Bay Plan Public Access policy regarding sea level rise states, "[p]ublic access should be sited, designed, managed and maintained to avoid significant adverse impacts from sea level rise and shoreline flooding..."

Currently the site is not open to the public. The levee and land immediately inland of the marshlands that will be enhanced are owned and operated by the Vallejo Sanitation District to treat biosolids. USFWS has contacted Vallejo Sanitation about the possibility of providing access on the levee, but the Vallejo Sanitation District has stated that public safety and existing regulations prevent opening the levee to the public. For this reason, public access on site is not feasible at this time and may interfere with one of the project goals of providing upland high tide refuge for marshland-dependent species. This segment of levee, referred to as the “Tubb’s Island levee”, is designated as a planned segment of the San Francisco Bay Trail, is designated as a trail in Sonoma County’s Countywide Parks and Recreation Plan, and would provide an important and safe link in the Bay Trail along the Highway 37 corridor.

Because USFWS does not own the Tubb’s Island levee, the Service explored possible off-site public access opportunities in the area. They identified a site located approximately 3.8-miles west of the project site, along an existing levee separating the Sonoma Baylands restoration site (with existing, required access along the inland levee) and the Sears Point restoration site (permitted but not yet constructed, with proposed but not required public access). The Service will construct a 1,400 linear foot (0.26-mile), approximately 10-foot-wide trail that will extend along the levee and will contain a small, wider area with seating and interpretative signage. The trail will connect with existing access at the Sonoma Baylands site and access currently under construction with the Sears Point project.

In determining whether a project provides “maximum feasible public access to the Bay”, the Commission often looks to its past actions on similar projects. While the Commission has authorized several large marsh restoration projects in recent years that involved complete conversion of diked baylands or salt ponds to tidal action, all with significant public access areas and improvements, the Commission has only authorized a few projects where existing wetlands were enhanced, as opposed to completely restored.

At Lower Tubbs Island in the San Pablo Bay Wildlife Refuge (Consistency Determination No. C1993.011.01), the Commission concurred with the USFWS’s consistency determination that a smaller, but similar project, that involved the placement of approximately 2,315 cubic yards of dredged materials derived from creating and enhancing tidal channels on approximately 4.00 acres of wetlands to fill in depressions and reduce sources of mosquito production, was consistent with the Commission’s laws and policies. As part of that project, USFWS made available for public use a new 2,000-foot-long by 15-foot-wide trail along the Tubbs Island Setback levee, immediately east of the enhancement site, provided a new interpretive panel at the end of the trail, and installed two, seven-foot-wide by 25-foot-long prefabricated bridges to span two breaches in a levee supporting public access. In BCDC Permit No. M2010.032 issued to the Richardson Bay Audubon Center and Sanctuary and the Marin County Department of Parks and Open Space, approximately 7,650 cubic yards of sand,

gravel, rock and oyster shell was placed over approximately a 2.17-acre area of the Bay to nourish an existing beach, promote oyster colonization, and create micro-groins to help retain sediment and foster beach development on Aramburu Island, near Strawberry Point, near the City of Mill Valley, Marin County. Because the project improved habitat values on an island, access opportunities were limited. For this project, the Commission required two, large natural rocks with flat surfaces for sitting for boaters reaching the island, and two signs indicating that the island was sensitive habitat.

To ensure that the public access is constructed in a manner consistent with the Commission's policies, Special Condition II-B-1 through II-B-6 have been included herein. These conditions require plan review and approval and maintenance of the public access trail, wider seating area and amenities. In particular, to ensure that the public access remains viable as sea level rises, Special Condition II-B-5 has been included. This special condition requires the USFWS to construct and maintain the public access in a manner that will avoid damage to the access as a result of sea level rise and flooding.

For the reasons stated above, the Commission finds that the project provides public access, to the maximum extent practicable, consistent with the Commission's Coastal Zone Management Program for the Bay, as amended.

- C. **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.” 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.”

