Miller/Knox Regional Shoreline

LAND USE PLAN AMENDMENT

2019

East Bay Regional Park District

Healthy Parks Healthy People

Planning and GIS Department
Acquisition, Stewardship and Development Division
East Bay Regional Park District
2950 Peralta Oaks Court
Oakland, California 94605

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Land Use Plan Amendment

Adopted: March 19, 2019

Resolution No. : 2019 – 03 - 056

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I. INTRODUCTION AND SETTING

A. Introduction the East Bay Regional Park District

The East Bay Regional Park District was founded as a special district formed by resolution in 1934. As of the writing of this document, the District owns, manages, and funds over 121,000 acres of open space in Alameda and Contra Costa counties in a system of 73 parklands and over 1,250 miles of trails. The District's parklands provide public recreation opportunities for activities such as hiking, biking, picnicking, horseback riding, camping, fishing, golfing, boating and nature study in while preserving natural and cultural resources for all to enjoy now and into the future.

The East Bay Regional Park District is governed by a seven-member board of directors, who are publicly elected to serve four-year terms. Each Board Member represents a specific geographic area of the Park District. Miller/Knox is included in the Ward 1 geographic area which includes the cities of Albany, Berkeley, Emeryville, El Cerrito, El Sobrante, Kensington, part of Pinole, Richmond and San Pablo and the following District facilities: Brooks Island, Eastshore State Park, Kennedy Grove, Miller/Knox, Point Isabel, Point Pinole, Sobrante Ridge, Tilden, and Wildcat Canyon. The District's Board of Directors is the decision-making body regarding approval of this Land Use Plan Amendment and certification of the accompanying Program Environmental Impact Report.

District's 2013 Master Plan. The District's Master Plan was updated and approved by the District's Board of Directors in 2013. The Master Plan is a policy document that guides the District in future expansion of parks, trails, and services. It defines the overall mission and vision for the District and contains the policies, descriptions of the programs for achieving those policies, and provides a framework for the decision making of the staff, the Park Advisory Committee, and the District's Board of Directors. The District's 2013 Master Plan states the District's Vision and Core Mission as follows:

District Vision. The East Bay Regional Park District will preserve a priceless heritage of natural and cultural resources open space, parks and trails for the future and will set aside park areas for enjoyment and healthful recreation for generations to come. An environmental ethic guides us in all that we do.

District Core Mission. We will acquire, develop, manage, and maintain a high quality, diverse system of interconnected parklands which balances public usage and education programs with protection and preservation of our natural and cultural resources.

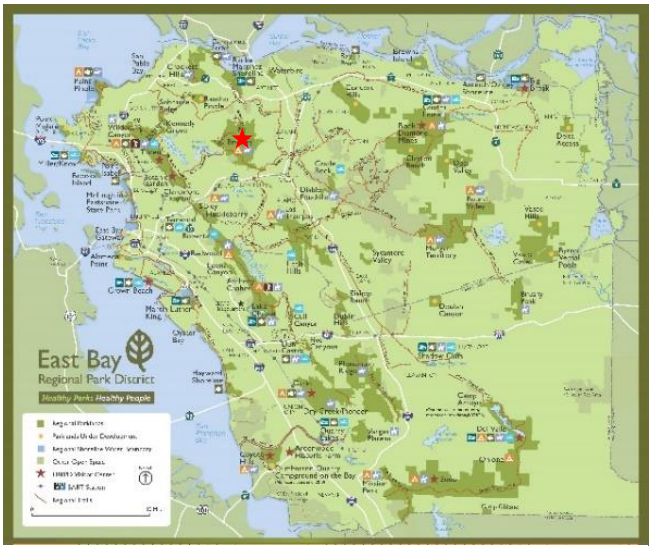


FIGURE 1 – DISTRICT JURISDICTION

B. Introduction to the Land Use Plan Amendment

The District prepared this Land Use Plan Amendment (LUPA) for Miller/Knox Regional Shoreline (Miller/Knox) to update the 1983 Land Use Development Plan, consistent with the District's 2013 Master Plan. The LUPA recommendations are presented following this Information and Setting section.

Land Use Plan Amendment. A LUPA is a long-range planning document that evaluates park resources, documents and recommends programs for managing and conserving these resources, and makes recommendations for future recreational and service facilities to provide for the range of public recreational needs in the park balanced with resource protection and conservation. LUPA's establish appropriate land use designations and describe:

- The various levels of resource protection and recreational intensity
- Development projects and land management strategies
- Planning efforts that include consideration of proposals from the public

LUPAs are prepared for a variety of reasons, including incorporation of additional land that has been acquired to enlarge a park, new opportunities for access, or a need to adjust the resource management strategies or uses within a park. A LUPA typically tiers off an existing Land Use Plan and focuses on the specific additions or modifications to the existing Land Use Plan. This Miller/Knox Regional Shoreline LUPA has been prepared to incorporate the Bray Property, which was acquired by the District in 1999, and to create a comprehensive plan to integrate all areas of Miller/Knox Regional Shoreline. This LUPA will serve as the planning framework for Miller/Knox and will be utilized as a tool to guide development decisions, park management strategies, and to support applications for funding.

As a long-range planning document, some of the LUPA recommendations are conceptual in nature. For these recommendations, the LUPA includes information to describe the concept and these descriptions provide the basis for the environmental impact analysis included in the Program Environmental Impact Report (EIR). Implementation details for these conceptual LUPA recommendations will be determined during the design phase and the concept may change from what is described in the LUPA. The LUPA recommendations should not be construed as a promise to implement as implementation, particularly for the conceptual recommendations, depends on a variety of factors which are described below. Chapter V – Implementation provides a detailed description of the relationship between the LUPA and the Program EIR.

The District's Board of Directors makes the ultimate decision to adopt a LUPA and take action on the associated environmental document. After these approvals are made, the District will identify funding to implement specific LUPA recommendations, including capital projects, through the District's annual budget process. Priorities for implementation of LUPA recommendations will be based on criteria including:

- Urgency due to public safety or resource protection
- Available funding
- District-wide priorities
- Recreational needs

C. Miller/Knox Setting Information

Location. Miller/Knox is located in the southwestern portion of the City of Richmond on a peninsula known as Point Richmond.[1] This location provides panoramic views of San Francisco Bay and beyond. Dornan Drive divides Miller/Knox into an east and west section. The area east of Dornan Drive includes Ferry Point at the southern end, Keller Beach at the northern end, with the lagoon and the Bray property in between. The area east of Dornan Drive includes hiking trails in the ridgelands that comprise a segment of the Potrero Hills. Figure 1 shows the location and general vicinity of Miller/Knox Regional Shoreline.

Planning Areas. The Miller/Knox LUPA provides specific recommendations for five planning areas, which are geographically based. They are shown on Figure 2 and include the following:

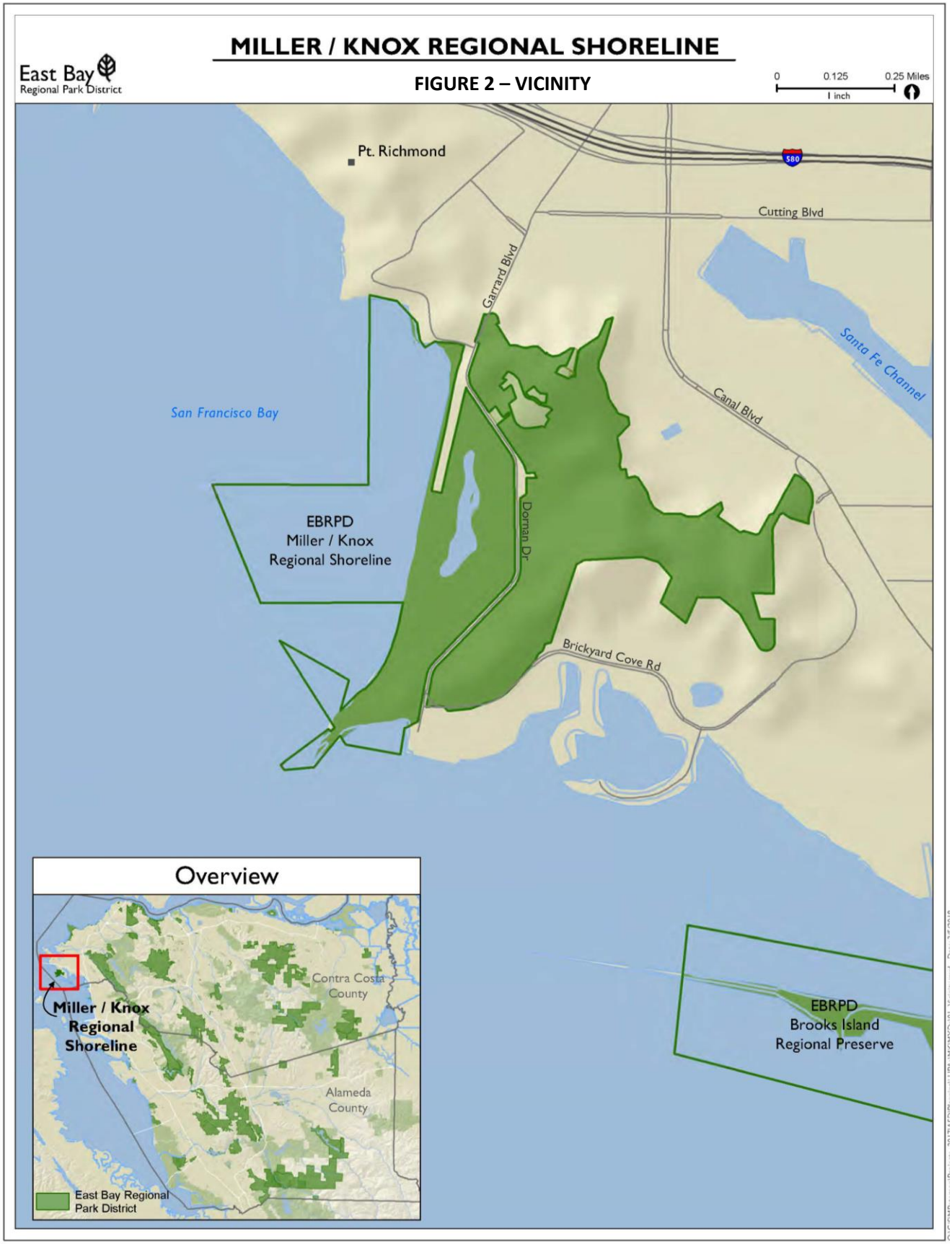
- Lagoon Planning Area
- Bray Planning Area
- Ferry Point Planning Area
- Bayshore Planning Area
- Ridgeland Planning Area

Regional Shoreline. Miller/Knox is designated as a Regional Shoreline in the District's park classification system. A Regional Shoreline provides significant recreational, interpretive, natural, or scenic values on land, water, and tidal areas along the San Francisco Bay and the Sacramento/San Joaquin Delta. There are 14 Regional Shorelines: Antioch, Bay Point, Big Break, Carquinez Strait, Eastshore State Park, Miller/Knox, Hayward, Martin Luther King, Jr., Martinez, Oyster Bay, Point Isabel, Point Pinole, Robert W. Crown Memorial State Beach, and San Pablo Bay. A Regional Shoreline, whether it be one area or a group of smaller shoreline areas that are connected by trail or water access, must contain a variety of natural environments and manageable units of tidal, near-shore wetland and upland areas that can be used for scientific, interpretive, or environmental purposes; and/or contain sufficient land and water to provide a variety of recreational activities, such as swimming, fishing, boating, or viewing. The Recreation/Staging Unit providing for public access and services may comprise no more than 30 percent of a Regional Shoreline. The existing composition of Miller/Knox is consistent with this requirement. Please refer to Figure 3 for a graphic representation.

Park Features. Miller/Knox features small sandy beaches along the San Francisco Bay shoreline, a fishing pier, picnic facilities and a mile-long trail surrounding a saltwater lagoon, open areas for unstructured play, and hiking trails that lead to panoramic views of the north bay area. A section of the San Francisco Bay Trail navigates through the park. Ferry Point Beach is a San Francisco Bay designated water trail launch site and beach, and Keller Beach is a San Francisco Bay designated water trail beach. In addition to these park features, the Golden State Model Railroad Museum leases space and is a popular attraction

Surrounding Land Uses. San Francisco Bay surrounds Miller/Knox on the westerly and southerly boundaries. Residential, commercial, and industrial land uses exist on the easterly and northerly boundaries and surrounding area.

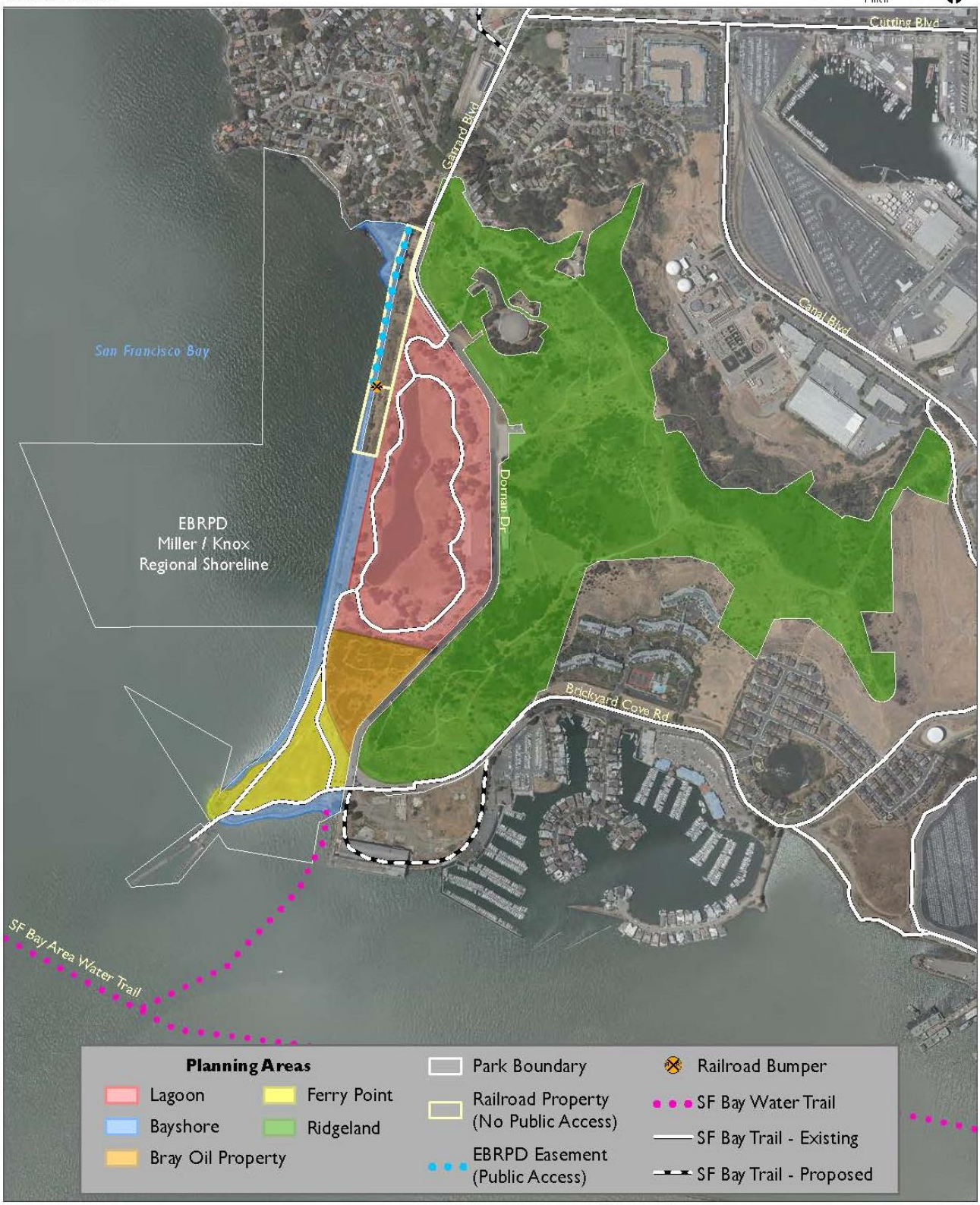
[1] Site address is 900 Dornan Drive, Richmond


MILLER / KNOX REGIONAL SHORELINE
East Bay Regional Park District
FIGURE 2 – VICINITY
0 0.125 0.25 Miles
1 inch
Pt. Richmond
580
Cutting Blvd
Garrard Blvd
Santa Fe Channel
Canal Blvd
San Francisco Bay
EBRPD
Miller / Knox
Regional Shoreline
Doman Dr
Brickyard Cove Rd
Overview
Contra Costa County
Miller / Knox Regional Shoreline
Alameda County
East Bay Regional Park District
EBRPD
Brooks Island
Regional Preserve

MILLER / KNOX REGIONAL SHORELINE

East Bay Regional Park District

FIGURE 3 – PLANNING AREAS



Physical Environment

Topography. The ridgeland area, east of Dornan Drive, is part of the Potrero Hills, a northwest-to-southwest trending ridge that rises from the bay lands to an average height of 300-360 feet. The Potrero Hills form a peninsula connected to the mainland by a low alluvial fill area upon which most of the City of Richmond is built. The ridge consists of two distinct knolls; Nicholl Knob rising to 371 feet and an extended flat area to the south rising to 320-330 feet. Approximately 80 percent of the slopes are 15 percent or greater, many exceeding 30 percent.

