

San Francisco Bay Conservation and Development Commission

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November 21, 2018

Application Summary Bay Point Restoration Project

(For Commission consideration on December 6, 2018)

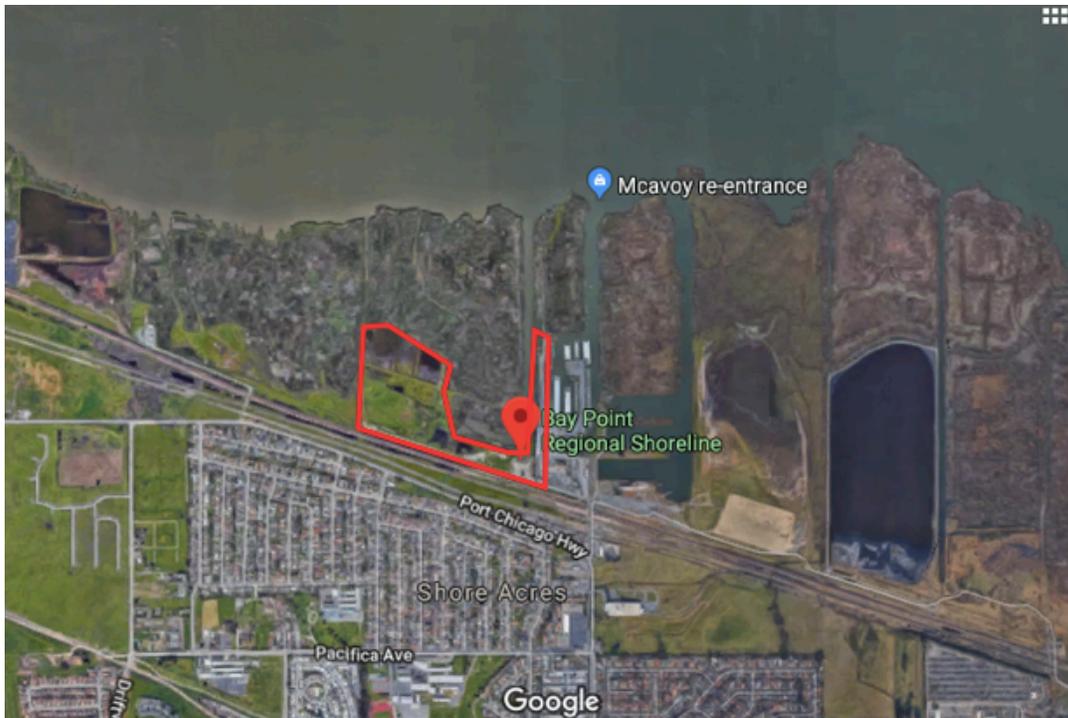
BCDC Permit Application Number:	2017.006.00
Application Filed Complete:	October 4, 2018
Deadline for Commission Action:	January 2, 2019
Staff Contact:	Erik Buehmann (415) 352-3645 erik.buehmann@bcdc.ca.gov

Summary

Applicant: East Bay Regional Park District (“District”)

Location: The Bay Point Regional Shoreline, at the terminus of McAvoy Road, in the community of Bay Point, Contra Costa County (Figure 1; Exhibit 2).

Figure 1. Aerial View of Project Site.



Project: The project involves restoring and enhancing approximately 17.65 acres of tidal marsh and Bay waters by grading within an area diked-off from the Bay, excavating tidal channels, and breaching the existing berm.

The project would also improve an approximately 1.1 mile-long existing public access trail along the existing berms at the site and enhance the approximately 1,700-foot-long existing Spur Trail leading to a new kayak launch.

Issues

Raised: The staff believes that the primary issues raised by the application are: (1) whether the project is consistent with the Waterfront Park, Beach Priority Use designation in the *San Francisco Bay Plan* (“Bay Plan”); (2) whether the proposed work in the Bay would be consistent with the McAteer-Petris Act and the Bay Plan policies on fill, including climate change and natural resources; and (3) whether the proposed public access would be consistent with the McAteer-Petris Act and the Bay Plan policies on public access and recreation.