While this project has not been designed for flood protection purposes, there will be an inherent flood protection benefit from construction of the habitat ramp. Approximately 9,115 cubic yards of the material dredged to create and enhance channels will be placed on the Vallejo Sanitation District levee for the District’s use

to raise the levee as authorized in BCDC Permit No. M1994.025. The transitional habitat ramp will also provide flood protection benefits by dampening waves at the site during extreme high tides and storm events. Concern was raised that placing the proposed amount of fill against one side of the levee protecting the Vallejo Sanitation District's land could potentially destabilize the levee. To address this concern, the USFWS commissioned a geotechnical analysis that examined the potential effects of the habitat ramp on the stability of the perimeter levee. In a report dated October 16, 2014, Hultgren-Tillis evaluated the potential affects of placing 24,200 cubic yards of material along the western base of the levee and concluded that while construction of the ramp resulted in a computed 2.2-foot displacement of the levee during a seismic event, actual displacement would be in the range of three to six inches based on professional judgment and experience. The report concluded that such displacement would unlikely be detected by post-event inspection and that placement of the material associated with the ramp is not likely to undermine the stability of the levee.

As to how the site would be affected by sea level rise, currently, the entire project site is marshlands, most of which are regularly flooded with the tides. The entire site is inundated during high water conditions (9.0 feet NAVD88 (current 100-year flood elevation for the site)) and most of the site would continue to be inundated even after dredged materials would be placed within the marsh to create mounds and the habitat ramp. As stated earlier, all of the marsh mounds and approximately two-thirds of the 10-acre habitat transition ramp is expected to support marsh vegetation with today's tidal elevation. As the highest elevation of the transition habitat ramp will be two feet above today's marsh plain elevation, increasing portions of the ramp will be inundated with sea level rise. With a projected 11-inch rise by 2050, only the highest portion of the ramp would be above base flood elevation. With a projected 36-inch sea level rise by end of century, all of the transitional habitat ramp will be below base flood elevation. There are no estimates for how the surrounding marsh will respond to sea level rise. Whether the marsh will persist will be dependent on a host of factors including sedimentation rates, erosion, plant response to climate change, etc.

While the primary goal of the transitional habitat ramp is to provide upland refugia habitat for marsh-dependent species, it will also provide an area to allow for the marsh to transgress as sea level rises. To monitor the effects of sea level rise (as that change in tidal elevation is measured by the San Francisco tide gauge near the Golden Gate Bridge) on the habitat ramp, Special Condition II-C-2-e has been included in this authorization. This special condition requires the USFWS to monitor and report on the transgression of the marsh over a 25-year period, extending to 2042, assuming construction is completed by 2017.

Because the fill placed with the project will be for the purposes of marsh enhancement, and it is expected that vegetation composition and habitat types will transition as sea level rises while remaining beneficial to marsh-dependent species, the Commission finds that the fill placed with the project is consistent with the Commission's safety of fills and climate change policies.

#### D. 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 project will enhance approximately 284 acres of tidal marsh habitat including 9.42 acres of tidal channels, and create approximately 11.76 acres of transition and refugia habitat for marsh-dependent species, in particular the special-status California clapper rail and salt marsh harvest mouse.

Post-construction, the USFWS will conduct a 10-year monitoring program of physical processes, vegetation establishment, and invasive vegetation on the site to determine if restoration performance criteria have been met. If success criteria are not met, the USFWS will analyze the cause of failure and propose remedial actions (e.g., adaptive management). Special Condition II-C-2-i requires the USFWS to convene or use the expertise of an existing technical advisory committee to review the monitoring reports and assess the nature and extent of adverse conditions, should such conditions arise. This condition further requires the USFWS to propose and implement remedial actions and receive Commission authorization for these actions, if deemed necessary by Commission staff. In addition, Special Condition II-C-2-h requires that USFWS monitor how much the wetlands transgress up the transitional habitat ramp with rising tides, noting changes in biodiversity, species composition, and changes in elevation of the inland edge of the marsh.

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.”