The remainder of the park west of Dornan Drive is relatively flat in comparison to the ridegland area. The Atchison, Topeka, and Santa Fe Railroad (ATSF) berm adjacent to San Francisco Bay along the west side of the park has an elevational range between 12 feet and 15 feet NAVD (North American Vertical Datum), the higher elevation trending towards Keller Beach at the north end of Miller/Knox. This berm provides a barrier to coastal flooding and erosion with approximately 3 feet of freeboard during typical high tide events.

Geology. The ridgeland hills are comprised almost entirely of the Franciscan sandstone shale geologic formation, which date back to the Jurassic and Cretaceous Age approximately 130-195 million years ago. The Franciscan formation is comprised of marine sandstones, shales and chert mixed with associated igneous rocks such as basalt, diabase, and peridotite, and is common along the western side of the California coastal range. Thinly bedded sandstone and clay shales tend to tip uniformly along the entire length of the ridge in a generally southwesterly direction. Historical information identifies Ferry Point as being composed of Franciscan bedrock.

Seismicity. Miller/Knox is located in the vicinity of the Hayward-Rodgers Creek Fault and the San Andreas Fault zones, both of which are active. The San Andreas Fault is located 14 miles westerly and the Hayward-Rodgers Creek Fault is 3.5 miles easterly. Several smaller active faults are located closer to Miller/Knox Regional Shoreline, including the Wildcat Fault and the San Pablo Fault. The Wildcat Fault, which is a branch of the Hayward Fault system extending in a northwesterly direction across the Richmond fill land from Brooks Island toward San Pablo Bay. As a result, the area is considered an active earthquake zone, as is most of the Bay Area. The San Andreas Fault has a maximum potential earthquake estimated at 8.25 on the Richter Scale while the Hayward Fault, has magnitude of 7 on the Richter Scale. The expected recurrence interval for activity on these two fault systems is 10 to 100 years for a magnitude 6 or 7 earthquake. Smaller earthquakes occur somewhat regularly in both fault zones. Miller/Knox is not located within an Alquist-Priolo active fault zone.

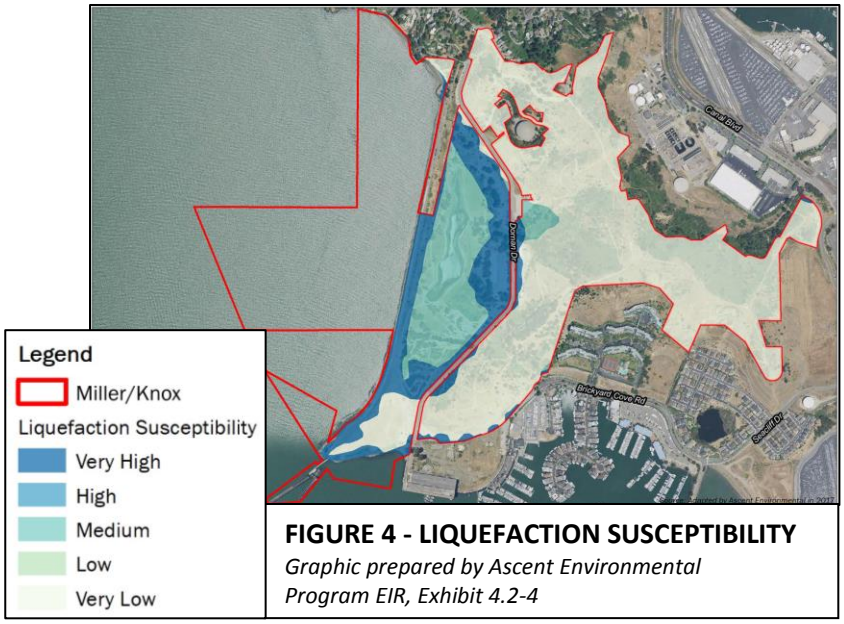


FIGURE 4 - LIQUEFACTION SUSCEPTIBILITY
Graphic prepared by Ascent Environmental
Program EIR, Exhibit 4.2-4

Liquefaction can occur as a result of an earthquake when saturated, unconsolidated soil or sand is converted into a suspension, causing the soil to behave as a liquid during seismic shaking. After the earthquake concludes, the soil returns to a solid state. Lateral spreading, also referred to as expansion, describes the lateral movement or spreading of soil, or landslide, that can occur in conjunction with liquefaction on gentle slopes. The soils have a rapid, fluid-like flow movement. According to mapping conducted by the U.S. Geological Survey (USGS) and consolidated by the Association of Bay Area Governments (ABAG), the low-lying portions of Miller/Knox have a moderate to very high susceptibility to liquefaction due to the presence of high groundwater and the soil composition in these areas. Similarly, the low-lying areas of Miller/Knox could also experience the effects of lateral spreading during an earthquake.[2]

Landslides, Erosion, and Gullying. The ridgeland area contain several landslides, colluvial deposits, eroded slopes, and areas where gullying and badland formations have developed. Prior studies[3] concluded that the landslides appear to be shallow soil and debris flows occurring on the steepest slopes. Concentrations of colluvial material on several slopes represent areas where potential landslide activity might occur. Badland formation has occurred predominantly on the eastern exposure where colluvial material was excavated. Surface evidence suggests that once the topsoil was removed and the less consolidated sediments underneath were exposed, rapid erosion occurred in those areas where runoff collects. Active gullies, 10-30 feet in width, occur along several major drainages on the western and southwestern slopes, as well as in the engineered slope behind the existing warehouse on Dornan Drive. In addition to gullying and badland formation, many of the hill slopes show evidence of sheet and rill erosion from activities that occurred prior to District ownership. For example, the hillslope behind the Rambler's Motorcycle Club and the slope on the southwestern spur ridge were badly eroded from prior off-road vehicle use. While revegetation efforts are on-going, some areas still contain little topsoil and vegetation, and will not support intensive activity.

[2] Association of Bay Area Governments. 2017. Association of Bay Area Governments Resilience Program, GIS Natural Hazard Web Viewer. http://gis.abag.ca.gov/website/Hazards/. Accessed June 14, 2018.

[3] East Bay Regional Park District 1983. *Miller-Knox Regional Shoreline Final Land Use-Development Plan and Environmental Impact Report*. The Planning Collaborative, Inc., Oakland, CA.

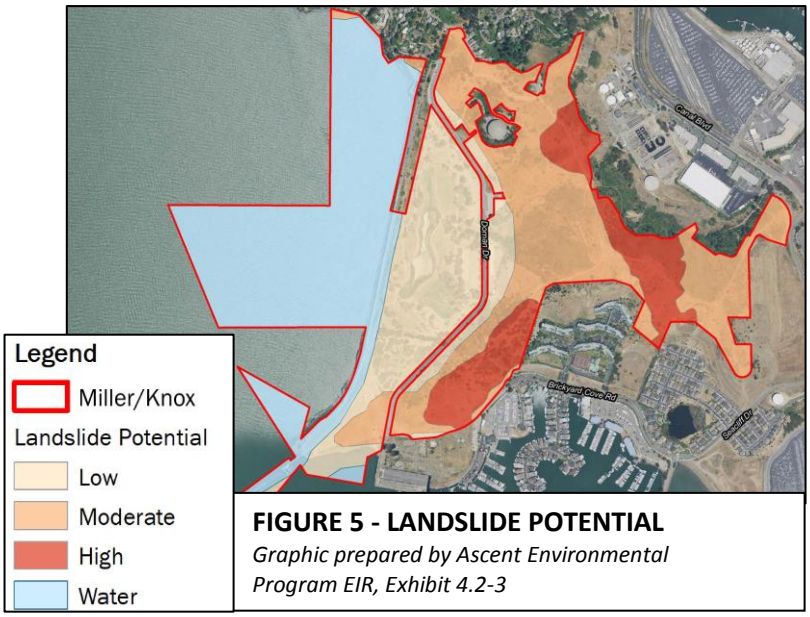


FIGURE 5 - LANDSLIDE POTENTIAL
Graphic prepared by Ascent Environmental
Program EIR, Exhibit 4.2-3

The U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS)[4] erosion hazard rating system classifies the ridgeland area as "severe," meaning that erosion is very likely due to soil type and slopes. Erosion control measures such as re-vegetation is recommended in these areas. The low-lying areas including the lagoon and Bray property areas are classified as "slight," meaning that erosion is unlikely under ordinary conditions.

Soils. According to Soil Conservation Service data, the soil type in the ridegeland area is Millsholm loam. Millsholm loam is well-drained soil, shallow, and has a low water-holding capacity that contributes to rapid run-off and erosion. It is chacaterized as being moderatley expansive due to low clay content and is formed in place by weathering of interbedded shale and fine-grain sandstone. Millsholm soils tend to be shallow and characteristically found on steep hillsides and ridgetops of 30-75 percent. On many of the ridgecrests and disturbed areas within the ridgeland area, there is little to no soil cover remaining. The permeability of these soils is moderate and the available water-holding capacity tends to be poor with rapid runoff. Without vegetation, this soil is easily erodible. The Millsholm series also characterizes the Ferry Point area at the southern end of the park, which are underlain by San Franciscan bedrock.

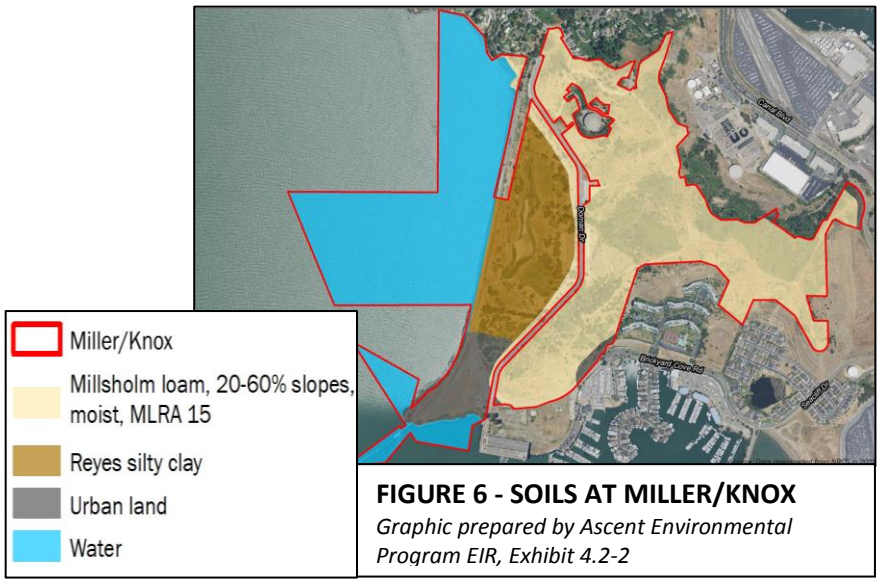


FIGURE 6 - SOILS AT MILLER/KNOX
Graphic prepared by Ascent Environmental
Program EIR, Exhibit 4.2-2

The Bray property, adjacent to the Ferry Point area, was a tidal flat prior to filling for development in the late 1930's and early 1940's. Borings conducted in 1999 encountered clay or silty clayey materials along with fill material for the entire depth of the borings.[5] Native soils are of the Reyes silty clay mapping unit, which

[4] Natural Resources Conservation Service. 2018. *Web Soil Survey, Soil Survey of Contra Costa County*. https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm. Accessed June 14, 2018.

[5] East Bay Regional Park District. 1999. *Bray Property Acquisition Initial Study/Negative Declaration*. Tetra Tech, Inc., San Francisco, CA

are common to salt marsh enviornments affected by tides, are characterized by very poor drainage, and are highly expansive due to high clay content.

Soils in the vicinity of the lagoon consist of approximately 6 to 8 feet of urban fill underlain by native bay muds. The bay muds are unconsolidated fill soils. Soil borings collected in the 1980s charactierized the fill as organic silty clay and are likely sourced from a combination of dredged material from the Richmond Harbor and quarried upland soils.[6] Similar to the Bray property, native soils in the lagoon area are of the Reyes silty clay mapping unit.

Sandstone outcrops exist along the shoreline. These outcrops are part of the Franciscan complex of the Cretaceous and Jurassic period. Well borings revealed rocky, sandy fill consisting of local rock that was used for rail yard development between 1900 and 1960. Information provided by ATSF to the Regional Water Quality Control Board (RWQCB) suggested that bedrock exists 2.5 to 11 feet below the surface. The well borings indicated that the rocky, sandy fill was 4 – 5 feet deep in the central and southwestern parts of the peninsula; 13 feet deep in the northern portions, and over 18 feet deep in the northeast corner.[7]

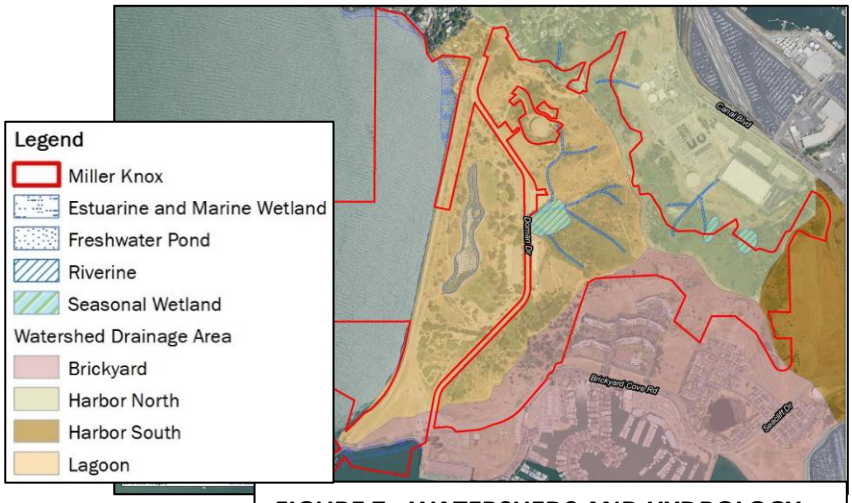


FIGURE 7 - WATERSHEDS AND HYDROLOGY
Graphic prepared by Ascent Environmental Program EIR, Exhibit 4.3-1

Hydrology and Drainage. The ridgeland area contain four distinct drainage areas. Each is a crescent-shaped-bowl-with very steep slopes draining onto flat fill land. Two of these drainage areas are predominant, occupying the majority of the ridgeland area. One of these drains into a wetland just east of Dornan Drive along the Old Country Road Trail where the existing boardwalk trail section is located, forming an ephemeral drainage/seasonal wetland. The second drains towards the industrial area on the east side of the ridgeland on the Canal Boulevard side. Because of the steepness of the slopes, thin soils, and small contributing area of each of the drainage areas, surface runoff from major storms is very rapid. As a result, there has not been significant formation of intermittent stream channels and instead, the existing channels that carry water during the rainy season are unstable and subject to considerable variation, depending on the duration and intensity of a rainfall event. Stormwater from the ridgelandsflows flows through small perennial creeks into stormdrains beneath Dornan Drive into the lagoon.

[6] East Bay Regional Park District. 1983. Op cit.]

[7] East Bay Regional Park District. 1995. *Ferry Point Pier and Ferry Point Terminal Amendment to the Miller/Knox Regional Shoreline Land Use-Development Plan*. Oakland, CA.

Water levels in the lagoon are controlled through an inlet and outlet system manually operated by District operations staff. Two high tides and two low tides occur approximately every 24 hours, ranging between approximately 4 feet during neap tides[8] to 8 feet during spring tides[9]. Stormwater is diverted from the lagoon and is conveyed directly into San Francisco Bay through a culvert located beneath the ATSF railroad tracks.

Ferry Point has shallow groundwater that may be tidally influenced, which provide potential for perched groundwater in low areas of the bedrock now buried by fill. Subsurface groundwater drains through the Ferry Point area from the adjacent Bray property to San Francisco Bay.

At the Bray property, depth to groundwater is close to the surface in the natural areas of the site and where a former tank farm was located, and greater where the former paved area was located. Natural fluctuations in the groundwater gradient, for both direction and flow, are attributed to tidal influences from San Francisco Bay.[10] The Bray property becomes inundated during periods of severe storm events.