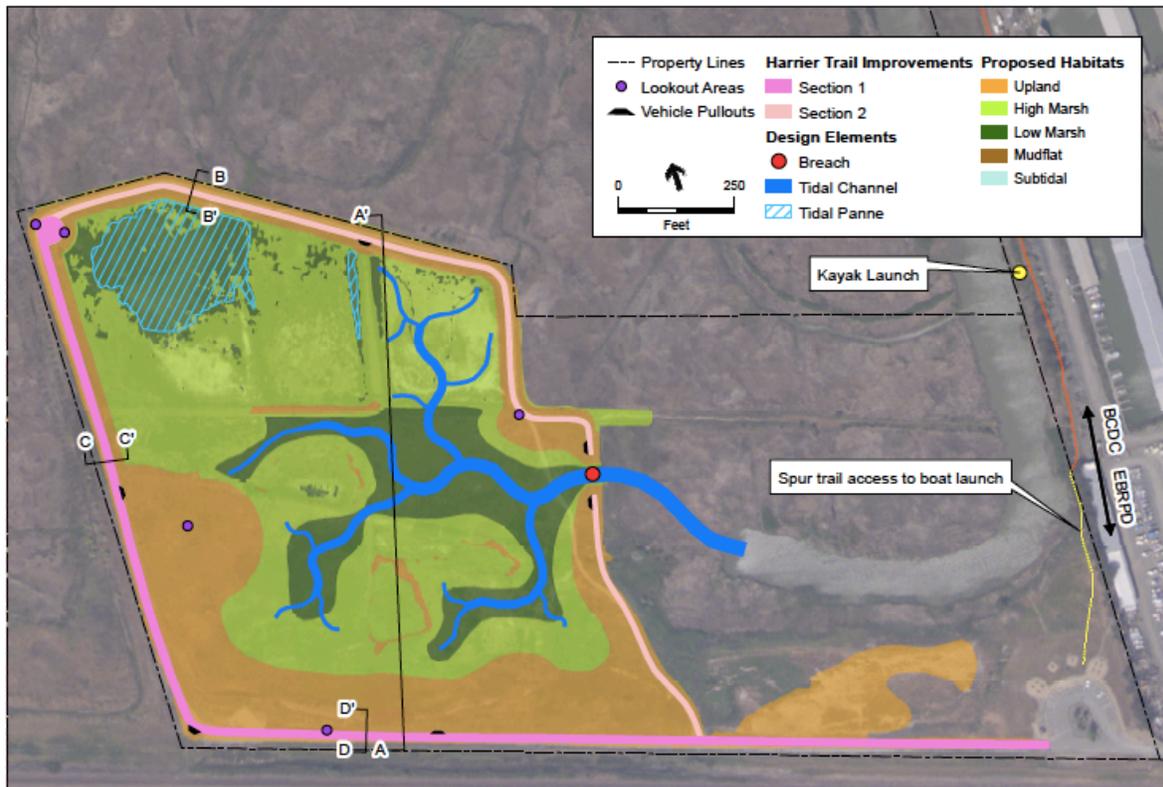
Project Overview

Site History and Description. Beginning in the 1950s, the majority of the project site was diked-off from the Bay through a network of berms and used to settle and dry mined sand for commercial use. The existing site condition within the diked ponds includes both seasonal wetland and upland habitat and public access areas. A J-shaped channel (“J-channel”) subject to tidal action was dredged to provide water access to the site through existing tidal marsh. Subsequently, the District purchased the property and, in 2001, prepared a Land Use Plan for Bay Point Regional Shoreline that included restoring the site to tidal action to assist in habitat recovery for special-status species and enhancing public access at the site. In 2008, the District constructed an all-weather trail along the top of the exterior berm (“Harrier Trail”) and provided access to the trail by installing a parking lot, picnic benches, and a vault toilet at the end of McAvoy Road to the east of the restoration site.

Bay Point Restoration Project (Figure 2). The project involves excavating and grading within the diked ponds to lower the site to tidal marsh elevation and establish tidal channels and placing soil or sediment material to create transition habitat slopes. The berm on the eastern side of the site would be breached and a new tidal channel would be excavated and connected to the existing tidal channel (“J-channel”). Fill would be placed along the exterior berm to widen and raise the Harrier

Trail prior to breaching and to construct look-outs to provide views to the adjacent marsh, thereby providing public access around the perimeter of the restored tidal marsh within the diked pond and connecting the trail to the existing parking lot. A truss bridge would be constructed across the breach in the berm. Fill would be placed along an existing tidal channel to create a “Spur Trail” north from the parking lot. This trail would serve as a spur to the Great California Delta Trail and would provide access to a kayak launch along the tidal channel (Exhibit 1).

Figure 2. Project Overview – Proposed Habitats and Trail Improvements.



Project Description

Project

Details:

The applicant, the East Bay Regional Park District, proposes to restore, use, and maintain tidal marsh and install, use, and maintain public access within the Commission’s jurisdiction by conducting the following activities:

In the Bay:

1. Place, use, and maintain approximately 8,096 cubic yards of material over an approximately 8,006-square-foot area to raise and widen a portion of the “Harrier Trail” to approximately 13-14 feet NAVD88 and provide approximately 5,688 square feet of upland habitat and approximately 2,268 square feet of tidal marsh habitat;

2. Excavate and maintain an approximately 31-foot-wide, 357-foot-long (11,056 square feet) channel connecting the existing tidal channel known as “J-channel” to the diked pond;
3. Excavate an approximately 2,315-square-foot area to lower a berm to restore tidal action within the diked pond;
4. Excavate and maintain an approximately 305-square-foot area to restore tidal marsh habitat and raise the “Harrier Trail;”
5. Construct, use, and maintain an approximately 523-square-foot kayak launch, supported by three one-foot diameter piles, an approximately 157-square-foot ramp ,and an approximately 367-square-foot float;
6. Construct, use, and maintain an approximately 1,358-foot-long “Spur Trail” by placing approximately 26,916 cubic yards of soil along an approximately 25,122-square-foot area;
7. Conduct temporary construction activities, including staging and grading;
8. Plant and seed upland and tidal marsh vegetation on fill, and maintain vegetation; and
9. Install, use, and maintain an approximately five-foot-long fence along the new extended segment of the “Harrier Trail.”

Within the 100-foot shoreline band:

1. Conduct grading and excavation over an approximately 219,528-square-foot area to construct a 41,426-square-foot portion of the raised “Harrier Trail” and to restore tidal marsh, upland habitat, tidal channels and introduce tidal action to the interior of the diked pond;
2. Construct, use, and maintain an approximately 183-linear-foot, 10-foot-wide “Spur Trail;”
3. Construct, use, and maintain an approximately 14-foot-wide, 50-foot-long truss bridge and associated abutments to span the breach at the site;
4. Install, use, and maintain an approximately 3,067-foot-long, four-foot-high habitat fence;
5. Construct, use, and maintain three 190-square-foot overlook areas with interpretive signage;
6. Plant and seed to establish upland and tidal marsh vegetation and maintain vegetation; and
7. Conduct temporary construction activities, including installation and removal of an approximately 125-foot-long pile-supported or berm coffer dam.

Bay Fill: The project would involve the placement of approximately 33,651 square feet of fill in the Bay, including within existing tidal marsh, and approximately 13,676 square feet of excavation. The total area of impact to the Bay would be approximately 1.08 acres, including impacts to tidal marsh, tidal waters, and formerly filled tidelands at the adjacent property owned by McAvoy Yacht Harbor. The project would restore and enhance approximately 17.65 acres of tidal wetlands and waters within and outside of BCDC Bay jurisdiction. Of this 17.65 acres, approximately 17.3 acres would be tidal wetlands and waters that were previously not within BCDC bay jurisdiction, but will now be within BCDC Bay jurisdiction post-restoration.