Project activities could potentially affect the endangered salt marsh harvest mouse and endangered California clapper rail, Sacramento River winter-run Chinook salmon, the Central Valley spring run Chinook salmon, the Central California Coast steelhead, the Central Valley steelhead, and the North American Green Sturgeon southern “DPS”. While construction activities will result in temporary impacts to special-status fish habitat through localized degradation of water quality during construction and the potential for invasive species propagation, these impacts will be temporary and localized and the USFWS will monitor invasive species conditions and remove invasive vegetation where appropriate as required under Special Condition II-C-2-d.

On June 5, 2014, the USFWS issued a Biological Opinion (BO) on the effects of the project on special-status species. The BO concluded that through the implementation of conservation measures, adverse effects to special-status species will be reduced or avoided. On June 3, 2014, NMFS determined that since the project will result in long-term benefits to essential fish habitat due to enhanced tidal marsh habitat and resultant increases in prey species availability, and because adequate avoidance measures will be implemented during construction, that adverse effects to special-status fish habitat will be avoided, reduced and/or minimized. Because the project will result in an increase in the number and size of tidal channels within the Central Basin area, prey base and foraging opportunities for the green sturgeon and listed salmonids will be expected to increase. Lastly by improving tidal circulation within the marsh, long-term beneficial effects to critical habitat are anticipated.

The Biological Opinions issued for the project contain several conservation measures that are required to be employed during construction to minimize impacts to special-status species. To ensure that the project is constructed in a manner consistent with the Bay Plan policies on fish, other aquatic organisms and wildlife Special Conditions II-E-1 through II-E-3 have been included.

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 on-site tidal circulation and drainage patterns and providing enhanced wetland function which, in turn, will increase the natural water-filtering capability of the marsh. There is the potential for temporary impacts to water quality during construction activities. Several measures will be implemented to reduce construction impacts on water quality including the installation of silt fences during construction to minimize erosion and sediment migration, locating construction staging areas in upland or adjacent agricultural area, and providing environmental sensitivity training to contractors working on the project.

On June 26, 2014, the RWQCB issued a conditional Water Quality Certification for the project that finds that the project does not violate state water quality standards. Special Condition II-F has been required to ensure that the project is constructed in a manner that will minimize impacts on Bay water quality.

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.” In particular, Bay Plan Dredging Policy No. 11(b) states: “[t]o ensure protection of Bay habitats, the Commission should not authorize dredged material disposal projects in the Bay and certain waterways for habitat creation, enhancement or restoration, except for projects using a minor amount of dredged material until: (1) Objective and scientific studies have been carried out to evaluate the advisability of disposal of dredged material in the Bay and certain waterways for habitat creation, enhancement and restoration...; (2) The Commission has adopted additional Baywide policies governing the disposal of dredged material in the Bay and certain waterways for the creation, enhancement and restoration of Bay habitat...and; (3) The Oakland Middle Harbor enhancement project...is completed successfully....”

Bay Plan Dredging Policy No. 11(b) was adopted by the Commission in December 2000 following a multi-year, multi-agency and stakeholder process to develop a policy basis to evaluate traditional dredging projects (e.g., navigational dredging)

and the beneficial reuse of dredged material. The first application of this policy by the Commission was in its approval of the Port of Oakland and the U.S. Army Corps of Engineers' "50-foot Deepening Project", which included the deepening of the Entrance, the Inner and the Outer Harbor channels at the Port of Oakland in December 2000. The "50-foot Deepening Project" involved the dredging of 15.9 million cubic yards of material from the Port of Oakland's navigational channel and placement of the material at different locations, including three beneficial reuse sites that included the Montezuma Restoration Site, the Hamilton Wetlands Restoration Project and the Middle Harbor Enhancement Area (MHEA). At the MHEA, the Commission authorized the placement of 5.8 million cubic yards of sediment to be used within a 180-acre subtidal site to restore shallow water habitat, including the establishment of eelgrass meadows. At its November 6, 2014 meeting, the Commission was briefed by staff on the status of the MHEA restoration project.