Special Status Species, Vegetation, and Wildlife

Special Status Species. There are no known special status plant species of Federal or State listing within Miller/Knox, though plant species considered to be locally significant by the East Bay Chapter of the California Native Plant Society have been documented by District staff. There are no known threatened or endangered wildlife species of Federal or State listing within Miller/Knox, though there are several species that have been observed at Miller/Knox during wildlife surveys which are California Fully Protected Species (CFP), California Species of Special Concern (CSC), or are on the California Watch List (CWL). The latter does not have any legal status, but these species are being closely monitored. Wildlife species in these three categories are listed below, and the results of the 2014 and 2016 wildlife surveys at Miller/Knox are included in Appendix A. The results of the 2013 fishery survey in the lagoon is included in Appendix B.

TABLE 1 - KNOWN WILDLIFE SPECIES AT MILLER/KNOX WITH STATE SPECIAL STATUS

Species	CFP	CSC	CWL	BGPA[1]
American White Pelican, *Pelecanus erythrorhynchos*		X		
Brown Pelican, *Pelecanus occidentalis*	X			
Burrowing Owl, *Athene cunicularia*		X		
California Gull, *Larus californicus*			X	
Common Loon, *Gavia immer*		X		
Cooper's Hawk, *Accipiter cooperii*			X	

[8] Neap tides occur seven days after a spring tide and refers to a period of moderate tides, meaning that high tides are a little lower and low tides are a little higher than average.

[9] Spring tides are popularly known as a "King Tide" during new and full moon.

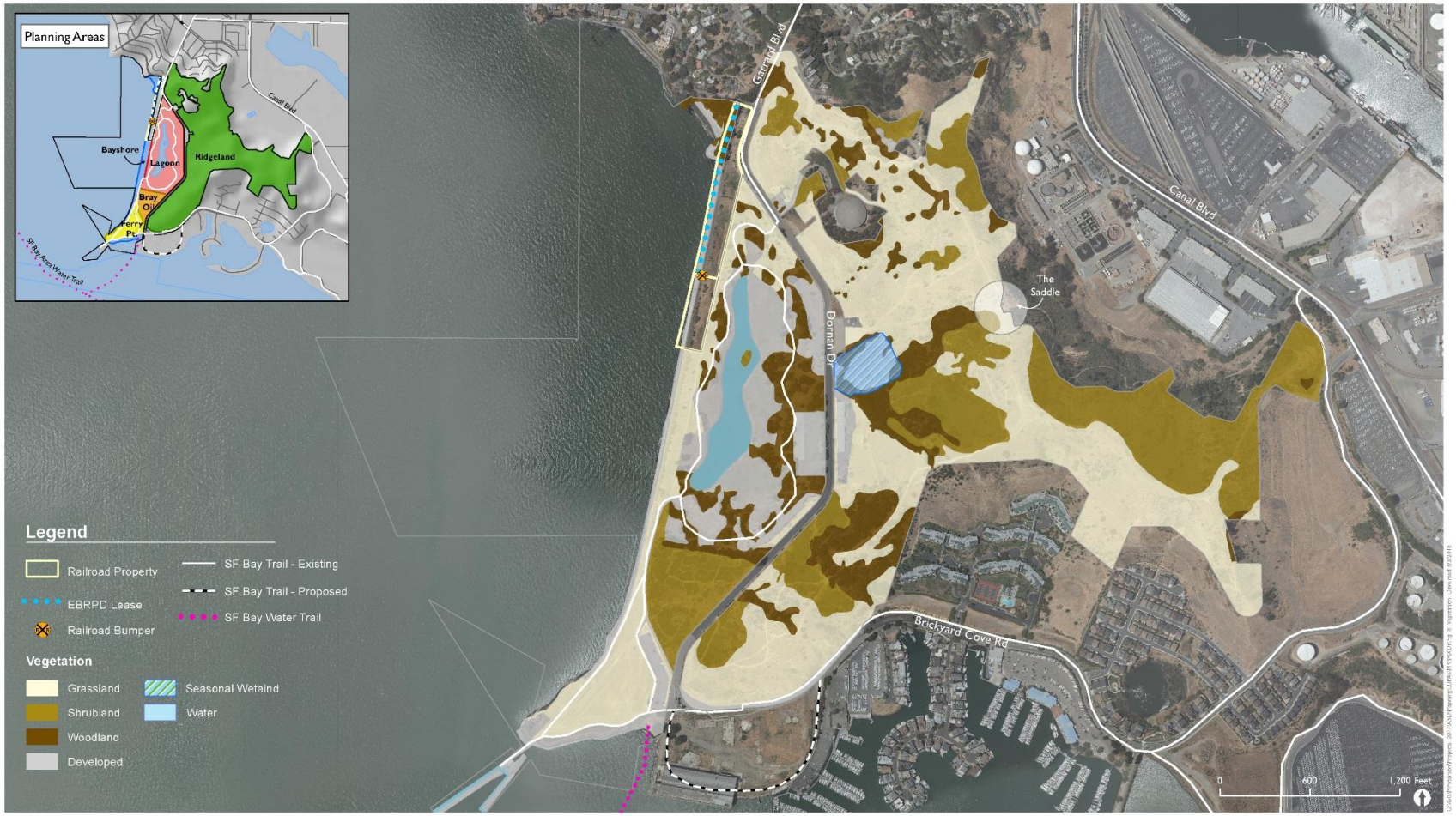
[10] East Bay Regional Park District. 1999. Op cit.

TABLE 1 - KNOWN WILDLIFE SPECIES AT MILLER/KNOX WITH STATE SPECIAL STATUS				
Species	**CFP**	**CSC**	**CWL**	**BGPA**[1]
Double-crested Cormorant, *Phalacrocorax auritus*			X	
Elegant Tern, *Sterna elegans*			X	
Golden Eagle, *Aquila chrysaetos*	X		X	X
Grasshopper Sparrow, *Ammodramus savannarum*		X		
Horned Lark, California, *Eremophila alpestris actia*			X	
Loggerhead Shrike, *Lanius ludovicianus*		X		
Long-billed Curlew, *Numenius americanus*			X	
Merlin, *Falco columbarius*			X	
Northern Harrier, *Circus cyaneus*		X		
Osprey, *Pandion haliaetus*			X	
Prairie Falcon, *Falco mexicanus*			X	
Redhead, *Aythya americana*		X		
San Pablo Song Sparrow, *Melospiza melodia samuelis*		X		
Sharp-shinned Hawk, *Accipiter striatus*			X	
White-tailed Kite, *Elanus leucurus*	X			
Dusky-footed Wood Rat, San Francisco, *Neotoma fuscipes annectens*		X		
[1] BGPA = Bald Eagle Protection Act				

Vegetation and Wildlife. Miller/Knox contains both terrestrial and aquatic plant communities. Terrestrial habitats include grassland, shrubland, woodland, ruderal upland island, and irrigated turf. Aquaic habitats include salt-water lagoon, tidal emergent wetland, ephemeral drainage/seasonal wetland, and shoreline. Vegetation in the ridgeland area consists of a mosaic of grassland, scrubland, and woodland plant communities along with an ephemeral drainage/seasonal wetland, and associated wildlife. The lagoon area includes the relatively shallow salt-water lagoon and tidal salt marsh, a ruderal upland island within the lagoon, and irrigated turf. In the undeveloped areas of the Ferry Point area, vegetation is primarily grassland, comprised of mostly non-native species, intermixed with coyote brush scrub species. Upland vegetation on the Bray property is charactherized as Northern coyote brush scrub[11] or coastal scrub.

These habitats, including vegetatation and wildlife, are described in the following text. Please refer to Figure 7, which shows the distribution of vegetation at Miller/Knox. The plant list for Miller/Knox is included as Appendix C.

[11] Holland, V.L. and Davide J. Keil, *California Vegetation*, Kendall Hund Publishing Company, 1995.



MILLER / KNOX REGIONAL SHORELINE LUPA

Figure 8: Vegetation

East Bay Regional Park District

Grassland. The grasslands at Miller/Knox are a mix of native coastal prairie and non-native annual grassland and contribute to approximately 49 relative percent of the overall vegetative habitat. The coastal prairie at Miller/Knox is a diverse native grassland and part of the unique coastal prairie terrace grasslands along the Richmond shoreline. Coastal prairie grasslands, including those at Miller/Knox, are rare within the San Francisco Bay area and within the District. The high native diversity of the grassland at Miller/Knox includes 21 native grass species and is among the most diverse grasslands in the District. Dense patches of purple needlegrass (*Stipa pulchra*) and California oat grass (*Danthonia californica*) are interspersed with scattered patches of creeping wild-rye (*Elymus triticoides*) and big squirreltail (*Elymus multisetus*) along the trails. The non-native grassland species, including wild oats (*Avena* spp.) and rattlesnake grass (*Briza* spp.), are mixed in with the native grasses and in disturbed areas. These plant communities provide habitat for California ground squirrel, western fence lizard, gopher snakes, jack rabbits, and frogs.

The wide variety of native perennial grasses and native forbs characteristic of coastal prairies comprise a suite of uncommon and priceless resources at Miller/Knox. The grasslands at Miller/Knox are threatened by exotic annual grasses, other invasive annual and perennial forbs, Monterrey pine and eucalyptus stands that jeopardize critical habitat for this unique coastal prairie.

Shrubland. Shrubland vegetation is northern coastal scrub typical of this area with the dominant coyote brush (*Baccharis pilularis subsp. consanguinea)* and other scattered native shrubs including California sagebrush (*Artemisia californica)* toyon (*Heteromeles arbutifolia)* and coffee berry (*Frangula californica subsp. californica)*. Shrubland contributes to approximately 25 relative percent of the overall vegetative habitat at Miller/Knox.

The Bray property is characterized as Northern coyote brush scrub or coastal scrub[12].[13] Coyote brush *(Baccharis pilularis)* is the dominant species. Other scrub species include sagebrush *(Artemesia californica)*, California blackberry *(Rubus ursinus)*, Himilayan blackberry *(Rubus discolor)*, California coffeeberry *(Rhamnus californica)*, toyon *(Hetermeles arbutifolia)*, California rose *(Rosa cifornica)*, willows *(Salix* sp.), and poison oak *(Toxicodendron diversilobum)*. Tree canopy is provided by coast live oak *(Quercus agrifolia)* and Monterey pine *(Pinus radiata).* Non -native grasses include ripgut brome *(Bromus diandrus)* and wild oats *(Avena fatua)* and other non-native invasive species

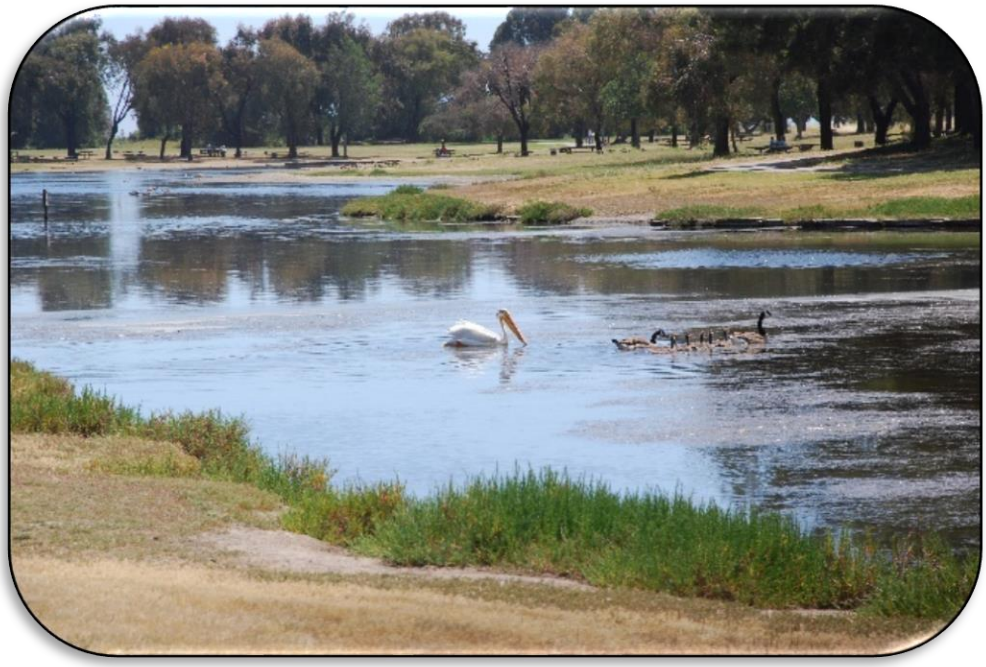
[12] East Bay Regional Park District. 2013 (November). *Miller/Knox Regional Shoreline Park Lagoon Enhancement Feasibility Study – Phase I*, ESA PWA., San Francisco, CA.

[13] East Bay Regional Park District. 1999. Op cit.

include French broom *(Genista monspessulana)* and Himalayan blackberry *(Rubus armeniacus)*. The scrub plant community provides habitat for small birds including western scrub jay *(Aphelocoma californica)*, American robin *(Turdus migratorius)*, western bluebird *(Sialia mexicana)*, dark-eyed junco *(Junco hyemalis)*, song sparrow *(Melospiza melodia)*, and white-crowned sparrow *(Melospiza melodia)*, raptors including red-tailed hawk *(Buteo jamaicensis)*, sharp-shinned hawk *(Accipter striatus)*, and American kestrel *(Falco spaverius)*, and wild turkey *(Meleagris gallopavo)*. Mammals including black-tailed jackrabbit *(Lepus californicus)*, brush rabbit *(Sylvilagus bachmani)*, grey squirrel *(Sciurus griseus)*, racoon, fox, and various rodents also can be found in the Bray property area.

Woodland. Woodland contributes to approximately 17 relative percent of the overall vegetative habitat at Miller/Knox. Nonnative stands of Monterey pine (*Pinus radiata*) and blue-gum eucalyptus (*Eucalyptus globulus*) are planted along ridgetops and as screen for the existing East Bay Municipal Utility District water tank. Occasional coast live oaks (*Quercus agrifolia*) and California buckeyes (*Aesculus californica)* occur in both grassland and shrubland areas. A row of blue gum eucalyptus *(Eucalyptus globulus)* trees is along the border between the Bray property and the lagoon area.

Ephemeral Drainage/Seasonal Wetland. In the Ridgeland Planning Area east of Dornan Drive along the Old Country Road Trail, an ephemeral drainage/seasonal wetland exists where one of the drainage areas culminates. Vegetation consists primarily of willow (*Salix* sp.) and rush (*Juncus* sp.). The trail through the seasonal wetland is elevated by a section of boardwalk. The wetlands are located in lowlands that receive precipitation run-off from natural ephemeral drainages in the surrounding upland areas (Exhibit 4.1-1) and contain wetland vegetation (Exhibit 4.1-3).



Salt-Water Lagoon. Vegetation of the open water areas is primarily widgeon grass (*Ruppia maritima*), and filamentous algae. This vegetation and phytoplankton form the backbone of the food web within the lagoon that supports resident migratory shorebirds and waterfowl including Canada goose (*Branta canadensis*), dabbling ducks and allies including mallard *(Anas platyrhynchos*), American coot *(Fulica americana)*, and American widgeon *(Anas americana*), and diving ducks and allies including greater and lesser scaup *(Aythya marila* and *Aythya affinis*), bufflehead (*Bucephala albeola*), double-crested cormorant (*Phalacrocorax auritus*), western grebe (*Aechmophorus occidentalis*), and eared grebe *(Podiceps nigricollis*). Shallower areas of the lagoon support foraging by wading birds and shorebirds, including great egret (*Ardea alba*), great blue heron *(Ardea Herodias*), snowy egret (*Egretta thula*), American avocet (*Recurvirostra americana*), along with several species of gulls. Fish species observed in the lagoon include threespine stickleback (*Gasterosteus aculeatus*), Bay pipefish (*Syngnathus leptorhynchus*), rainwater killifish (*Luciania parva*), yellowfin (*Acanthogobius flavimanus*), and Bay goby (*Lepidogobius Lepidus*). Jelly fish and unidentified sea-squirt organisms were also observed, as well as sponges, coralline algae, and one mussel attached to submerged rocks and tree branches along the shoreline.[14]

Tidal Emergent Wetland. Small, discrete areas of tidal salt marsh habitat exist along the lagoon shoreline. Pickleweed (*Salicornia pacifica*) and saltgrass (*Distichlis spicata*) are the primary vegetation. Due to their small size and lack of connection to other marsh habitat, these patches of tidal salt marsh have limited wildlife value other than their contribution to the food web within the lagoon.