Summary	
Activity	Acres
Impacts: Tidal Marsh, Tidal Waters, and Former Bayland Impact with BCDC Bay	1.08
Restored: Tidal Marsh and Waters	17.65

Public

Access: The proposed project would improve an approximately 1.1 mile-long existing trail along the existing berms at the site, and include the enhancement of the approximately 1,700-foot-long Spur Trail leading to a new kayak launch.

Priority Use: The project site is designated as a Waterfront Park, Beach Priority Use Area in the *San Francisco Bay Plan*.

Schedule

and Cost: Development of the Bay Point Restoration project is scheduled for 2019. The total project cost is approximately \$1.85 million.

Staff Analysis

Issues Raised: The Commission staff believes that BCDC Permit Application No. 2017.006.00 raises three primary issues: (1) whether the project is consistent with the Waterfront Park, Beach Priority Use designation in the *San Francisco Bay Plan* (“Bay Plan”); (2) whether the proposed work in the Bay would be consistent with the McAteer-Petris Act and the Bay Plan policies on fill, including climate change and natural resources; and (3) whether the proposed public access would be consistent with the McAteer-Petris Act and the Bay Plan policies on public access and recreation.

I. Waterfront, Beach Priority-Use Area and Recreation. *The Commission should determine whether the proposed project is consistent with the Waterfront Park, Beach Priority Use Area designated in the San Francisco Bay Plan and Recreation Policies in the San Francisco Bay Plan.*

A. Applicable Policies. A portion of the site is located within a San Francisco Bay Plan-designated “Waterfront, Beach” Priority Use Area, identified on Bay Plan Map 3 as “Bay Point Wetlands Regional Park.” Bay Plan Map 3, Note 7 states, “[r]estore tidal wetlands and provide opportunities for shoreline trail access, wildlife observation, and non-motorized

small boat access.” Further, Bay Plan Recreation Policy No. 4 provides, in part, that “to capitalize on the attractiveness of their [i.e., Waterfront Park Priority Use Areas] bayfront location, parks should emphasize hiking, bicycling, riding trails, picnic facilities, swimming, environmental, historical and cultural education and interpretation, viewpoints, beaches, and fishing facilities...” and that “...public launching facilities for a variety of boats and other water-oriented recreational craft, such as kayaks, canoes and sailboards, should be provided in waterfront parks where feasible.” Furthermore, “trails that can be used as components of the San Francisco Bay Trail, the Bay Area Ridge Trail or links between them should be developed in waterfront parks.”

- B. **Proposed Project.** The proposed Bay Point Restoration project is designed to achieve the benefits provided for in the Bay Plan Notes and the Recreation Policies.

As proposed, the project would restore wetlands and provide for improved public access at the site. The project would enhance existing wetlands at the site by excavating new tidal connections to improve tidal circulation at the adjacent marsh and provide a connection to the proposed restored area within the diked pond. The project would restore new wetlands within the existing diked pond by grading the interior of the diked pond to marsh elevation and filling portions of the site to construct tidal marsh and transition zones. The berm surrounding the diked pond would then be breached to provide tidal connections.

As proposed, the project would widen and repair existing public access trails in the area to enhance recreational opportunities. The existing perimeter trail along the berm surrounding the diked pond, known as the “Harrier Trail,” would be raised and widened. The Harrier Trail would include fill for look-outs that provide views to the adjacent marsh. The “Spur Trail,” currently required by a BCDC settlement agreement with neighboring McAvoy Harbor and constructed on filled Bay jurisdiction, is in a degraded condition and would be repaired and widened to provide an improved spur of the Great California Delta Trail. The project would include a new kayak launch along the Spur Trail to provide non-motorized boat access to the Bay and the Delta.

- II. **Fill.** *The Commission should determine whether the proposed fill for the project is consistent with the McAteer-Petris Act and Bay Plan policies on allowable fill of the Bay:*

- A. **Applicable Policies.** 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 benefit of the fill should exceed the public detriment and the fill should be limited to water-oriented uses (such as recreation or public assembly) or be “minor” for improving shoreline appearance and public access; (b) fill should be approved only when “no alternative upland location” is available; (c) fill should be “the minimum amount necessary to achieve the [project] purpose;” (d) “the nature, location, and extent of any fill should be such that it will minimize harmful effects” to the Bay’s resources, e.g., the volume, surface area or circulation of water, water quality, and fertility of marshes; (e) “fill [would] be constructed in accordance with sound safety standards which will afford reasonable protection to persons and property against the hazards of unstable geologic or soil conditions or of flood or storm waters...;” and (g) “fill should be authorized when the applicant has such valid title to the properties in question....”

- B. **Public Benefit versus Detriment and Water-Oriented Use/Minor Fill for Public Access.** The overall purpose and goals of the project are to preserve, restore and enhance wetland habitats and to improve existing public access to the shoreline. The fill associated with the project would provide public benefits through the four main components: 1) restoration and enhancement of tidal wetlands, tidal waters, and upland habitat; 2) improvements to the existing Harrier Trail to meet accessibility standards and raise the trail to decrease periodic flooding and increase sea-level rise resiliency; 3) installation of a new kayak launch; and 4) improvements to an existing Spur Trail which would be a component of the Great California Delta Trail.

Public detriments associated with the project include impacts to the existing tidal marsh from fill to achieve the benefits described above, which include restoring wetlands, improving the existing public access, and installing the kayak launch. Excavation in tidal channels and tidal marsh to restore and enhance wetlands would impact existing marsh and subtidal habitats. The District states that these tidal marsh impacts, which total 1.08 acres including fill and excavation, would be offset by the project's environmental benefits of restoring and enhancing approximately 17.65 acres of wetlands.

The wetland restoration is a water-oriented use in that it involves enhancement to Bay habitat. The project also includes fill for public access. As described in more detail below, the District has stated it must fill existing tidal marsh and the Bay in order to accommodate widening the base of the existing berms to widen and raise the existing trails for accessibility for persons with disabilities and make the trails resilient to future sea level rise.