The project that is the subject of this consistency determination involves dredging 40,680 cubic yards of sediment from a tidal marsh. The dredging is being conducted solely to increase tidal circulation, drainage and channel density in the marsh which is expected to significantly improve the vitality and function of the 305-acre tidal marsh. This dredged sediment will be placed in the Commission's Bay jurisdiction to create marsh mounds to create high tide refugia (approximately 4,865 cubic yards), raise a depressed area behind a relic berm to improve site drainage (2,500 cubic yards), and to create a 10-acre transitional habitat ramp to create transitional habitat, high tide refugia, and an area for marsh transgression (approximately 24,200 cubic yards). Approximately 9,115 cubic yards of the dredged sediment will be placed on top of the Vallejo Sanitation District levees to raise it.

Because the MHEA has not yet been completed, let alone determined to be successful, the Commission can only approve this project if it determines that the amount of dredged sediment placed in the Bay is "minor". The Commission has much discretion in determining what constitutes a "minor" amount of dredged material placed in the Bay because what constitutes a "minor" amount of dredged sediment is not defined in the Commission's law, regulations, or Bay Plan policies. This discretion is similar to the Commission's determinations regarding what constitutes "minor" amounts of fill for public access. Section 66605(a) of the McAteer-Petris Act allows the Commission to authorize minor amounts of Bay fill for public access and shoreline appearance if the fill is consistent with the other provisions of the Act.

In determining whether the dredged sediment placed with the project is "minor", the Commission has evaluated the project in light of other Commission-authorized dredging projects. Under the Commission's administrative regulations, Section 10602(f) states that, "...the disposal of less than 30,000 cubic yards of dredged material at any location...in a manner and at a time that is approved by the Executive Director..." shall be defined as a "minor repair or improvement" for which the Executive Director may issue project approval administratively. This project would authorize the placement of 31,565 cubic yards of dredged sediment within a

tidal marsh (1,565 cubic yards more than can be administratively authorized to be placed anywhere in the Bay) to address problems in the functioning of the existing tidal marsh.

Further, the implied assumption of Bay Plan Dredging Policy 11(b) is that placing large quantities of dredged sediment in the Bay to create desired habitat has some risk, hence the restriction of demonstrated success before approving this approach elsewhere in the Bay. The “uses” (creating habitat mounds, filling depressions, and to a lesser extent, creating a transitional habitat ramp which is a relatively new approach) have all been successfully employed in other tidal marsh enhancement efforts in San Francisco Bay. Thus, authorization of such fill placement is highly likely to result in the desired habitat benefits. Placing dredged material to create eelgrass habitat in San Francisco Bay is more experimental and has not yet been demonstrated to be successful in San Francisco Bay, though it theoretically should be able to be achieved.

Special conditions require USFWS to monitor the success of the project and submit the monitoring reports to the Commission at specified intervals. In addition, if adverse conditions arise as a result of the project, the USFWS is required to report on these conditions and propose remedial action, subject to peer review of a technical advisory committee. Such remedial action will be reviewed by the Commission and its staff and may require additional authorization if deemed necessary.

The Commission finds that the amount of dredged material placed with the project is “minor” given the following: the project involves placement of material for tidal marsh enhancement; poses little risk of failure because the methods that will be used to enhance the marsh have had demonstrated success at several locations around the Bay; and the authorization contains requirements to assess the success of the marsh over time and adjust the project if necessary to improve habitat functioning. For these reasons, the Commission concurs with the USFWS consistency determination that the project is consistent with the Commission’s federally approved coastal management program, particularly with the Bay Plan policies on Dredging.

#### G. **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) has not reviewed the project to date.

- H. **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.

- I. **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.
- J. **California Environmental Quality Act.** On May 15, 2014, the Regional Water Quality Control Board (RWQCB), acting as lead agency under the California Environmental Quality Act, certified the Mitigate Negative Declaration for the project.

#### IV. Standard Conditions

- A. **Permit Execution.** This permit shall not take effect unless the permittee executes the original of this permit and returns 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 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 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 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 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 RWQCB, and the city or county in which the work is to be performed, whenever any of these may be required. This permit does not relieve the permittee 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 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 the McAteer-Petris 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 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 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 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 permit is revoked, the Commission may determine, if it deems appropriate, that all or part of any fill or structure placed pursuant to this permit shall be removed by the permittee 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 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 permit becomes null and void, any fill or structures placed in reliance on this 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.