[14] East Bay Regional Park District. 2013 (June). *Miller Knox Saltwater Lagoon Fisheries Survey.* Unpublished District staff report prepared by Pete Alexander, Fisheries Program Manager.

Ruderal Upland Island. A small island located somewhat in the middle of the lagoon provides nesting habitat for waterfowl as well as foraging, roosting, and nesting habitat for local and migratory passerines. Groundcover on the island is primarily weedy, non-native upland species, Monterey pine *(Pinus radiata*), coyote bush *(Baccharis pilularis*), and other shrubs.

Irrigated Turf. Most of the parkland surrounding the lagoon is irrigated turfgrasses including Bermuda grass (*Cynodon dactylon*) and blue grass (*Poa* ssp.). Trees include native live oaks (*Quercus agrifolia*) and non-native ornamental trees including pines (*Pinus,* ssp.), Monterey cypress *(Hesperocyparis macrocarpa*), and eucalyptus (*Eucalyptus* ssp.). The lawn area utilized by waterfowl, particularly Canada geese, gulls, and wild turkeys (*Meleagris gallopavo*). The trees support foraging, roosting, and nesting by a broad range of passerines including western scrub jay (*Aphelocama californica*), American robin (*Turdus migratorius*), western bluebird (*Sialia Mexicana*), dark-eyed junco (*Junco hyemalis*), song sparrow *(Melospiza melodia*), and white-crowned sparrow (*Zonotrichia leucophrys*).

***Shoreline*.** Eelgrass beds are present off-shore and provide food and habitat for fish and invertebrates. The shoreline in this area is protected from erosion by rock slope protection, which provide habitat for macroinvertebrates including mussels and barnacles that attach to the rock. Shorebirds and wading birds forage in this area as well as in the small pocket beaches. The open water of San Francisco Bay supports beds of eelgrass (*Zostera marina*), which is classified as a rare and sensitive habitat within San Francisco Bay. Eelgrass beds are considered Essential Fish Habitat (EFH) under the Magnusson-Stevens Act. The eelgrass bed located off Keller Beach is known to be particularly robust. The saltwater mudflats in San Francisco Bay beneath the rip-rap is home to various species of

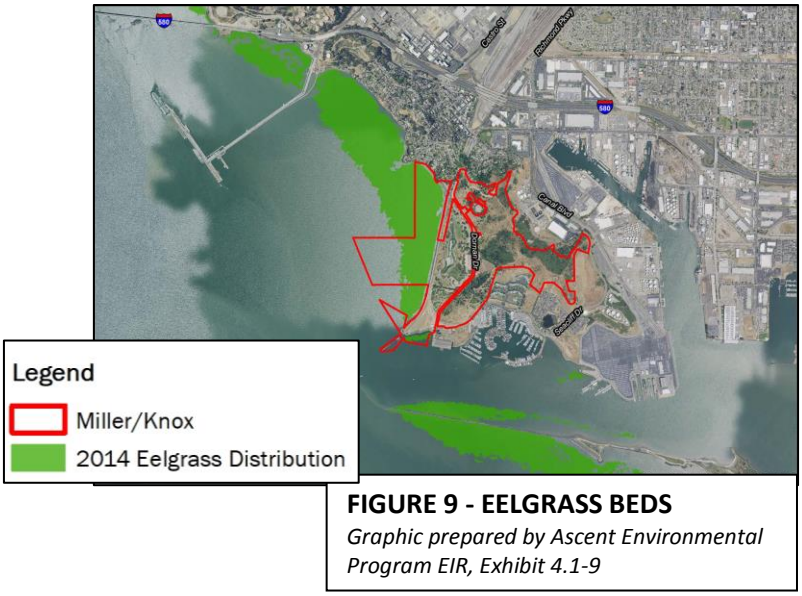


FIGURE 9 - EELGRASS BEDS
Graphic prepared by Ascent Environmental Program EIR, Exhibit 4.1-9

worms, clams, shrimp, and anemones. The open water of San Francisco Bay provides potential migration routes for two listed fish species, winter run chinook (*Oncorhynchus tshawytscha*) and coho salmon (*Oncorhynchus kisutch*). Due to its location, Ferry Point attracts a variety of bird species, particularly wintering birds between November and March including gulls, loon, grebe, scaup, scoter, brown pelican, geese, double-crested cormorant, finches, and red-tailed hawk.

Climate

Climate and Weather Summary. Climate describes how the atmosphere trends over relatively long periods of time while weather describes atmospheric conditions over a more immediate period of time. Climate in Richmond is characterized as Mediterranean, meaning that the area experiences rainy winters and dry, warm-to-hot summers. The rainy season generally begins in late October and generally ends in April with some showers lingering into May. January and February are the rainiest months wherein the average rainfall for those months is nearly 5-inches. Annually, Richmond receives an average of nearly 25 inches of rain.[15]

During the rainy season, the average high temperature is ≈62 F (≈17°C) and the average low temperature is ≈46 F (≈8°C). During the dry season, the average high temperature is ≈71 F (≈22°C) and the average low temperature is ≈55 F (≈13°C).[16] The warmest month is usually September, during "Indian summer" and the coldest month is usually January. Richmond usually enjoys an "Indian summer," a period of unseasonably sunny, dry weather with above normal temperatures occurring in late-September through late November. The highest recorded temperature in Richmond was 107°F (42 C) in September 1971 while the coldest was 24 F (−4°C) in January 1990.[17] San Francisco Bay's fog contributes to relatively high humidity in Richmond, especially in the morning with average levels between 75 and 92 percent. Afternoon humidity ranges between the high 20s to mid-30s during the months of May through October and ranges between 40 to 70 percent for the remainder of the year.[18]

Richmond is located within the San Francisco Bay Area Air Basin, the climate of which is influenced by a high-pressure system that is almost always present over the eastern Pacific Ocean. This high-pressure system shifts southward during the winter months causing storms to pass through the region

[15] https://www.usclimatedata.com/climate/richmond/california/united-states/usca2087

[16] Western Regional Climate Center. 2017. Climate Summary for Richmond, CA. https://wwrcc.dri.edu/cgi-bin/cliRECtM.pl?ca7414. Accessed June 14, 2018.

[17] Average Weather for Richmond, California, Weather.com. Accessed March 20, 2018.

[18] Statistics of Richmond, California, City Data.com. Accessed March 20, 2018.

and toward Miller/Knox.[19] Richmond is also located within the northern Alameda and western Contra Costa counties climatological sub-region, which is bounded by the San Francisco Bay to the west, the Oakland-Berkeley Hills to the east, the San Pablo Bay to the north and the atmospheric effects of the Golden Gate strait[20] to the south. Wind patterns, particularly in the area that includes Miller/Knox, are influenced by these atmospheric conditions and is influenced by the seasonal and daily wind patterns associated with the sea breeze. The location of Miller/Knox on the San Francisco Bay shoreline results in climate conditions that are typically windy due to marine breezes that generally reach the park from the south or southwest. Average wind speeds are between 5 and 15 miles per hour and occur 75 percent of the time. Wind patterns affecting Miller/Knox are responsible for its climatic characteristics such as late afternoon fog during the spring and summer months, relatively consistent on-shore air movement, and relatively warm winters and cool summers. Winds are generally stronger from March through August and the strongest in June. In the ridgeland area, the Potrero Hills provide a barrier to the windy conditions that characterize the remainder of Miller/Knox, particularly on the easterly side of the ridge.[21]

Miller/Knox is located within central San Francisco Bay[22] and as such experiences mixed semi-diurnal tides, meaning that two high tides and two low tides of unequal height occur approximately every 24 hours.[23] The tide range at Miller/Knox ranges from approximately 4 feet during neap tides[24] to approximately 8 feet during spring tides[25] and California king tides[26]. Wave heights at Miller/Knox are generally less than 1½ feet and the predominant wave directions are from the southwest and the northwest. Areas of Miller/Knox experience temporary inundation as part of daily tidal fluctuation, extreme high tides, and from large storm events.

[19] East Bay Regional Park District. 2013 (November). Op cit.

[15] Average Weather for Richmond, California, Weather.com. Accessed March 20, 2018.

[20] The Golden Gate strait connects San Francisco Bay with the Pacific Ocean and affects local climate conditions as it allows marine air from the ocean to enter San Francisco Bay.

[21] East Bay Regional Park District. 1983 (September b). Op cit. and 1976. *Draft Environmental Impact Report for George Miller Jr. Regional Shoreline*. Bissell & Karn, Inc. San Francisco, CA.

[22] https://walrus.wr.usgs.gov/coastal_processes/sfbsm/. Accessed March 20, 2018.

[23] East Bay Regional Park District. ESA-PWA. 2013 (November). Op cit.

[24] Neap tides occur during quarter moons when the gravitational forces of the moon and the sun are perpendicular to one another with respect to the earth. During neap tides there is a smaller difference between high and low tides and the resulting tides are weaker.

[25] Spring tides occur during the full moon and the new moon when the moon, the sun, and the earth are in a line causing the gravitational pull of the moon and the sun to combine. During spring tides, the high tides are very high, and the low tides are very low resulting in especially strong tides.

[26] **C**alifornia king tides very highest tides occur when the moon, earth and sun in perfect alignment causing maximum gravitational pull on earth. The result is a fluctuation in tides, which at its peak, can cause minor Coastal flooding, strong rip currents and large breakers at Harbor entrances.

Existing Climate Resilience Features at Miller/Knox. The Miller/Knox shoreline provides coastal resilience and protection from sea-level rise.[27] Shoreline parks in general provide resilience features in that they buffer their communities from flooding events by providing a setback from San Francisco Bay, by detaining stormwater, and by reducing the height and strength of waves across wetlands.[28] At Miller/Knox, the railroad berm and rock slope protection along the bayshore provides a coastal barrier to the remainder of the park. The elevation of the railroad berm and rock slope protection varies from approximately 12 feet NAVD[29] near the Bray Planning Area to almost 15 feet NAVD near Keller Beach. Currently, the railroad berm provides about three feet of freeboard during typical high tide events. The lagoon is perched approximately 4 to 6 feet above San Francisco Bay at MHHW.[30]

Summary of Climate Change Analysis. Climate scientists have documented changes in climate, the impacts which include global warming, sea-level rise, more frequent and intense storm events, increased flooding, and increased erosion affecting open coastal areas and inland waterways amongst other changing conditions. Climate change is expected to increase the frequency and severity of natural disasters related to flooding and more severe storm events. Climate change impacts, particularly sea-level rise, result in more frequent and intense storm events, increased flooding, increased erosion affecting open coastal areas and inland waterways, and damage from debris at tidally influenced waterways. The Miller/Knox shoreline, located in San Francisco Bay, is tidally influenced and therefore vulnerable to flooding at current sea levels and at higher risk of flood exposure based on the projected scenarios of sea-level rise. Rising sea levels could result in more frequent flood inundation in low lying areas and during larger tidal events.

According to the San Francisco Bay Conservation and Development Commission's (BCDC) Adapting to Rising Tides (ART) Program, the region including Miller/Knox could gain up to one foot of sea-level rise from year 2000 levels by the year 2030. This would inundate approximately one percent of the park. By the year 2100, more than five feet of sea level rise could occur within the region, which would inundate approximately two percent of the Miller/Knox. Five and one-half feet of sea level rise is projected to result in up to one foot of overtopping along shoreline at Ferry Point, Ferry Point beach, the vicinity of the Bray property, and Keller Beach and up to six feet of inundation in disconnected areas including the lagoon and the Bray property. Chapter IV –

[27] http://www.ebparks.org/climatesmart. Accessed March 20, 2018.

[28] Bay Conservation and Development Commission. 2015. *Adapting to Rising Tides Program: Preserving Shoreline Parks in the Face of Climate Change.*

[29] NAVD refers to the North American Vertical Datum of 1988, a fixed reference for vertical control datum of orthometric height, established for vertical control surveying in the United States. It is based upon the General Adjustment of the North American Datum of 1988.

[30] MHHW refers to Mean Higher High Water, a tidal datum that is calculated as an average of the higher high water height of each tidal day, observed over the National Tidal Datum Epoch. The current Epoch is 1983-2001. Tidal datum defines the intersection between the ocean and the land, and is referenced to an average fixed height of the water level during the tidal cycle

Analysis of Master Plan Policies includes a section regarding the LUPA's consistency with climate policies.

Cultural, Archaeological, and Historical Resources

Native Peoples History. At the time of historic contact, the region including Miller/Knox was within the northern most tribal territory of the Huchiun tribe, who spoke the Chochenyo dialect of the San Francisco Bay Costanoan language, one of the six Ohlone languages.[31] Huchiun lands may have extended over a large area along the East Bay shore, from Temescal Creek opposite the Golden Gate bridge north at least to the lower San Pablo and Wildcat Creek drainages in the area of present-day Richmond.[32] The Huchiun established villages and developed a culture based on strong community ties, developed an encylopedic knowledge and understanding of the natural world, and developed a profouond soicial, political, economic, and religious heritage. They managed the landscape using prescribed burin and other horticultural techniques that increased the health and numbers of theplants, and in turn, the animals on which they relied. Shellmounds, which consisted of bayshore village sites, that were excavated in modern times were found to contain burials; ceremonial, artistic, and household items; and the remains of the fish, birds, and other animals that were part of the Huchiun diet.[33] During the Spanish Mission Period, approximately 1769 – 1823, coastal California native people had little choice but to convert to Catholicism. Between approximately 1780 and 1806, some 384 Huchiun became part of the Spanish mission system at Mission Dolores in San Francisco, California.[34]

FIGURE 10 - NATIVE PEOPLES OF THE EAST BAY
Source: 2013 District Master Plan

[31] East Bay Regional Park District. 2018. Bev Ortiz, Cultural Services Coordinator. Personal Communication.

[32] Milliken, Randall. 1995. *A Time of Little Choice. The Disintegration of Tribal Culture in the San Francisco Bay Area 1769 – 1810.* Ballena Press, Banning, CA.

[33] City of Richmond. 2012 (April). *General Plan 2030*. Adopted April 25, 2012.

[34] East Bay Regional Park District. 2018. Bev Ortiz, Cultural Services Coordinator. Op cit.

Archaeological Resources. An archaeological and historical resources evaluation was conducted on the Bray property as part of the environmental analysis conducted for the 1999 Initial Study and Negative Declaration[35] and no archaeological resources were identified. Previous studies conducted in the lagoon area likewise did not identify archaeological resources.

Prior archaeological studies[36] in the ridgeland area suggest that the Potrero Hills area was occupied by at least 1,000 B.C. and appeared to have been intensively occupied 1,500 years, or for the duration of the period the archaeologists call the Middle Horizon. The Ridgeland Planning Area, while steep, includes areas of seeps and springs which could have been the source of fresh water for the prehistoric inhabitants. Prior archaeological studies indicated that three prehistoric resources had been identified within or immediately adjacent to the Ridgeland Planning Area. Field reconnaissance indicated that one of the sites was an intact midden, relatively undisturbed, except for the slumping and erosion that are actively taking place and is potentially eligible for inclusion in the National Register of Historic Places (NRHP). It was concluded to be one of the few prehistoric cultural resources in the ridgelands to have retained most of its integrity, and at the time of the evaluation, was the only site within the relative area to have remained intact. Currently, the site is covered with a mixture of grasses, thistles and forbs, with a chaparral of predominantly poison oak and chemise. The presence of human remains and several artifacts typical of the early Middle Horizon have been collected from the surface of the site. For all these reasons, the site is considered a significant cultural resource. Two other sites known to exist in the Ridgeland Planning Area did not appear to be intact and could not be identified in the field at the time of the field reconnaissance. None of the known cultural resources will be affected from implementation of the recommendations included in this LUPA.

Historical Resources

Ferry Point Terminal circa 1915
Source: Richmond Museum Collection

Intermodal Transportation System. The recent history of Miller/Knox is tied to it's role as an intermodal transportation system,[37] which include use of railroad, ferry, and trucks. Ferry Point played a pivotal role in transportation in the early part of this century as the Western Rail Terminus of the ATSF transcontinental railroad system from May 1900 until 1975 and is noted as being the "longest-lived, rail based, land-sea transfer facility for a transcontinental railroad on San Francisco Bay."[38] It served as a major transportation hub for commerce in the Bay Area and transported people, freight, and mail between San Francisco and Chicago

[35] East Bay Regional Park District. 1999. Op Cit. and JRP Historical Consulting Services. 1999 (November). DPR-523 Form and Evaluation for the Bray Property.

[36] East Bay Regional Park District. 1983 (September). Op cit.