- C. **Alternative Upland Location.** Although fill in the Bay is necessary for the restoration work to connect existing upland and non-tidal areas to the tidal J-channel, the majority of tidal marsh restoration would take place in an upland diked pond currently cut off from tidal influence. Portions of the existing Harrier Trail are located immediately adjacent to the Bay. As part of trail improvements, the trail would be raised to provide resiliency with sea-level rise. In order to raise the trail, the base of the berm supporting the trail must be widened and extended into the Bay. In addition, the Spur Trail is in a degraded condition, and portions of it have subsided and have been overgrown with tidal marsh vegetation. In order to repair the trail and raise it to comply with accessibility standards and resilience goals, the fill within the tidal marsh would be necessary to widen the base of the trail. The District states there is no upland alternative that would provide for an accessible and resilient public access.
- D. **Minimum Amount Necessary.** According to the District, the fill in the Bay is necessary to create a wider and ADA-accessible trail and to ensure the public access is resilient to sea level rise. Some fill in existing tidal wetland areas is necessary because the required width and height of the public access could not be achieved by exclusively filling within the diked pond, outside of the Commission's Bay jurisdiction. The District states the base of the berms that support the public access must be expanded to raise and widen the pathways. The District states that tidal marsh will naturally reestablish on the slopes of the proposed berms after construction.

E. **Effects on Bay Resources.** In addition to Section 66605(d) of the McAteer-Petris Act regarding the impacts of fill on Bay resources, the Bay Plan contains related policies, cited below.

1. **Fill for Tidal Marsh Restoration and Mitigation.**

- a. **Applicable Mitigation and Tidal Marsh and Tidal Flats Policies.** BCDC Bay Plan Mitigation Policy No. 1 states, in part, that, “[p]rojects should be designed to avoid adverse environmental impacts to Bay natural resources such as to water surface area, volume, or circulation and to plants, fish, other aquatic organisms and wildlife habitat, subtidal areas, or tidal marshes or tidal flats. Whenever adverse impacts cannot be avoided, they should be minimized to the greatest extent practicable. Finally, measures to compensate for unavoidable adverse impacts to the natural resources of the Bay should be required.”

The Bay Plan Tidal Marshes and Tidal Flats Policy No. 4 states, in part, “Where feasible, 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, such as resting, foraging and breeding habitat for fish, other aquatic organisms and wildlife.” In addition, Tidal Marsh and Tidal Flats Policy No. 2 states, in part, “where a transition zone does not exist and it is feasible and ecologically appropriate, shoreline projects should be designed to provide a transition zone between tidal and upland habitats.” Tidal Marsh and Tidal Flats Policy No. 6 states, “[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.” Finally, Tidal Marsh and Tidal Flats Policy No. 7 states, “[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 if the Commission finds that no other method of enhancement or restoration except filling is feasible.”

- b. **Tidal Marsh and Tidal Flats Restoration Overview.** The fill associated with the project would be placed to restore tidal marsh and improve public access pathways at the site. The District proposes that the amount of tidal marsh restoration (approximately 17 acres) resulting from the project would mitigate for any impacts to tidal marsh and Bay resources from the fill placed to accommodate the expansion of public access at the site (approximately 0.77 acres). The proposed project would restore an existing diked pond that was once a historic tidal marsh and enhance

existing adjacent tidal marsh to provide habitat. Inside and outside of the Commission's jurisdiction, the project would restore and enhance approximately 16.0 acres of tidal marsh and channel, 1.6 acres of tidal panne, and 10.1 acres of coastal grassland and coastal scrub. The tidal marsh restoration is expected to benefit a variety of native and special-status species whose populations have declined because of tidal marsh habitat loss or fragmentation. Restoring tidal marsh at the site expands and connects with the existing narrow fringe of marsh that currently exists along the southern Suisun Bay. Historically, the majority of the project site was fully tidal. This project will restore the historic tidal function that has been lost from the sand mining use and other human activities.

- c. **Restoration Reference Sites.** To design the restoration project, the District used survey data from several reference sites to estimate tidal habitat elevation bands. The reference site used in the East Bay Regional Parks District Land Use Plan for Bay Point Regional Shoreline of 2001, the Mallard Slough Pump Station, was surveyed by LSA Associates, Inc. and KHA, Inc. in 2000, during which field staff surveyed three transects of representative marsh and described the vegetation types by elevation and horizontal width. In addition to the Mallard Slough data, ESA reviewed marsh habitat survey data from Lower Walnut Creek (ESA, 2015), Wings Landing (ESA, unpublished), and the greater Suisun Region (USBR et al., 2013; Orr and Sheehan, 2012). For each reference dataset, marsh plains were distinguished in two (low and high) or three (low, mid, high) categories. ESA used two categories, low and high marsh, consistent with the Mallard Slough data.
- d. **Tidal Marsh Design.** Higher elevation areas within the diked pond partially within the Commission's shoreline band jurisdiction would be lowered to tidal marsh elevations and re-connected to the tides of Suisun Bay through the J-channel. Excavated material would be used to build gently-sloped transition zones from tidal marsh into upland habitat. Following site grading, the District anticipates that much of the tidal area would naturally recruit native species while higher areas would be re-vegetated with native plants and maintained as needed. Part of a remnant berm that extends east of the restoration area, located north of the breach to the J-channel, would be lowered to tidal marsh elevations to eliminate it as a predatory access route into the marsh plain and bank of the J-channel.

The District developed the grading plan to restore a diversity of habitats while preserving existing pickleweed and alkali marsh flats as much as possible. Habitats would be interspersed throughout the restoration area to create a high level of habitat complexity at the site. Areas of higher ground are located adjacent to the restored marsh and in islands within the marsh to provide high tide refuge for terrestrial wildlife and room for the wetlands to migrate landward over time to accommodate for sea level rise.

The restored brackish tidal marsh would be comprised of two general zones, low marsh and high marsh. Low marsh lies below Mean High Water (MHW) and will support species such as hardstem bulrush (*Schoenoplectus acutus* var. *occidentalis*), California bulrush (*Schoenoplectus californicus*) and cattail (*Typha latifolia*, *Typha domingensis*). High marsh occurs between MHW and Highest Astronomical Tide (HAT) and subdivides further. The lower end of the high marsh zone, between MHW

and Mean Higher High Water (MHHW), is expected to support some low marsh species and additional species such as Chairmaker's bulrush (*Schoenoplectus americanus*), alkali bulrush (*Bolboschoenus maritimus* ssp. *paludosus*), Baltic rush (*Juncus balticus*), and arrowgrass (*Triglochin maritima*). The higher end of the high marsh zone, between MHHW and HAT, is expected to support, pickleweed, saltgrass, marsh jaumea (*Jaumea carnosa*), alkali heath (*Frankenia salina*), marsh gumplant (*Grindelia stricta* var. *angustifolia*), Pacific silverweed (*Potentilla anserina* ssp. *pacifica*), salt marsh dodder (*Cuscuta salina*), western goldenrod (*Euthamia occidentalis*), salt marsh fleabane (*Pluchea odorata*), and salt marsh sand spurrey (*Spergularia* spp.).

The marsh zones would intergrade and be comprised of a mix of their component species, as dictated by soils, topography and hydrologic conditions (e.g., distance from channel). The areas of existing wetland vegetation that will remain are mostly within the high marsh elevation range, while low marsh will be created by excavating the surrounding areas to low marsh elevations. The District anticipates that the preserved areas of wetland on the project site, currently supporting a limited number of native plant species, will persist as high marsh wetlands dominated by pickleweed, saltgrass, and alkali heath, eventually evolving to support a higher diversity of species, including species typical of high marsh.

An existing pond to the northwest, primarily located within the Commission's 100-foot shoreline band jurisdiction, will be converted to a tidal panne. The panne will be surrounded by high marsh. The berms on the southern and eastern edges of this area will be lowered and graded to form gently sloping marsh ridges, designed to allow tidal flooding only on the highest (spring) tides. Converting the northwest pond to a tidal panne provides the benefit of preserving existing open water areas for a period of time, and will increase habitat diversity of the project site overall. In the longer term, sea level rise will result in frequent inundation and deposition of sediment in the pond, which would facilitate eventual colonization by emergent marsh vegetation. Any open water will continue to provide foraging opportunities for shorebirds and potentially waterfowl. Over time, with sea-level rise, habitat areas will convert to low marsh and mudflat. Other open water and mudflat areas will continue to exist along the J channel and in created tidal channels.

Revegetation of low marsh areas with native species will occur through natural vegetative recruitment. No active revegetation is planned in the low marsh area. Though some native species are also expected to naturally recruit in the restored high marsh, the high marsh and upland areas will be seeded and planted to accelerate establishment of native vegetation and minimize invasive species (Exhibit 3). High marsh may be planted with plugs of species such as Baltic rush, Chairmaker's bulrush, pickleweed, and marsh gumplant and seeded with species such as saltgrass, and alkali heath. Temporary irrigation may be required for high marsh and upland plantings. They will be hydroseeded, hydromulched or drill seeded and mulched with a mix of native grasses and forbs to establish cover, prevent erosion, and build soil structure. Meadow barley seeds and creeping wildrye plugs may be installed in dense patches. Shrubs, such as California sagebrush and California buckwheat, may also be installed in clusters throughout the upland areas.

Installation of container plants and plugs will follow the completion of construction and hydroseeding, depending on post construction in situ soil conditions, hydrology, predation and invasive weed pressures.

The District anticipates that the project would have minimal impact on sedimentation in the Bay, but the restored tidal connections would allow for natural sedimentation to occur within the tidal marsh, allowing the marsh to migrate over time as sea level rises.

- e. **Habitat Benefits.** The restoration would restore and enhance habitat for special-status species that are either known to occur or have potential to occur in or around the project site. These species include steelhead, Chinook salmon, Delta smelt, longfin smelt, Sacramento splittail (*Pogonichthys macrolepidotus*), green sturgeon (*Acipenser medirostris*), Pacific herring (*Clupea pallasii*), western pond turtle, Ridgway's rail, California black rail, tricolored blackbird, burrowing owl, northern harrier, whitetailed kite, salt marsh common yellowthroat, loggerhead shrike, Suisun song sparrow, short-eared owl, salt marsh harvest mouse, Suisun shrew, salt marsh vagrant shrew, soft bird's beak, delta tule pea, Mason's lilaepsis, Delta mudwort, Suisun marsh aster, and California hibiscus. The proposed tidal panne, located within the higher marsh plain elevations partially within the 100-foot shoreline band, would be subject tidal water at longer intervals, increasing phytoplankton production and exports from the marsh and tidal channels to the channels and Suisun Bay, which could benefit Delta smelt and longfin smelt.
- f. **Monitoring and Success Criteria.** To monitor for success and ensure the project achieves its goals, the District prepared a monitoring plan entitled, *Mitigation and Monitoring Plan, Bay Point Restoration and Recreational Access Project* (ESA, January 31, 2018) (Monitoring Plan). The Monitoring Plan provides for 10 years of monitoring, with reports issued annually for the first five years and then reports in year six, eight, and ten. The Monitoring Plan incorporates monitoring of hydrology, geomorphology (channel development), vegetation success, invasive species, and photographic documentation. The re-delineation of the wetland would be conducted in Year 5. Based on results of the monitoring reports, adaptive management would be performed. The Monitoring Plan is currently being reviewed for approval by the Army Corps of Engineers and the Regional Water Quality Control Board. Any update to the Monitoring Plan would be reviewed and approved by or on behalf of the Commission.

The Monitoring Plan includes specific goals for hydrology and revegetation of the site. Within one-year post-breach, full tidal action would be achieved across the site, comparable to natural marshes in Suisun Bay. The site is expected to maintain full tidal action long-term. Fully tidal channels within the restoration area are expected to develop during water level monitoring in Years 1, 2, 4, and 10. The tidal panne is intended to retain water for periods up to 2 weeks to maximize aquatic food production and export. Tidal panne hydrology will be established by monitoring Year 2 and expected to continue when monitored in Years 4 and 10.