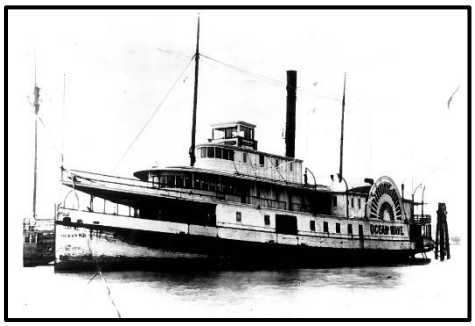
[37] Intermodal freight transport involves the transportation of freight in an intermodal container or vehicle, using multiple modes of transportation such as rail, ship, and truck, without any handling of the freight itself when changing modes. This method reduces cargo handling, allowing freight to be transported faster while improving security and reducing damage and loss.

[38] East Bay Regional Park District. 1995 (October). Op cit.

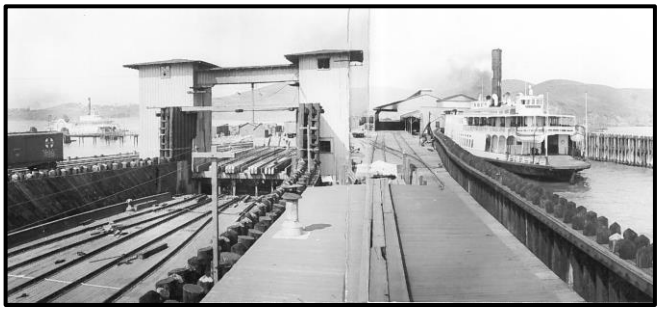
and beyond. The railroad terminus and shipping facility made the land prime for industry, and several industrial sites were soon built in the area, including Standard Oil of California, which contributed to the development of the City of Richmond, Point Richmond, and was the forerunner of Port of Richmond.

> *Ferry Point offers elegant views of San Francisco Bay. When Ferry Point was in full swing there were trains, ferry boats, tugs and barges and a lumber schooner. There were repair docks, and repair shops, and small houses with roses, small lawns and chicken yards for where some of the staff lived. The history of the Western Terminus of the Atchison, Topeka, and Santa Fe also offers the opportunity to make maximum use of the magnificent views. That alone makes the new park worth its weight in gold.*[39]

Prior to the 1849 gold rush, the Miller/Knox shoreline was marshland, Ferry Point was an island, and the Bray property was submerged tideland. In 1897, John Nicholl sold the Ferry Point property to the San Francisco & San Joaquin Valley Railway, which in turn, sold the property to ATSF in 1900. The rail line was established at Point Richmond in 1899 and established Point Richmond as the western terminus of it's transcontinental roalroad line. ATSF's pier and terminal facility at Ferry Point was constructed along with the railway tunnel, the associated causeway, and railroad infrastructure. This rail line connected Richmond with the Port of San Francisco and eastern markets overseas. In the early 1900's, the Santa Fe Railroad began filling the area with bay mud and construction debris to create land area for industrial uses. In 1901, California Standard Oil was established and the City of Richmond was incorporated. In 1903, the Standard Oil Company purchased 149 acres of property near the point and developed what then was the world's third largest refinery. Santa Fe Railroad and Standard Oil initiated industrial development of the Miller/Knox shoreline[40] and Ferry Point became a shipping point for the petroleum industry. In 1912, a large terminal structure was constructed that included a passenger waiting area. This structure was demolished in approximately 1970 but the paved footprint of this building remains.



The *Ocean Wave*, Santa Fe's first ferryboat, carried passengers from San Francisco to Ferry Point on July 6, 1900 to initiate transcontinental service between Richmond and Chicago.



Ferry Point pier, circa 1915. Ferryboat *San Pablo* in foreground, the *Ocean Wave* is in the background. Photo also shows a freight barge on the left, the gallows structure, dolphin piles and apron of the freight/car float slip.

Source: East Bay Regional Park District. (1995) Historic Resource Evaluation or Ferry Point and Ferry Point Terminal. Op cit.

[39] JRP Historical Consulting Services. 1999 (November). Op cit.

[40] East Bay Regional Park District. 1973 (May). *Existing Conditions Resource Analysis and Land Use Study in Connection with the George Miller, Jr. Memorial Regional Park, Point Richmond*. Arbegast and Newton Landscape Architects. Berkeley, CA.

View looking to Ferry Point, circa 1915.
Source: East Bay Regional Park District. (1995). Historic Resource Evaluation of Ferry Point Pier and Ferry Point Terminal Op cit.

Before the 1930's, Ferry Point was an island connected by the Santa Fe Railroad tracks over a mole[i41] which allowed water to enter a tidal flat area approximately where present-day Dornan Drive is located. During the 1920s and 1930s, the Santa Fe railroad gradually dredged deeper around Ferry Point and built up the dredged materials between Ferry Point and the shore including the Bray property. The fuel pump house and warehouse were constructed at Ferry Point in the late 1920's. The pump house was used to transfer fuel between the tank cars into the storage tanks that were located below the railroad track. This fuel was very viscous and needed to be heated to maintain flow. The pump house accomplished this by generating steam from two oil-fired boilers. Pumps circulated the hot fuel through pipelines to the dock locations to refuel the tugboats and ferries. The warehouse was used as a storage facility. Other structures, including a double garage, three residences, and five storage sheds were also constructed at this time, and were subsequently demolished in approximately 1946.

By 1933, the Miller/Knox shoreline area and Ferry Point were completely filled to develop the railroad between the Garrard Tunnel and Ferry Point, and land became available for lease as real estate. In 1936, one million dollars was spent by the Standard Oil Company on projects in the area, who became the largest oil producer in the west and was a major contributor to the overall economy of the Richmond area.[42] The *Handbook of Richmond* for 1939 lincluded a description for the Standard Oil Company that read:

> *The company secures crude oil and natural gasoline from California oil fields and has a world wide market. It refines between 500 and 600 products, of which gasoline and lubricating oils are the most important.*

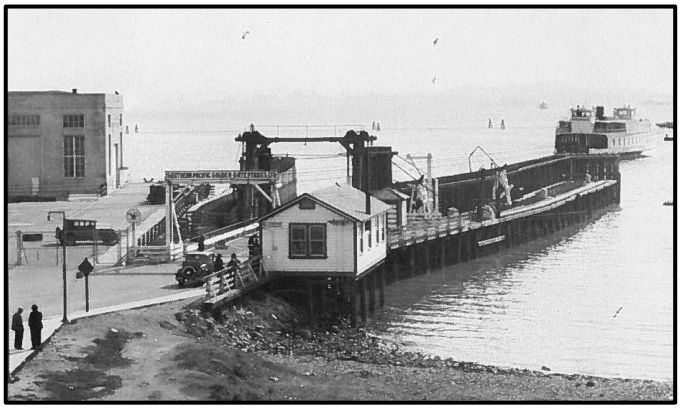
In the late 1930's and early 1940's, the Bray Property was developed as an above-ground petroleum storage facility to meet the demands of industry and shipping during World War II. By 1938, a warehouse and railroad tracks had been built as well. The petroleum storage facility operated between approximately 1940 until 1989, and included five tanks that ranged in capacity from 410,000 to 2,050,000 gallons. The heights and diameters of the storage tanks ranged between 30 feet by 50 feet to 30 feet by 120 feet.[43] In 1946, after World War II ended, the Standard Oil Company undertook a $10 million expansion of the facility, developing a

[41] A mole is a massive structure, usually of stone, used as a pier, breakwater, or a causeway between places separated by water. A mole may have a wooden structure built on top of it that resembles a wooden pier. The defining feature of a mole is that water cannot freely flow underneath it, unlike a true pier. Historically in the San Francisco bay area, several moles, combined causeways and wooden piers or trestles extending out from the eastern shore were constructed and utilized by various railroads. By extending the tracks the railroads could get beyond the shallow mud flats and reach the deeper waters of the Bay that could be navigated by the San Francisco Bay ferries. None of the four Bay Area moles survive today, although the causeway portions of each were incorporated into the filling in of large tracts of marshland for harbor and industrial development.

[42] East Bay Regional Park District. 1999. Op cit.

[43] East Bay Regional Park District. 1999. Op cit.

truck causeway, several small buildings (two of which remained when the District purchased the property), and enlarging Ferry Point pier. In 1969, the property was purchased by Ulrich Bray. The Bray Oil Company continued to use the property to store and distribute petroleum products until 1989 and the storage tanks were removed. Tenants occupied the remaining buildings and utilized the property for an artwork business.



Ferry Point, circa 1937. Photo shows a passenger and auto ferry slip. Source: East Bay Regional Park District. (1995) Historic Property Survey Report and Finding of No Adverse Effect.

Passenger ferry service between the Ferry Point Terminal to San Francisco was available between 1900 and 1933. Ferry Point was used to transport military troops and freight between 1942 and 1945, contributing to the World War II effort that characterized the region. Between 1945 and 1970, Ferry Point continued as a freight shipping terminus using diesel-based tugboat and locomotive equipment. Car float operations ceased around 1970, and in 1975 the last tugboat and rail barge were retired. In 1966, ATSF began leasing out portions of the Ferry Point property. Between 1968 and 1973, activity at Ferry Point Terminal decreased as the adjacent Port of Richmond was developed and was able to load the deep-sea freighters directly. By 1981, most of the railroad-related development had been removed. The approach wharf to the freight pier was damaged by fire in 1984.

Historic Structures at Ferry Point. The Ferry Point property has been determined to be potentially eligible for the National Register of Historic Places (National Register) for these reasons. Ferry Point may also be eligible for listing on the National Register under Criterion B – Association with Important Persons due to its association with William Benson Storey Jr., the engineer and designer of the Ferry Point Pier and President of ATSF from 1920-1933, and under Criterion C – Distinctive Design or Physical Characteristics due to it being an early and distinctive example of intermodal transportation technology. Because of Ferry Point's potential eligibility for listing on the National Register, it also is potentially eligible for listing on the California Register of Historic Resources, which uses the same criteria as the National Register. Additionally, Ferry Point Pier is a City of Richmond Landmark and is listed on the City's Historic Resources Inventory. The remaining pump house and warehouse buildings are associated with the pier and therefore are assumed to be included as part of the City's landmark designation.

At the time of acquisiton by the District in 1999, the remaining structures included a metal warehouse, shed, and railroad spur developed in circa 1938; a metal garage and concrete block office building developed in 1958; and a fuel island installed in 1965 all on top of one-

acre of paving. These structures and appurtenances were determined not to meet eligibility requirements for listing in the National Register of Historic Places or the California Register of Historic Resources. The site characteristics associated with the historic-era buildings lacked integrity to the historic period associated with the history of the oil industry in Richmond and the structures alone did not represent operation of the oil facility, and lacked architectural integrity. The 1958 structures did not meet the age requirement, and the property as a whole was not associated with persons or other events importantant to Richmond history.

Historic Attributes in the Ridgeland Area. Protection of the ridgelands as a backdrop was one of the original reasons for their purchase. Historical land disturbances including quarry use, off-road vehicle use and borrow activity for fill land have altered the ridegland landform and contributes to on-going erosion of the trails. Historical features of the ridgeland area include the following:

The Rambler's Motorcycle Club Clubhouse. The Rambler's Motorcycle Club Clubhouse is not located on District property and remains an in-holding at the base of the existing informal parking area off Dornan Drive. The building is comprised of basic gable and shed roof shapes which give it a muted old residential character. The Rambler's Motorcycle Club holds regularly scheduled meetings at this location. Historically, members of the club rode the surrounding hillsides, which now form the existing hiking trail system.

Source: GGSRM Zephyr 2010 Edition

Golden State Model Railroad Museum. The Golden State Model Railroad Museum (Railroad Museum) was organized in 1933, and has been at it's current location in a 10,000 square foot former ATSF warehouse on property leased from the District since 1985. The Railroad Museum was formed to foster all aspects of model railroading and prototype railroad modeling in a museum setting. The East Bay Model Engineers Society is the the primary tenant, providing intricate model displays of railroad history that represent prototypical scenery in Northern and Central California. The Railroad Museum is a perfect complement to the railroad history of Miller/Knox. The Railroad Museum is open seasonally, April through December.

Source: 52 hikes

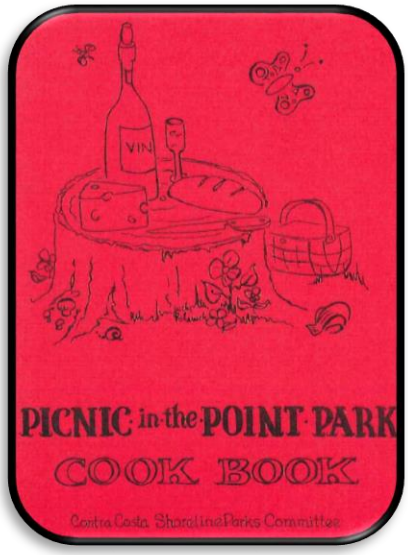
False Gun Site. The False Gun Site is located at the intersection of the West Ridge Trail and the Crest Trail. Currently, one of four established vista points with an informational panel and benches, the False Gun Site was a fake anti-aircraft gun that "defended" Kaiser Shipyard 3 during WWII.

Bernardi House. The house of Luigi Bernardi, an early resident of the area. The 1983 Resource Analysis[44] identified the Bernardi House complex as being architecturally and historically significant. The house is a modest one story "cottage farmhouse" with a gable roof and ship-lap siding characteristic of the settlement of the Bay Area during the turn of the century. Currently, the Bernardi House is a District security residence.

[44] East Bay Regional Park District. 1983 September b). Op cit.

Park Development

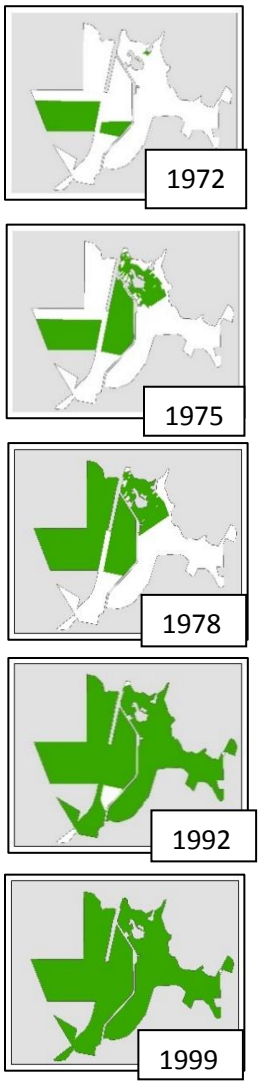
Community interest in developing a public park in the Point Richmond area began in 1964 when Contra Costa County residents voted to join the District, and the Contra Cosa Shoreline Parks Committee, along with Save the Bay, launched a campaign for shoreline access in Richmond. At that time, public lands represented 64 feet of Richmond's 32-mile shoreline. In 1966, the District's General Manager William Penn Mott wrote *"The Place for a Hillside Shoreline Park in Contra Costa County is at Point Richmond,"* and in 1968 the District's Board adopted a resolution authorizing the District to proceed with acquisition and development of a shoreline park at Point Richmond.



Community interest in a shoreline park at this location continued, and in 1968 the Contra Costa Shoreline Parks Committee published the *"Picnic in the Point Park Cookbook" to* "*promote a regional park on a section of our shoreline and the hills above it, including Nicholl Knob"* and an illustrated "tiny book" titled *"Save our Bay Park!!"* Due to the contributions of the community, Miller/Knox is known as *"A Park for the People, by the People."*

The first District property acquisition for Miller/Knox was approximately 53 acres of ATSF property in 1970 along the shoreline, which included approximately 45 acres of San Francisco Bay and 8.5 acres of land that consisted of mudflats. The District acquired property that includes Nicholl Knob from Tom and Lucretia Edwards in 1972. Also in 1972, George Miller Jr. Memorial Regional Shoreline was dedicated as a public park. In 1975, the District acquired the remaining 32.33 acres from ATSF railroad and Miller/Knox Regional Shoreline was established. In 1977, the District acquired Keller's Beach and approximately 200 acres of underwater land and shoreline south of Keller's Beach from the City of Richmond. This included 35 acres which were previously deeded to the City of Richmond by ATSF railroad. Throughout the 1970's, the District prepared planning and environmental documents and continued to acquire property.