Within five years the marsh plain is expected to develop a nearly continuous fringe of native brackish marsh plants along the wetland margins, with intermittent patches of the same species scattered throughout the interior of the site. Immediately above this margin, high marsh species will colonize the transitional ecotone. Total cover by this vegetation is expected to progressively increase during the first five-year period. The invasive species population will be monitored on a quarterly basis throughout the 10-year monitoring period. The performance criterion for vegetation establishment is average cover of native and naturalized species in restored wetlands (based on interpretation of UAS aerial imagery) as follows:

Performance Criteria	
As built:	<5% cover
Year 1	4% cover
Year 2	7% cover
Year 4	15% cover
Year 10	50% cover

2. Fish and Wildlife Impacts from Fill.

- a. **Applicable Fish and Wildlife Policies.** Fish, Other Aquatic Organisms and Wildlife Policy No. 1 of the San Francisco Bay Plan states, “[t]o assure the benefits of fish, other aquatic organisms and wildlife for future generations, to the greatest extent feasible, the Bay’s tidal marshes, tidal flats, and subtidal habitat should be conserved, restored and increased.” Fish, Other Aquatic Organisms and Wildlife Policy No. 3 states, “In reviewing or approving habitat restoration programs the Commission should be guided by the recommendations in the Baylands Ecosystem Habitat Goals report and should, where appropriate, provide for a diversity of habitats to enhance opportunities for a variety of associated native aquatic and terrestrial plant and animal species.” Fish, Other Aquatic Organisms and Wildlife Policy No. 4 states, in part, that “[t]he Commission should consult with the California Department of Fish and [Wildlife] and the U.S. Fish and Wildlife Service or the National Marine Fisheries Service whenever a proposed project may adversely affect an endangered or threatened plant, fish, other aquatic organism or wildlife species... and give appropriate consideration of (their) recommendations in order to avoid possible adverse impacts of a proposed project on fish, other aquatic organisms and wildlife habitat.” Fish, Other Aquatic Organisms and Wildlife Policy No. 5 states, “The Commission may permit a minor amount of fill or dredging in wildlife refuges, shown on the Plan Maps, necessary to enhance fish, other aquatic organisms and wildlife habitat or to provide public facilities for wildlife observation, interpretation and education.”
- b. **Fish and Wildlife Impacts and Agency Consultations.** There are several special-status species that could be present at the site, including the salt marsh harvest mouse (*Reithrodontomys raviventris*), Ridgway’s rail (*Rallus obsoletus*), and Delta smelt (*Hypomesus transpacificus*). The project area is also critical habitat for delta smelt and soft bird’s beak. The restoration would restore and enhance habitat for special-status species that are either known to occur or have potential to occur in or

around the project site. These species include steelhead, Chinook salmon, Delta smelt, longfin smelt, Sacramento splittail (*Pogonichthys macrolepidotus*), green sturgeon (*Acipenser medirostris*), Pacific herring (*Clupea pallasii*), western pond turtle, Ridgway's rail, California black rail, tricolored blackbird, burrowing owl, northern harrier, whitetailed kite, salt marsh common yellowthroat, loggerhead shrike, Suisun song sparrow, short-eared owl, salt marsh harvest mouse, Suisun shrew, and salt marsh vagrant shrew.

On December 4, 2017, United States Fish and Wildlife Service (USFWS) issued a biological opinion (08FBDT00-2017-F-0199) determining that the project is likely to adversely affect salt marsh harvest mouse, Ridgway's rail, and Delta smelt and issued an incidental take permit for the project. USFWS concurred with the Corps determination that the project is not likely to adversely affect critical habitat for Delta smelt or soft bird's beak. The biological opinion recommended several Conservation Measures, including scheduling work to avoid extreme high tides and confining in-water work, including pile-driving and excavation of tidal channels, to August 1st through November 30th.

On May 15, 2018, the National Marine Fisheries Service (NMFS) issued a letter of concurrence and determined that the project is not likely to adversely affect species listed as threatened or endangered or critical habitats designated under the U.S. Endangered Species Act (ESA). NMFS also reviewed the project for potential effects on essential fish habitat (EFH) designated under the Magnuson-Stevens Fishery Conservation and Management Act. NMFS determined that the project may adversely impact EFH from degradation of water quality through elevated suspended sediment levels, and temporary reduction of prey resources through substrate disturbance and shading from the new kayak launch dock. High levels of suspended sediment can reduce light penetration and lower the rate of photosynthesis for subaquatic vegetation, and may also, over time, reduce the primary productivity of adjacent aquatic areas. However, increased levels of suspended sediment are expected to be short-term, localized, and minor.

3. **Water Quality.** The Bay Plan policies on Water Quality state, in part, that “[t]he 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.” In addition, “[w]ater quality in all parts of the Bay should be maintained at a level that will support and promote the beneficial uses of the Bay as identified in the San Francisco Bay Regional Water Quality Control Board's (RWQCB) Basin Plan...[and] the policies, recommendations, decisions, advice, and authority of the State Water Resources Control Board and the Regional Board should be the basis for carrying out the Commission's water quality responsibilities.”

On October 2, 2018, the RWQCB issued a water quality certification for the proposed project. The RWQCB required mitigation and monitoring of the project pursuant to the District's proposed Monitoring Plan and determined that the restoration activities at the site would mitigate for the temporary and permanent impacts to tidal marsh and water quality resulting from the project.

F. Climate Change.

1. **Applicable Climate Change Policies.** In addition to Section 66605(e) of the McAteer-Petris Act regarding the seismic and flooding standards by which fill is designed and constructed, the Bay Plan contains related policies, cited below. The Bay Plan Safety of Fills Policy No. 4 states, in part, that “[a]dequate measures should be provided to prevent damage from sea level rise and storm activity that may occur on fill or near the shoreline over the expected life of a project.... New projects on fill or near the shoreline should...be built so the bottom floor level of structures will be above a 100-year flood elevation that takes future sea level rise into account for the expected life of the project.”