FIGURE 11
PARK ACQUISITION



In 1973, the George Miller, Jr. Memorial Regional Shoreline Environmental Impact Assessment (EIA) was published and proposed approximately 8 acres of fill, increasing the shoreline by several hundred feet, a pedestrian bridge was proposed to allow the public access to the water side of the Santa Fe railroad tracks as well as park development east of the railroad tracks, and park development within the Lagoon Planning Area. In 1974, the George Miller, Jr. Memorial Regional Shoreline Phase 1 EIA incorporated the 0.16-acre easement section that was granted to the District from ATSF Railway Company. The main purpose of development in this area of the park was to provide an extension of the Keller's Beach Shoreline for safe use by fishermen and to provide the public access to the beach without having to cross private property and potentially dangerous rip-rap. The project consisted of repair to the existing rip-rap, gravel protective surfacing along the top, and adding a 12-foot-wide section of rock toe armor along the base to prevent erosion by wave action as well as provide a walking surface at low tide. Fencing was included to limit public access per the agreement between Santa Fe Railroad and the District as well as separate pedestrians and trains as a safety measure. In 1976, the George Miller, Jr. Regional Shoreline EIR was prepared for a project that consisted of filling approximately 7.9 acres of bay and placing rip-rap to protect the shoreline from erosion and create new shoreline recreation areas. In the Bayshore Planning Area, the project included the rip-rap repair along the shoreline from Keller's Beach, fishing areas, two beaches, a restroom, a parking area, a path to link with the existing Keller's Beach and a pedestrian crossing over the ATSF railroad tracks to provide access to Keller's Beach, and a fishing groin west of the ATSF railroad tracks. Most of these improvements were achieved. The shoreline trail from Keller's Beach, the pedestrian crossing over the ATSF railroad, and the fishing groin were not implemented.

Lagoon area prior to lagoon development
Source: District Archives. Photographer unknow.

Lagoon Planning Area. The salt-water lagoon, the central feature of the Lagoon Planning Area, was developed by the District in 1981 to provide public access to a water feature, as at that time, public access to the San Francisco Bay shoreline was prohibited by ATSF Railroad. Excavation removed approximately 245,000 cubic yards of material. The lagoon is supplied by saltwater pumped from San Francisco Bay via a water intake pipeline and electric pump installed beneath the ATSF railroad tracks and out into the Bay. The original project proposed that the pump be driven by a windmill to

be located approximately 100 feet offshore with a catwalk leading out to the windmill platform, but this concept was eliminated in favor of the current one. When it was originally constructed the intake was positioned off the floor of the bay approximately 200 feet offshore, similar to current conditions. Sometime before 1986 the intake riser was hit by a boat and the riser broke off. It was not repaired, so the intake remained on the floor of the bay.[45] From the pump intake, bay water is drawn through a 12-inch diameter suction pipe into the lagoon at the southern end. The outlet structure is located at the northern end of the lagoon and consists of a drain inlet with a weir that drains into a stormwater line that ultimately discharges to the bay under the railroad berm. To decrease the amount of sediment transported by pump operation, the District installed a riser on the end of the pump intake in 2007. Currently, the District operates water levels in the lagoon to encourage mixing and flow through the system to manage overall water quality, minimize algal blooms, and control odors. Since its construction, the lagoon has not been dredged and a significant amount of sedimentation has occurred, particularly at the north end near the existing outlet. Sediment has been deposited from the San Francisco Bay through the pump intake system.

Topps Chemical Warehouse was located in the center of the park off Dornan Drive and was still in use by the Thompson Paint Company in 1983. The District removed the warehouse in the 1980's and this area currently provides a concrete play surface overflow parking.

Photo Credit: District staff

The District completed the Public Access Improvement Project in 2015-2016. This project is to improved public access at Miller/Knox Regional Shoreline with funding from the Cosco Busan Oil Spill Settlement and the District's Measure CC capital funds. The project replaced the existing restroom buildings, installed five new drinking fountains equipped with water bottle fillers; replaced approximately five acres of existing turf with drought-tolerant species; developed approximately 0.5 acre of new California native coastal sage scrub habitat; installed approximately 2,500 linear feet of 2-inch diameter water line to provide water to the new restroom buildings and drinking fountains; installed approximately 4,000 linear feet of 3-inch diameter irrigation main to provide irrigation water to new turf and native planting areas; and reconfigured Ferry Point Plaza. Those improvements are discussed under the Bayshore Planning Area.

[45] Personal Communication, Kevin Takei, Unit Manager. February 28, 2018.

In 2017, the South End Lawn Conversion Pilot Project removed approximately 3\4 acre of irrigated turf and installed plugs of native California meadow sedge *(Carex praegracilis)* to test this species as a replacement for turf grass. This species did not work well, so District staff planted drought-tolerant climate-smart Bermuda grass sod. The area was closed to public use during the establishment period and was restored after the plants were established. District staff is currently monitoring the area to see how it compares with conventional turf. Also in 2017, all parking lots and asphalt trails were resurfaced. In 2018, the popular Killdeer and Pintail picnic sites were replaced with new concrete tables, barbecue pits, and graded with a decomposed granite surface.

http://www.richmondramblersmc.org/images/

Ridgeland Planning Area. The Ridgeland Planning Area was included in the 1983 Resource Analysis, Land Use-Development Plan, and Environmental Impact report for Miller-Knox Regional Shoreline (1983 LUDP/EIR) which were completed in September 1983 and December 1983 respectively. These documents were prepared by The Planning Collaborative, Inc. and covered the entire parkland area at the time of publication, 263.4 acres, owned in fee by the District including approximately 163 acres in the Ridgeland Planning Area. At this point, there remained a number of inholdings remaining in private or agency ownership in the Ridgeland Planning Area and the District held several scenic easements surrounding the park and agreements with ATSF railroad and the City of Richmond. Existing built facilities within the Ridgeland Planning Area when the 1983 LUDP/EIR were published included the Thompson Paint Company warehouse, the historic Bernardi House, an East Bay Municipal Utility water tank, and two power lines, and several wooden buildings and sheds. The Thompson Paint Company warehouse is now the park office, corporation yard, and the Model Train Museum. The remaining area, consisted of open-space grassland intermixed with patches of brush in drainage swales and north-facing slopes and scattered planted pine and eucalyptus trees. The 1983 LUDP/EIR recommended the ridgeland area be developed with trails, interpretive vista points, and natural management areas.

The existing trail system consists of former Richmond Rambler off-road vehicle and motorcycle trails. As a result, many of the trails are steep and highly erodible. A few decades ago, much of this area was devoid of or contained sparse vegetation. Current conditions represent improved vegetation cover, including woodland, shrubland, and grassland. Under current operations and maintenance, the coastal prairie grassland cover in the ridgeland area is improving in quality and area. On-going trail maintenance, including the District's Ivan-Dickson trail maintenance projects, has resulted in an improved trail conditions though due to their origination, the trails still experience erosion and other drainage issues.

Ferry Point Terminal circa 1949
East Bay Regional Park District. 1995 (January). Op cit.

"Remnants of piles and stringers used for the passenger ferry wharf and slip are still evident; the mooring dock is still in use; and, to the right of the yards, the indigenous topography, a hillock, remains basically undisturbed."

Ferry Point Planning Area. The District acquired the Ferry Point pier and terminal between 1988 and 1992 from ATSF railroad and the California State Lands Commission (CSLC). In total, the Ferry Point property is approximately 28 acres, 18 of which are sub-tidal and 10 of which are on land. The negotiations with the CSLC required the District to undertake phased site clean-up as well as a long-term lease for the Ferry Point Pier and associated sub-tidal areas. The 1991 Negative Declaration for acquisition of the Ferry Point property provided for remediation of hazardous materials prior to opening for public use.[46] The remediation was completed in 2012. The 1995 Ferry Point Pier and Ferry Point Terminal Amendment to the Miller/Knox Regional Shoreline Land Use Development Plan and associated Negative Declaration (Ferry Point documents) were prepared specifically for rehabilitation of the historic Ferry Point pier for fishing and other recreation uses. The documents outlined potential additional development of this property but did not make specific recommendations or analyze environmental impacts associated with potential future development. The Ferry Point documents designated 10-acres of the property as a Recreation Unit, indicating that the area is suitable for more intensive recreational use and are of sufficient size to provide the necessary infrastructure to support the use. Portions were also designated as a Special Protection Unit in recognition of its historic significance. The LUDPA designated the historic Ferry Point pier as a public pier that could be used for fishing. Improvements were completed consistent with the Secretary of the Interior's (SOI's) *Guidelines for Rehabilitation of Historic Structures*, including requirements to maintain the open viewshed at the pier and provide mooring of vessels that is consistent with ADA access guidelines and is compatible with fishing, engineering, bay currents and tidal range. Management measures of the Special Protection Units include avoiding destruction the contributing historic elements which include the railroad freight slop, wharf, and gallows; the rail alignments, the fuel pumphouse, warehouse, remaining railroad infrastructure including a fire hydrant, and the overall landform supporting the terminal function. District improvements included a section of the San Francisco Bay Trail, fencing, and restrooms, in 1995. The District rehabilitated the historic Ferry Point pier in 2001 and it was dedicated for public use in 2002. As part of the rehabilitation project, the District retained the historic apron and hydraulic hoist on the intermodal pier also remain, due to their historical, industrial character. Structural evaluations concluded that the wharf maintained its structural integrity, so the District retained it for its significant landmark status and its value as a navigation feature on San Francisco Bay. The pumphouse and warehouse buildings also remain, adjacent to the fishing pier.

[46] East Bay Regional Park District. 1991. *Notice of Determination, Acquisition of Ferry Point.*

In 2015, the Ferry Point Plaza was revived as part of the Public Access Improvement Project. This project was funded through the National Fish and Wildlife Foundation Cosco Busan Oil Spill Settlement and the District's Measure CC. Ferry Point Plaza was reconfigured to include a kayak wash area, outdoor shower, and fish cleaning station. The outdated restrooms were replaced, and new drinking fountains and picnic areas were installed. In 2016, the Ferry Point Public Access Improvements Project was completed. This project improved access to the small sandy beach which is a popular launch point for non-motorized boats and is part of the San Francisco Bay Water Trail. This project developed a new concrete pathway from the Ferry Point parking area to the beach consistent with ADA requirements with funding from a Water Trail Grant through the Coastal Conservancy. The project also improved the ADA parking spaces to Ferry Point Beach and added "San Francisco Bay Water Trail" signage. The Public Access Improvement Project, discussed also under the Lagoon Planning Area, utilized funding from the Cosco Busan Oil Spill Settlement and the District's Measure CC capital funds to provide a covered rinse-off shower with a sand trap, and a fish cleaning station, and reconfigure the existing Ferry Point parking area to improve access compliant with the Americans with Disabilities Act; and installed four new picnic areas each consisting of two concrete picnic tables and one barbeque along the existing path between Ferry Point Beach and Ferry Point Pier in addition to the improvements at the Lagoon Planning Area.

Bray property before structures were removed District archives. Photographer unknown.

Bray Planning Area. This is the last significant District property acquisition for Miller/Knox, acquired by the District in 1999 with funding provided by Measure AA, Proposition 70, and the State Coastal Conservancy. This property is a 7.08-acre triangular shaped parcel located off Dornan Drive between the Lagoon and Ferry Point Planning Areas. It has remained in land bank status since its purchase. At the time of acquisition, approximately one acre of the Bray property included four buildings (warehouse, shed, garage, and office), a fuel island, a railroad track spur, and was enclosed by a cyclone fence. Approximately three acres in the central part of the property formerly housed fuel storage tanks. The area was surrounded by an earthen berm and included seven gravel pads for storage tanks and concrete structures, all of which had previously been removed. Approximately four

acres on the northern part of the property were in a relatively natural condition with native vegetation and no man-made structures.

The Initial Study and Negative Declaration for the property, adopted by the District's Board in 1999,[47] analyzed potential environmental impacts associated with property acquisition and the removal of the structures, brush, lead paint, asbestos abatement, and fencing. The District's Board of Directors approved a Land Use Plan Checklist Amendment in 2000 to authorize demolition of the structures and removal of the fuel island, pavement, remnants of the old rail spur, and the former tank farm including the old pump, concrete pump box, concrete platform adjacent to Dornan Drive, and abandoned surface pipes. The Checklist Amendment also removed the Bray property from landbank status, rendering it available to public use. Prior to property acquisition, a series of hazardous waste investigations were completed[48] and all hazardous wastes and materials were removed. The existing monitoring wells were left in place. The paved area was removed and then rough graded.

Miller/Knox Naming. Miller/Knox Regional Shoreline is dedicated to State Senator George Miller Jr., who lived in Point Richmond when he was young, and Assemblyman John T. Knox, who provided great assistance to the District in acquiring the ridgeland portions of the park. Senator Miller served in the California State Senate from 1948 to 1969, where he served as Chair of the Senate Finance Committee and was a strong supporter of the Park District. Assemblyman Knox was a driving force behind California legislation including the California Environmental Quality Act, the San Francisco Bay Conservation and Development Commission, and the Local Agency Formation Commission. He represented Contra Costa County in the Assembly from 1960 through 1980 and served as the Assembly speaker pro tem for the last four years of this time.

Public Safety and Operations

***Public Safety*.** The District's Ordinance 38 establishes rules and regulations that apply to all District parklands, trails, and facilities. Ordinance 38 is adopted by the District's Board of Directors pursuant to the California Public Resources Code sections 5541, 5558, 5559, and 5560. Citations are issued by the District's police officers and violations are punishable as misdemeanors or infractions.

The District's public safety department includes sworn police officers, fire-fighters, and dispatch staff based at the District's Lake Chabot Regional Park in Castro Valley and a helicopter unit based at the Hayward Airport. Public safety responds to law enforcement, medical, and fire needs within the District's jurisdiction and works cooperatively with local jurisdictions.

[47] East Bay Regional Park District. 1999 (June) Board of Directors Resolution Number 1999-6-137. *Adoption of Negative Declaration Pursuant to the California Environmental Quality Act for the Bray Terminals Ltd., et al, Property: Miller/Knox Regional Shoreline.*

[4848] East Bay Regional Park District. 1988 (August) *Preliminary Environmental Assessment Santa Fe Railroad Property Ferry Point, Richmond, CA.* Prepared by Levine-Fricke, Emeryville, CA.

Park Operations. Miller/Knox is part of the District's Shoreline Unit for Park Operations and part of the District's Northwest Interpretive Sector. The Shoreline Unit for Park Operations includes a unit manager who oversees nine parks and five Park Supervisors. The Park Supervisor for Miller/Knox also supervises three parks with a staff of eight rangers, four of which are specifically assigned to Miller/Knox.

The District's Interpretive and Recreation Services Department seeks to connect visitors to the natural environment through stimulating experiences that instill an appreciation of the region's resources and motivate participants to conserve and protect them. In this effort, the District provides a variety of programs and services for school groups, youth, families, and adult visitors. Naturalists offer regional interpretive programs based from ten District Visitor Centers, while Outdoor Recreation staff operates from the Tidewater Boating Center in Oakland. Interpretive services include natural and cultural historical walks, hikes, and talks, environmental restoration projects, as well as wayside interpretive panels and self-guiding brochures. Recreation staff leads hiking, biking, fishing, and summer day camp programs in the Miller/Knox area. The Miller/Knox region is served by five District Northwest Interpretive Sector naturalists, who are based at the Environmental Education Center in Tilden Regional Park.

Approved Development Projects Adjacent to or Nearby Miller/Knox. The City of Richmond has approved three residential development adjacent to or nearby Miller/Knox. The locations of these developments relative to Miller/Knox are shown on Figure 12.

Shea Homes. Also known as Waterline Homes, a 60-unit market-rate condominiums and stacked flats in Point Richmond along the San Francisco Bay shoreline near Sandpiper Spit. This development was approved by the Richmond City Council on November 14, 2014.

Terminal One. This development includes 295 condominium flats and 21 single-family detached homes, public open space uses, as well as road, trail, and other improvements on and off the project site. The development is located at 1500 Dornan Drive, southeast of the intersection of Dornan Drive and Brickyard Cove Road in the Point Richmond neighborhood adjacent to Miller/Knox near Ferry Point. The site's general boundaries are the Richmond Yacht Club on the east, the San Francisco Bay on the south, Brickyard Cove Road to the north, and Dornan Drive to the west. This development was approved by the Richmond City Council on July 5, 2016.

Quarry Residential Project. This development includes up to 200 condominiums, approximately 300 parking spaces, and associated common areas and amenities including landscaping, pathways, a recreation center, fitness center, and swimming pool. Approximately 30 percent of the site will be developed, and the remaining 70 percent would remain as open space. The project also includes internal roads and infrastructure improvements and may also include improvements to the existing right-of-way, including the addition of landscaping and lighting, and improvements to the San Francisco Bay Trail. The Quarry Residential Project is located at 1135 Canal Boulevard, south and east of the intersection of Canal Boulevard and Seacliff Drive in the neighborhood of Point Richmond, adjacent to Miller/Knox on the southeast boundary of the Ridgeland Planning Area. The site is also bounded by Seacliff Drive and the residential community of Seacliff to the east, vacant property and Seacliff Drive to the south, and the community of Seacliff to the west. This development was approved by the Richmond City Council on February 1, 2018.

MILLER / KNOX REGIONAL SHORELINE LUPA

Figure 12: Development Activities

East Bay Regional Park District

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II. MILLER/KNOX LUPA RECOMMENDATIONS

Purpose. The purpose of the Miller/Knox LUPA is to enhance the existing environmental and scenic values at Miller/Knox Regional Shoreline while providing additional recreational and interpretive opportunities for park visitors, consistent with the District's Vision and Core Mission as included in the District's 2013 Master Plan.

Objectives. The objectives of the LUPA are to

1. Protect and enhance existing natural, historic and scenic resources
2. Improve public access through additional trails, pathways, and parking
3. Enhance physical fitness opportunities
4. Provide additional interpretive and recreational programming
5. Optimize opportunities for quiet reflection and passive recreation
6. Incorporate strategies for climate adaptation, sea-level rise, and resiliency

Summary of Planning Area Goals and Recommendations. The LUPA includes five geographic planning areas that comprise the entirety of Miller/Knox and identifies specific goals and recommendations for each of these planning areas. The goals and recommendations for each of the planning areas are listed below and described in more detail in the next section of the LUPA. Figure 3 shows the planning areas and Figure 13 shows the comprehensive LUPA recommendations.

As a long-range planning document, some of the LUPA recommendations are conceptual in nature. For these recommendations, the LUPA includes information to describe the concept and these descriptions provide the basis for the environmental impact analysis included in the Program Environmental Impact Report (EIR). Specific details for these conceptual LUPA recommendations will be determined during the design phase and the concept may change from what is described in the LUPA. The LUPA recommendations should not be construed as a promise to implement, as implementation, particularly for the conceptual recommendations, depends on a variety of factors which are described below. Chapter V – Implementation provides a detailed description of the relationship between the LUPA and the Program EIR.

Lagoon Planning Area

Goal - Enhance Active Recreation and Improve Lagoon Habitat and Water Quality

Recommendations

1. Implement the Lagoon Enhancement Project
2. Establish a new paved trail on the east side of the lagoon
3. Designate the island as a Special Management Feature
4. Replace under-utilized area of irrigated turf with drought-tolerant, climate-smart vegetation
5. Refurbish existing amenities, Including picnic areas and barbeques

Bray Property Planning Area

Goal – Develop Trail Connections and Park Facilities

Recommendations

1. Provide an area for disposal of dredging spoils from the lagoon
2. Provide a green-waste area for operations and public education
3. Develop a promenade connecting the Ferry Point Pier to the Lagoon Planning Area through the Bray Property Planning Area
4. Establish native plant communities as demonstration gardens with connecting paths
5. Develop Recreational Program and Storage Building for District use in outdoor education, interpretive programs, and volunteer activities

Ferry Point Planning Area

Goal - Maximize Public Amenities and Scenic Vista

Recommendations

1. Develop a promenade connecting the Ferry Point Pier to the Lagoon Planning Area through the Bray Oil Property Planning Area
2. Provide drought-tolerant, climate-smart turf in the open areas
3. Provide additional picnic areas and benches
4. Expand parking adjacent to the existing staging area
5. Rehabilitate the historic pumphouse building for passive interpretive use
6. Replace the historic warehouse building with day-use and scenic vista point area

Bayshore Planning Area

Goal - Improve Public Access along the Shoreline

Recommendations

1. Remove the abandoned railroad tracks within District jurisdiction and develop a section of the San Francisco Bay Trail between Keller Beach and Ferry Point
2. Formalize access between the Bayshore and the Lagoon Planning Areas
3. Upgrade landscaping at Keller Beach
4. Upgrade amenities including the restroom, drinking fountain, outdoor shower, picnic tables and benches at Keller Beach
5. Conduct an engineering design development study along the Bayshore and implement shoreline features to improve resiliency and climate change adaptation

Ridgeland Planning Area

Goal - Improve Public Access and Enhance the Existing Trail System

Recommendations

1. Develop new staging areas off Dornan Drive and off Canal Boulevard
2. Develop trailheads and new vista points, repair trails damaged by erosion, and decommission trails too damaged for repair.
3. Continue to implement the District's Wildfire Hazard Reduction and Resource Management Plan recommendations and implement Integrated Pest Management and grazing recommendations to enhance habitat and site conditions in this planning area.

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MILLER / KNOX REGIONAL SHORELINE LUPA

Figure 13: Comprehensive Recommendations

East Bay Regional Park District

List of LUPA Recommendations by Category.

The LUPA presents recommendations for each of the five planning areas. This list presents the LUPA recommendations by category.

Access Recommendations

- Ferry Point Staging Area Expansion, to add 35 parking spaces
- Dornan Drive Staging Area, to formalize this existing staging area providing 83 parking spaces
- Canal Boulevard Staging Area, new staging area providing 29 parking spaces
- Promenade connecting Ferry Point Pier to the Lagoon Area*)*

Facility Recommendations

- Develop Recreation Program and Storage Building for District use
- Rehabilitate the historic pumphouse building for passive interpretive use
- Replace the historic warehouse building with day-use and scenic vista point area *

Recreation Recommendations

- Refurbish existing amenities, Including picnic areas and barbeques
- Establish a new paved trail on east side of the lagoon
- Remove the abandoned railroad tracks within District jurisdiction and develop a section of the San Francisco Bay Trail between Keller Beach and Ferry Point
- Formalize access between the Bayshore and the Lagoon Planning Areas
- Implement Ridgeland trailhead and trail improvements *

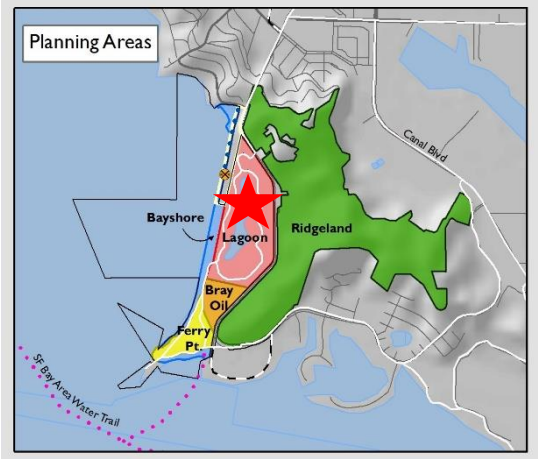
Resource Recommendations

- Implement the Lagoon Enhancement Project – Dredging *
- Provide an area for disposal of dredging spoils from the lagoon *
- Designate the island as a Special Management Feature
- Provide a green-waste area for operations use and public education *
- Replace under-utilized area of irrigated turf with drought-tolerant, climate-smart vegetation *
- Establish native plant communities as demonstration gardens with connecting paths *
- Continue to implement the District's Wildfire Hazard Reduction and Resource Management Plan recommendations and implement Integrated Pest Management and grazing recommendations to enhance habitat and site conditions in this planning area. *
- Conduct an engineering design development study along the Bayshore and implement shoreline features to improve resiliency and climate change adaptation *

* *Indicates "Climate Smart"[1] recommendation. A detailed discussion of how the LUPA recommendations address District Master Plan climate change policies can be found in Chapter IV of the LUPA – Analysis of Master Plan Policies.*

[1] "Climate Smart" refers to actions which ensure that human and natural communities continue to thrive in the decades to come by using nature-based solutions to reduce greenhouse gas emission, enhance ecosystem services, and respond to a changing climate, per the Trust for Public Lands and Point Blue Conservation Science.

LAGOON PLANNING AREA



Location. The Lagoon Planning Area is located in the center of Miller/Knox, shown in pink on the adjacent graphic, and includes the existing lagoon and associated pedestrian facilities, group and individual picnic areas with barbeques, children's play area, expanses of lawn for unstructured play, three parking areas, a large concrete slab used for unstructured play, and restrooms. The Lagoon Planning Area can be accessed from three locations off Dornan Drive. On high visitor use days, such as Fourth of July, a concrete slab is used for overflow parking. The total area of the Lagoon Planning Area is approximately 40 acres.

Prior Documents. The 1973 EIR for the George Miller, Jr. Memorial Regional Shoreline included development of a parking area, public restrooms, picnic meadows, irrigated lawn, a play area, and a meandering path in addition to the addition of approximately 8 acres of fill to increase the shoreline by several hundred feet and construction of a pedestrian bridge over the BNSF railroad tracks discussed under the Bayshore Planning Area. In 1974, the George Miller, Jr. Memorial Regional Shoreline Phase 1A EIA included a turfed play meadow and picnic area and a 70-space parking area adjacent to Garrard Blvd, east of the play meadow. The 1976 EIR for the George Miller, Jr. Regional Shoreline was for a project that consisted of the lagoon, an irrigated meadow, walking paths, picnic areas, benches, a restroom, a parking area, a path to link with the existing Keller's Beach in addition to filling approximately eight acres of bay and placing rip-rap to protect the shoreline from erosion and create new shoreline recreation areas, fishing areas, two beaches, and a pedestrian crossing over the railroad tracks to provide access to Keller's Beach described under the Bayshore Planning Area. In 1976, the first Land Use Development Plan (LUDP) was adopted for Miller/Knox. The document covered only areas west of Dornan Drive

1983 Resource Analysis, Land Use-Development Plan, and Environmental Impact Report for Miller-Knox Regional Shoreline (1983 LUDP/EIR) were completed in September 1983 and December 1983 respectively. These documents were prepared by The Planning Collaborative, Inc and covered the entire parkland area at the time of publication, 263.4 acres, owned in fee by the District including approximately 60 acres in the Bay, 163 acres that comprise the Ridgeland Planning Area, and the 40-acre area that comprise the Lagoon Planning Area. The lagoon planning area had been developed as an active recreation area with the lagoon, irrigated turf areas, trees, picnic facilities, and parking areas approved under the previously adopted 1973 George Miller Jr. Regional Shoreline EIR. The 1983 LUDP/EIR included recommendations for the native area, including removal of the Georgia Pacific Warehouse to create an area for informal court games on the remaining foundation; removal of the existing asphalt east of the warehouse foundation slab to create a meadow area for informal play; additional planting to screen the parking area from the road; and a major trail crossing or gateway across Dornan Drive to connect with the ridgeland planning area.

Two reports were completed by ESA/PWA for the District's use in developing recommendation for this LUPA relative to providing a tidal connection between San Francisco Bay and the existing lagoon. The District undertook this assessment to consider an alternative to dredging the lagoon to address

sedimentation that has accumulated in the lagoon since its construction. A significant amount of sedimentation has occurred in the lagoon at the north end near the outlet structure. The sediment was likely brought in from San Francisco Bay through the pump and settled in the lagoon where velocities are low. Prior to 2007, the pump intake was located on the bed of the bay and the turbulence associated with the pumps likely entrained sediment during each pumping period. The District installed a riser on the end of the pump intake in 2007 to decrease the amount of sediment that is entrained by the pumps and brought into the lagoon. The existing pump and drain system that includes subterranean concrete vault houses the pump engine at the southwest corner of the lagoon. District operations staff operate the pump manually by entering the vault, turning on the engine, and priming the pump until the pipes are free of air pockets. Bay water is drawn through a 12-inch suction pipe with the intake located approximately 200 feet offshore and is discharged at the south edge of the lagoon. Water exits the lagoon through a drain inlet with a weir at the north end of the lagoon and drains into a stormwater line that discharges to the bay under the railroad berm.

The *Phase I – Opportunities, Constraints and Conceptual Design Approaches* was prepared in 2013 (2013 Report). It assessed the feasibility of conceptual design approaches to meet this purpose along with a summary of the site history, the physical and biological setting, and the existing recreational and public uses. The 2013 Report examined the following conceptual design approaches:

- Tidal lagoon
- Perched lagoon
- Tidal marsh
- Hybrid approach – tidal lagoon with pump

After considering the 2013 Report, the District identified the hybrid approach as the preferred alternative and in 2014, ESA PWA published the *Phase II – Conceptual Design Report* (2014 Report) for this approach. This hybrid approach would deepen and widen the existing lagoon, establish a tidal connection across a new sandy beach which would provide for tidal exchange between San Francisco Bay and the lagoon. The existing pump facilities would remain to provide flexibility during construction and adaptive management of the lagoon post-construction. The 2014 Report includes background information and refinement of the goals and objectives; context of the ecosystem that would result from implementation; description of the hybrid approach conceptual design including grading plans, description of the primary construction elements, summary of approximate project costs, and discussion of recreational opportunities. The 2014 Report also includes a summary of the regulatory permits anticipated for implementation of the project; recommendations for completing the required environmental review; summary of additional technical analyses and next steps that would need to be completed to inform project design.

Recent Projects. The District completed the Public Access Improvement Project in 2015-2016. This project is to improved public access at Miller/Knox Regional Shoreline with funding from the Cosco Busan Oil Spill Settlement and the District's Measure CC capital funds. The project replaced the existing restroom buildings, installed five new drinking fountains equipped with water bottle fillers; replaced approximately five acres of existing turf with drought-tolerant species; developed approximately 0.5 acre of new California native coastal sage scrub habitat; installed approximately 2,500 linear feet of 2-inch diameter water line to provide water to the new restroom buildings and drinking fountains; installed approximately 4,000 linear feet of 3-inch diameter irrigation main to provide irrigation water to new turf and native planting areas; and reconfigured Ferry Point Plaza. Those improvements are discussed under the Bayshore Planning Area.

In 2017, the South End Lawn Conversion Pilot Project removed approximately 3\4 acre of irrigated turf and installed plugs of native California meadow sedge *(Carex praegracilis)* to test this species as a replacement for turf grass. This species did not work well, so District staff will plant drought-tolerant Bermuda grass sod. The area will be closed to public use during the establishment period, restoring public access after the plants are established, and will then monitor the area to see how it compares with conventional turf.

Also, in 2017, all parking lots and asphalt trails were resurfaced. In 2018, the popular Killdeer and Pintail picnic sites were replaced with new concrete tables, barbecue pits, and graded with a decomposed granite surface.

Operations and Maintenance. Typical operations and maintenance activities in the Lagoon Planning Area includes daily restroom cleaning, litter pick-up, and trash collection. Tree maintenance, including pruning and conduction a hazardous tree survey, occurs on a monthly basis. Trees determined to be hazardous are pruned or removed. Spot treatment of herbicide using glyphosate around signs, benches, and picnic tables occurs annually. Lawn mowing occurs three times per month in May and June, twice a month in April and between July and September, and once a month between October and May. The irrigation system is maintained on a monthly basis. The lawn is irrigated several times per week during the summer months and not at all during the rainy season. Additional operational and maintenance activities such as maintaining pavement, the play area, barbeques, drinking fountains, and graffiti abatement occurs as-needed.

Maintenance of the lagoon includes managing water levels and water quality. Water levels are managed manually using a pump and drain system. The pump is operated an average of two days per month throughout the year and up to five days per month between June and September with a duration of one tide cycle, or approximately twelve hours. Water levels are managed to encourage mixing and flow through the system to minimize algal blooms that contribute to adverse water quality and odor issues. Water quality is maintained by litter and algae removal on a monthly basis.

Existing Use. The key recreational features of the Lagoon Planning Area include the one-mile pedestrian loop around the lagoon, the group picnic areas, and the children's play area. The open turf area and large concrete slab are used for unstructured play. Various lawn games including badminton, volleyball, and soccer are played in the open turf area and the concrete slab provides a play surface for activities such as roller-skating, rollerblading, street hockey, scooters, and bicycles.

LUPA RECOMMENDATIONS

Goal - Enhance Active Recreation and Improve Lagoon Habitat and Water Quality. Implementation of the LUPA recommendations would improve the outdoor recreation amenities in the Lagoon Planning Area as well as and improve the habitat and water quality of the lagoon.

Recommendations

1. Implement the Lagoon Enhancement Project
2. Establish a new paved trail on the east side of lagoon
3. Designate the island as a Special Management Feature
4. Refurbish existing amenities, Including picnic areas and barbeques
5. Replace under-utilized areas of irrigated turf with drought-tolerant, climate-smart vegetation

1. **Implement the lagoon enhancement project.** The lagoon enhancement project is expected to improve water quality in the lagoon that has degraded as a result of sedimentation. Two alternatives have been identified which would effectively implement this recommendation.

   LUPA Recommendation - Dredging. The dredging alternative would remove an estimated 10,000 cubic yards[2] of sediment from the lagoon and would dispose of the dredged material in the adjacent Bray Planning Area. In preparation for dredging, the water intake from San Francisco Bay would be closed, preventing the lagoon from filling. Dredging would occur in stages, by isolating an area of the lagoon using coffer dams. After an area is isolated, remaining water would be removed by draining as much water as possible to San Francisco Bay through the existing vault and outfall and then by utilizing a floating pump with a filter. Water removed utilizing the floating pump would be directed to adjacent areas of the lagoon on the opposite side of the coffer dam. After each area of the lagoon is dewatered, excavators would remove accumulated sediment from the lagoon and place the material in the disposal area. After dredging in one area of the lagoon occurs, the coffer dam would be relocated, and the process completed in the next area of the lagoon. Improvements to the lagoon's water circulation system may occur while areas of the lagoon are dewatered. Dredging of the entire lagoon is expected to take a total of twelve weeks between the months of August and October. During this time, the work area would be closed to the public. Dredged material will be placed on-site within the Bray Planning Area. Please refer to the *Bray Planning Area* section for a description. Please refer to Figure 14.