Further, the Bay Plan Climate Change Policy No. 2 states, in part: “When planning shoreline areas or designing larger shoreline projects, a risk assessment should be prepared by a qualified engineer and should be based on the estimated 100-year flood elevation that takes into account the best estimates of future sea level rise and current flood protection and planned flood protection that will be funded and constructed when needed to provide protection for the proposed project or shoreline area. A range of sea level rise projections for mid-century and end-of-century based on the best scientific data available should be used in the risk assessment. Inundation maps used for the risk assessment should be prepared under the direction of a qualified engineer. The risk assessment should identify all types of potential flooding, degrees of uncertainty, consequences of defense failure, and risks to existing habitat from proposed flood protection devices.” Climate Change Policy No. 3 state, in part, “[t]o protect public safety and ecosystem services, within areas that a risk assessment determines are vulnerable to future shoreline flooding that threatens public safety, all projects...should be designed to be resilient to a mid-century sea level rise projection.”

Climate Change Policy No. 4, states, “[t]o address the regional adverse impacts of climate change, undeveloped areas that are both vulnerable to future flooding and currently sustain significant habitats or species, or possess conditions that make the areas especially suitable for ecosystem enhancement, should be given special consideration for preservation and habitat enhancement and should be encouraged to be used for those purposes.” Climate Change Policy No. 7 states, in part, that “until 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 following specific types of projects have regional benefits, advance regional goals, and should be encouraged, if their regional benefits and their advancement of regional goals outweigh the risk from flooding...[including] a natural resource restoration or environmental enhancement project.” Tidal Marsh and Tidal Flats Policy No. 6 provides, in part, that restoration projects should be designed and evaluated to consider “how the system’s adaptive capacity can be enhanced so that it is resilient to sea level rise and climate change.”

2. **Resilience of Tidal Marsh Restoration Project.** The District designed the restoration project for an approximately 30-year design-life to be resilient to sea level rise of two-feet and designed the public access features to be resilient to 3.5 to 5.5 feet of sea level rise (Exhibit 5). The District designed the project using the high water level estimate

recommended in the 2016 California State guidance (NRC, 2012) and incorporated scenarios from the Commission's Contra Costa County Adapting to Rising Tides Project (2016). In addition, the restored tidal marsh habitat transition zone was designed with an assumed 5.5 feet of sea level rise by 2100.

On March 2018, the Ocean Protection Council adopted an Update to the 2016 State of California Sea Level Rise Guidance (Updated Guidance). The updated guidance provides an approach to evaluate risk to a project by evaluating the potential impacts and adaptive capacity for the project life across a range of sea level rise projections and emissions scenarios to determine a probabilistic sea level rise projection for the project. Under the low risk aversion projection for sea level rise (1.1 feet at mid-century and 3.4 feet at end-of-century) in the Updated Guidance low marsh will be inundated at the end-of-century, and gradually high marsh and transition zone will convert to low marsh and high marsh respectively. In a medium-high risk aversion analysis, the transition zone will convert to high marsh by the end of the project life at 2070, but will be flooded in low-water conditions at the end-of-century projection of 6.9 feet of sea level rise. The tidal marsh associated with the project would flood in 100-year storm event, but this extreme temporary flooding would not impact the viability of the proposed habitat. Resilience of the public access improvements is discussed below.

- G. **Valid Title.** The majority of the project site is owned by the East Bay Regional Park District. A portion of the existing northern marsh and J-channel is owned by the California State Lands Commission, and the District is in the process of amending its existing lease agreement to accommodate the project. A portion of the Spur Trail and proposed kayak launch would take place on property owned by an adjacent property owner. The District is in discussions to acquire an easement for this property to construct the trail improvements, kayak launch, and conduct restoration activities and ongoing maintenance. These additional property interests would be obtained and submitted to the Commission prior to construction of the project on those properties.

III. Public Access. *The Commission should determine whether the proposed project is consistent with the McAteer-Petris sections and relevant San Francisco Bay Plan policies regarding Public Access.*

- A. **Applicable McAteer-Petris Act and San Francisco Bay Plan Policies.** In assessing whether the proposed project would provide maximum feasible public access consistent with the proposed activities, the Commission relies on the McAteer-Petris Act, the Bay Plan policies, access requirements of similar previously-permitted projects, and relevant court decisions. When the activity under consideration is proposed by a public agency, such as the District, the Commission also evaluates whether the proposed public access is reasonable in light of the project scope.

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

The Bay Plan policies on Public Access state, in part, that:

- “A proposed fill project should increase public access to the Bay to the maximum extent feasible...”;
- “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”;
- “[T]he improvements should be designed and built to encourage diverse Bay-related activities and movement to and along the shoreline, should permit barrier free access for persons with disabilities to the maximum feasible extent, should include an ongoing maintenance program, and should be identified with appropriate signs”;
- “Public 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”;
- “Public access should be sited, designed, managed and maintained to avoid significant adverse impacts from sea level rise and shoreline flooding”;
- “Any public access provided as a condition of development should either be required to remain viable in the event of future sea level rise or flooding, or equivalent access consistent with the project should be provided nearby”;
- “In some areas, a small amount of fill may be allowed if the fill is necessary and is the minimum absolutely required to develop the project in accordance with the Commission's public access requirements.”

In addition, Bay Plan Public Access Policy No. 12 states, in part, “[t]he Design Review Board should advise the Commission regarding the adequacy of the public access proposed.”

- B. Existing Site Conditions.** The majority of the site is part of Bay Point Regional Shoreline. The site provides views to Suisun Bay and opportunities for hiking, birdwatching, shoreline fishing, nature study, and other recreational activities. The site includes a parking lot, restrooms, picnic tables, and the 1.1-mile Harrier Trail, which loops around the diked pond. The existing Harrier Trail is 6 to 12 feet wide. The site is relatively flat and the Bay can be viewed from the majority of the site, except for a few areas where views are limited by existing upland mounds. The approximately 0.6-mile Spur Trail is also fully accessible to public, but is located on private property owned by the adjacent McAvoy Yacht Harbor outside of the Bay Point Regional Shoreline. The existing Spur Trail extends along the eastern edge of the J-channel from the vicinity of the parking lot north to Suisun Bay. The southern portion of the trail is a mix of dirt and gravel and travels along upland areas before extending into tidal wetlands near the northern edge of McAvoy Yacht Harbor. The trail averages approximately three feet wide. The Spur Trail is in a relatively degraded condition, with vegetation and wetlands overgrowing on the pathway. Neither the Harrier Trail nor the Spur Trail meet current accessibility standards and periodically flood from storms and tides.

- C. **Proposed Public Access.** The proposed Bay Point Restoration Project would repair and enhance existing public access to the Bay and along the shoreline. As proposed, the Harrier Trail would be upgraded to meet current accessibility standards for park visitors and provide all weather access for maintenance and emergency vehicles and would be elevated for resiliency with sea-level-rise. The Harrier Trail would be widened to between 8 and 12 feet wide, with asphalt paving and two-foot-wide gravel shoulders. The Harrier Trail would be raised to approximately 15 feet NAVD88. An approximately 12.5-foot-wide steel truss bridge would span the breach in the perimeter dike to allow continuous access around the restored diked pond. Lookouts within the shoreline band would be constructed at northwest corner of the project site and within the diked pond. Lookouts would be comprised of an approximately 60-foot diameter pad graded to accommodate a paved turnaround radius for District maintenance vehicles and include a five foot perimeter buffer for lookout signage and benches. To reduce conflicts between adjacent wildlife and public use of the trail, a four-foot-high fence with a gap for wildlife passage would be constructed along the Harrier Trail to restrict access to the restoration area. Additionally, signage, interpretative panels, lookout points, and benches would be installed along the trail.

The approximately 1,700-foot-long Spur Trail adjacent to McAvoy Yacht Harbor would be raised to elevation 12 feet NAVD88, widened to between 8 and 10 feet, and surfaced with base rock. This trail would serve as a spur to the Great California Delta Trail and would provide access to a kayak launch along the tidal channel. The Spur Trail would be constructed within a public access area required by a settlement agreement (BCDC Enforcement Case No. ER2015.051) with the neighboring McAvoy Harbor recreational boat marina. The District would enter into an easement with the owners of McAvoy Harbor, and the public access responsibilities required of the McAvoy Yacht Harbor under the settlement agreement would be satisfied by a permit approved to the District for development of the Spur Trail and restoration at the site. In an earlier design for the project, the District explored including a pile-supported boardwalk extending over tidal marsh to connect the Spur Trail north to the shoreline of Suisun Bay. This element was removed from the design due to cost and permitting considerations. However, the District may revisit the proposal in the future.

No formal kayak launch site currently exists at, or near, the site. A new kayak launch would be constructed along the J channel to provide kayak or hand launched vessel access to the J channel (Exhibit 4). The new launch would consist of an 80-foot-long, three-foot-wide gangway extending from the existing Spur Trail onto a low-freeboard floating dock in the J channel. The gangway would be secured to land by a foundation at the Spur Trail. The District located the kayak launch in the proposed location due to its vicinity to the deeper water in the existing tidal channel. A location closer to the parking lot, while more convenient for loading, would not have been viable due to the water levels in the channel.

While the Harrier Trail would be greatly improved by the project, the kayak launch is the only new public access amenity proposed. The District states there is not space on the site to provide for new trails without filling existing wetlands or reducing the area proposed for tidal marsh restoration.

- D. **Sea Level Rise and Flooding.** The District designed the proposed public access improvements to be resilient beyond the life of the restoration project of 2070 (Exhibit 5). The Harrier Trail would be elevated to 13.5 to 15 feet NAVD88, which would be resilient to seasonal water levels beyond an end-of-century projection of 6.9 feet under the medium-high risk aversion projection in the Updated Guidance. The Spur Trail will be raised to approximately 12 feet NAVD88, making the Spur Trail resilient to a sea level rise projection of 3.5 feet to the end of the project life of 2070. At an end-of-century projection of 6.9 feet, the Spur Trail could be flooded at high water. The kayak launch would be constructed to a height equivalent to the Spur Trail. It is likely that all pathways would be flooded in an extreme 100-year storm event.
- E. **Comparable BCDC-Permitted Project.** The Commission has approved similar projects in the past. The project by the East Bay Regional Parks District to restore Dotson Family Marsh (formerly known as Breuner Marsh) (BCDC Permit No. M2013.009.01) was approved by the Commission in 2014 through a material amendment to an existing administrative permit. The project resulted in the 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. The project included the construction of an approximately 1.25-mile-long segment of the Bay Trail, including a boardwalk, an approximately 0.25-mile-long spur trail, public access parking, picnic areas, overlooks, and boardwalks. In contrast to the design for the Bay Point Restoration Project, some of the public access associated with the Dotson Family Marsh restoration was not designed to be viable beyond mid-century sea level rise projections.
- F. **Review Boards**
1. **Engineering Criteria Review Board.** The ECRB did not review the proposed project because the Commission staff determined that the fill does not raise significant seismic safety issues.
 2. **Design Review Board.** The DRB did not review the proposed project because the public access development proposed did not raise significant design considerations.
- G. **Environmental Review.** On February 21, 2001, the East Bay Regional Park District as lead agency for the project adopted a Final Initial Study and Mitigated Negative Declaration.
- H. **Relevant Portions of the McAteer-Petris Act**
1. Section 66602
 2. Section 66605
 3. Section 66632.4
- I. **Relevant Portions of the San Francisco Bay Plan**
1. *San Francisco Bay Plan* Policies on Fish, Other Aquatic Organisms, and Wildlife
 2. *San Francisco Bay Plan* Policies on Water Quality
 3. *San Francisco Bay Plan* Policies on Tidal Marsh and Tidal Flats
 4. *San Francisco Bay Plan* Policies on Climate Change
 5. *San Francisco Bay Plan* Policies on Recreation

6. *San Francisco Bay Plan Policies on Public Access*
7. *San Francisco Bay Plan Policies on Mitigation*
8. *San Francisco Bay Plan Map 3, Note 7*

Exhibits

1. **Project Overview**
2. **Vicinity Map**
3. **Site Plantings**
4. **Kayak Launch**
5. **Sea Level Rise Projection**