   Annual maintenance dredging would occur before the comprehensive dredging and would be conducted afterwards, as needed. Under existing regulatory permits, the District can remove up to 200 cubic yards of material from lagoon and dispose of the dredged material at the Bray property. On-going maintenance dredging would maintain the benefits achieved from the comprehensive dredging. The District will be maintaining the existing lagoon by dredging up to 200 cubic yards per year consistent with the District's existing Routine Maintenance Agreement permit. Routine dredging will improve the function of the lagoon and associated pump facilities, improve aesthetics, and improve conditions for wildlife. This activity was addressed in a Notice of Exemption filed by the District on September 13, 2017. The lagoon sediments will be tested prior to the annual maintenance dredging activity. Per the Routine Maintenance Agreement, the disposal area cannot exceed 2,000 square feet. The District is planning for ten years of maintenance dredging at the disposal area located in the Bray Property Planning Area. Dredging would occur between September 1 and October 31 based on special status fish species in San Francisco Bay, including sturgeon, steelhead, and smelt. The District will include the annual maintenance dredging activity in its Annual Report, which is reviewed by the RWQCB, the U.S. Army Corps of Engineers (USACOE), and the National Marine Fisheries Service (NMFS). Maintenance dredging is recommended to occur prior to and after implementing the comprehensive dredging alternative.

   Option - Breach to San Francisco Bay. This option to dredging was the original LUPA recommendation, included in the 2013 and 2017 NOPs, and presented at both public scoping meetings. After public comment expressing concern about a breach's potential environmental impacts, cost, and changes to public access around the lagoon, the

[2] Estimated based on surface area of the lagoon is 5.75 acres and an average of one-foot depth of dredging

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Figure 14: Lagoon Enhancement Project - LUPA Recommendation: Dredging

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Figure 15: Lagoon Enhancement Project - Option -Breach to San Francisco Bay

East Bay Regional Park District

District examined the option to comprehensively dredge the lagoon, which is now a LUPA recommendation. A description of the breach to San Francisco Bay option is included in the LUPA for informational purposes and background for the Program EIR, which includes this option as a project alternative. A breach would establish a direct tidal connection between the lagoon and San Francisco Bay across a sandy pocket beach. The 2014 Report defines the resulting condition as a "muted" or "perched" lagoon, meaning that the high tide level in the lagoon would be match the high tide level in San Francisco Bay and the low tide level in the lagoon would be elevated above the low tide level in San Francisco Bay. This "perched" condition would result from the inlet geometry and elevation, which would constrain full drainage of the lagoon at low tide. Implementation of a breach option would be expected to double the area of open water, enhance existing vegetation communities, create new habitats, integrate additional public access, and provide new opportunities for public education. In addition to creation of a new sandy pocket beach at the lagoon inlet, implementation of a breach to the Bay would improve seasonal freshwater wetlands, emergent marsh, and coastal strand-scrub habitat. As described in the 2014 Report, implementation of a breach would excavate approximately 240,000 cubic yards of material to deepen and widen the existing lagoon. The 2014 Report assumed the excavated material would be placed on the Bray Oil Property, covering an area of 14 acres and creating a trapezoidal mount that would be approximately 8 to 12 feet high after settlement. If the breach option were selected for implementation, this LUPA recommends that the excavated material be disposed of at an off-site location, to be identified during the design phase. Please refer to Figure 15.

Implementation of a breach option would improve the hydrologic and ecological function of the lagoon by creating a more natural and self-sustaining (low maintenance) condition by channeling tidal exchange through a naturalized inlet, while minimizing reliance on the existing high-maintenance pump facilities. The pump facilities would remain operational for use during exceptional wave events that could result in sand buildup within the inlet, providing optimal operational flexibility.

2. **Establish a new paved trail on the east side of the lagoon.** Currently, the paved one-mile trail loop that exists around the lagoon is located close to the lagoon shore on the westerly edge and is closer to the staging areas on the easterly edge, depriving visitors of a shoreline trail on the easterly edge of the lagoon. This LUPA recommends that the trail be augmented to provide a new section along the easterly edge of the lagoon. The width of the trail would match that of the existing trail and could be paved, native ground, compacted gravel, or decomposed granite. The alignment of this trail could be delineated before the lagoon dredging occurs and utilized to transport dredged material from the lagoon to the Bray Planning Area for disposal. The trail would be formally developed after lagoon dredging is completed. In addition to providing an additional recreational benefit at Miller/Knox, this trail would also reduce the amount of turf and therefore reduce water usage and turf maintenance.

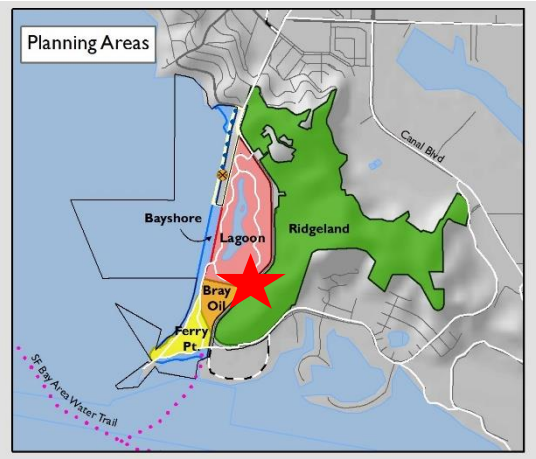
3. **Designate the island as a Special Management Feature.** A small ruderal island located somewhat in the middle of the lagoon provides nesting habitat for waterfowl as well as foraging, roosting, and nesting habitat for local and migratory passerines. Groundcover on the island is primarily weedy, non-native upland species, Monterey pine *(Pinus radiata*), coyote bush *(Baccharis pilularis*), and other shrubs. This recommendation designates this island as a Special Management Feature. The island will remain off-limits to the public and current park operations activities will continue. The designation will require specific treatment protocols for dredging,

such as excluding the island from dredging and conducting the dredging outside of waterfowl nesting and roosting season.

4. **Refurbish Existing Amenities, Including Picnic Areas and Barbeques.** The Lagoon Planning Area includes several picnic areas, most equipped with barbeques. This LUPA recommends that these amenities be refurbished to match the newly installed picnic areas and barbeques installed as part of the 2016 Public Access Improvements Project.

5. **Replace under-utilized areas of irrigated turf with drought-tolerant, climate-smart vegetation.** This recommendation would expand the conversion of under-utilized areas of irrigated turf with native vegetation. Implementation of this recommendation would reduce overall water use at Miller/Knox by reducing areas of irrigation and could improve habitat.

THE BRAY PROPERTY PLANNING AREA



Location. The Bray property consists of a 7.08-acre triangular shaped parcel located off Dornan Drive between the Active Recreation and Ferry Point Zones, shown in orange on the adjacent graphic[3]. This property was acquired by the District in 1999 for $2,750,000 with funding provided by Measure AA, Proposition 70, and the State Coastal Conservancy and was then placed in Land Bank status until such time that development was approved through a Land Use Plan Amendment and appropriate environmental document.

Prior Documents. At the time of acquisition, approximately one acre of the Bray property included four buildings (warehouse, shed, garage, and office), a fuel island, a railroad track spur, and was enclosed by a cyclone fence. Approximately three acres in the central part of the property formerly housed fuel storage tanks. The area was surrounded by an earthen berm and included seven gravel pads for storage tanks and concrete structures, all of which had previously been removed. Approximately four acres on the northern part of the property were in a relatively natural condition with native vegetation and no man-made structures.

The Initial Study and Negative Declaration for the property, adopted by the District's Board in 1999,[4] analyzed potential environmental impacts associated with property acquisition and the removal of the structures, brush, lead paint, asbestos abatement, and fencing. The District's Board of Directors approved a Land Use Plan Checklist Amendment in 2000 to authorize demolition of the structures and removal of the fuel island, pavement, remnants of the abandoned rail spur, and the former tank farm including the old pump, concrete pump box, concrete platform adjacent to Dornan Drive, and abandoned surface pipes. The Checklist Amendment also removed the Bray property from landbank status, rendering it available to public use. Prior to property acquisition, a series of hazardous waste investigations were completed[5] and all hazardous wastes and materials were removed. The existing monitoring wells were left in place. The paved area was removed and then rough graded.

Operations and Maintenance. Typical operations and maintenance activities in the Bray Property Planning Area includes regular trash collection.

Existing Use. Currently, the property includes a mix of un-maintained native and non-native vegetation, user-created trails, and remnant debris from the previous building demolition. It is relatively level with a small wetland near the center of the property. It is vegetated with common scrub species and a row of eucalyptus borders the edge separating it from the Active Recreation Area.

[3] Situs Address 1275 Dornan Drive, Richmond. APN No. 561-010-014

[4] Resolution Number 1999-6-137

[5] Block Environmental Services 1997, 1998a, 1998b, Levine-Fricke 1991; 1991 IS/MND Bray Property page 2-6

LUPA RECOMMENDATIONS

Goal - Develop Trail Connections and Park Facilities. The recommendations for the Bray Property Planning Area would provide much-needed opportunities for habitat enhancement and public education, providing an outdoor classroom for the park visitors, volunteers, and school fieldtrips. Appropriate public education panels would be included throughout the Bray Property to educate park visitors about the plants, habitat values, history of the Bray Property, park operations, and the value and processes of composting. The recommendations are as follows:

Recommendations

1. Provide an area for disposal of dredging spoils from the lagoon
2. Provide a green-waste area for operations and public education
3. Develop a promenade connecting the Ferry Point Pier to the Lagoon Planning Area through the Bray Property Planning Area
4. Establish native plant communities as demonstration gardens with connecting paths
5. Develop a Recreation Program and Storage Building for District use

1. Provide an area for lagoon dredge disposal. As described under the Lagoon Planning Area recommendations, dredge material from implementation of the Lagoon Enhancement Project would be placed on-site within the Bray Property Planning Area. Up to four acres would be utilized for this purpose, resulting in an average of approximately 18-inches of dredged sediment, though some areas may receive up to three feet of dredged sediment to create topography. The dredge disposal area would be sited to avoid the area intended for implementation of the LUPA recommendation to develop Recreation Program and Storage Building for District use, described later in this section. The dredge disposal area would be prepared by removing vegetation, grading the area to provide a uniform disposal area, and creating equipment access. Vegetation removal would occur outside of bird nesting season, if possible, or after bird nesting surveys have been completed with negative results. As dredged material is placed in the disposal area, it would be spread to optimize drying time and then contoured to prepare areas of the Bray Planning Area for implementation of other LUPA recommendations. Dredge material would be transported from the lagoon to the Bray property disposal area using trails within the park and a short section of Dornan Drive. The alignment for the recommended new trail on the east side of the lagoon would be used for this purpose and the formal trail would be developed after the dredging is complete. It is anticipated that the material would be dry within one year following dredging. During this time, the work area would be closed to the public. Please refer to Figure 16.

2. Provide a green-waste area for park operations and public education. The green-waste area would be located southeastern point of the Bray Property Planning Area adjacent to Dornan Drive and the existing Bay Trail. This area would be utilized by park operations staff to temporarily store green waste accumulated from on-going park maintenance activities while also providing public education, which could include information regarding park operations and the environmental benefits of utilizing green waste. Currently, green waste is stored in the overflow parking area at Ferry Point, an area that this LUPA is recommending be converted to permanent parking.

3. **Develop a promenade connecting the Ferry Point and Lagoon Planning Areas through the Bray Property Planning Area.** This recommendation would create a wide walkway extending between the Ferry Point Pier through the Bray Oil property to the Lagoon Planning Area which would help to unify the park and provide an additional way for visitors to explore Miller/Knox. This recommendation would incorporate a portion of the footprint from the terminal building for the alignment, re-use abandoned railroad track after it is removed from the District's property along the Bayshore Planning Area, and would place interpretive plaques and/or panels to highlight the former use and history of Ferry Point. Native plants emphasizing the coastal grassland plant community would be planted on both sides of the walkway.

4. **Establish native plant communities as demonstration gardens with connecting paths.** This is the only "naturalized" area of Miller-Knox west of Dornan Drive. Implementation of this recommendation would create an outdoor classroom of native plants well-suited for this environment in small garden-like settings with a trails, benches, and picnic tables. The area would include public education panels including information about the coastal plant communities and habitats, history of the Bray Property, and other appropriate topics. In addition to preserving native plants already within the Bray Property Planning Area, plant palettes for individual gardens could include:

Coastal Grassland. This plant community is also known as coastal prairie and consists of a mix of grasses, wildflowers, and herbaceous perennials that are well-adapted to shallow, fine-textured clay or sandy-clay soils and wind exposure.

TABLE 2 - TYPICAL COASTAL GRASSLAND PLANTS	
Common Name	**Botanical Name**
Diego bent grass	*Agrostis pallens*
Pacific hairgrass	*Deschampsia cespitosa ssp. Holciformis*
Blue wild rye	*Elymus glaucus*
Red fescue	*Festuca rubra*
Douglas iris	*Iris douglasiana*
Creeping wild rye	*Leymus triticoides*
Purple needle grass	*Nassella pulchra*
Blue-eyed grass	*Sisyrinchium bellum*

Coastal Scrub. This plant community consists of low-height shrubs ranging between one to five feet, interspersed with open, grassy meadows. These plants are well-adapted to drought and thrive on wind-exposed areas with deep, well-drained gravelly soils.

TABLE 3 - TYPICAL COASTAL SCRUB PLANTS	
Common Name	**Botanical Name**
California sagebrush	*Artemisia californonica*
Coyote bush	*Baccharis pilularis var. consanguinea*
Buckwheat	*Eriogonum nadum*
Silver bush lupine	*Lupinus albifrons*
Sticky monkey flower	*Mimulus aurantiacus*
California rose	*Rosa californica*
Coffeeberry	*Rhamnus californica*

Coast Live Oak Woodland. This plant community is the tallest, consisting of primarily of trees interspersed with shrubs included in the Coastal Scrub Plant Community as well as an undergrowth of grasses and other herbaceous plants included in the Coastal Grassland Plant Community.

TABLE 4 - TYPICAL COAST LIVE OAK WOODLAND PLANTS	
Common Name	**Botanical Name**
Coast live oak	*Quercus agrifolia*
Buckeye	*Aeculus californica*
Western redbud	*Cercis occidentalis*
Toyon	*Heteromeles arbutifolia*
Coffeberry	*Rhamnus californica*
California blackberry	*Rubus ursinus*

Raingarden/Wetland. The 1999 Initial Study/Negative Declaration referenced a wetland on the Bray property that recent surveys have not been able to locate. A raingarden/wetland feature is recommended as part of site drainage.

TABLE 5 - TYPICAL WETLAND PLANTS	
Common Name	**Botanical Name**
curly dock	*Rumex crispus*
Spearscale	*Atriplex triangularis*
Spikerush	*Eleocharis macrostachya*
Bulrush	*Schoeneplectus ssp.*
field sedge	*Carex praegracilis*
bog rush	*Juncus effuses*
brown-headed rush	*Juncus phaeocephalus*

Pathways. Interconnecting pathways would be developed throughout the Bray Property Planning Area, winding around the native plant gardens and the promenade. These pathways would be narrower than the promenade and could be natural surface.

5. **Develop a Recreational Program and Storage Building for District Use.** The Recreational Program and Storage Building would be located across from the existing Ferry Point overflow parking area along the eastern edge of the Bray Property and would provide sheltered space, not to exceed 2,000 square feet, to provide staging and storage for District outdoor education, interpretive programs, and volunteer activities. This potential future project is subject to the availability of funding and further design.

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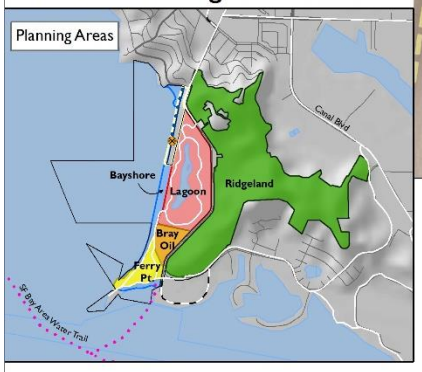
Figure 16: Bray Property Planning Area
Conceptual Plan View

Miller / Knox Regional Shoreline

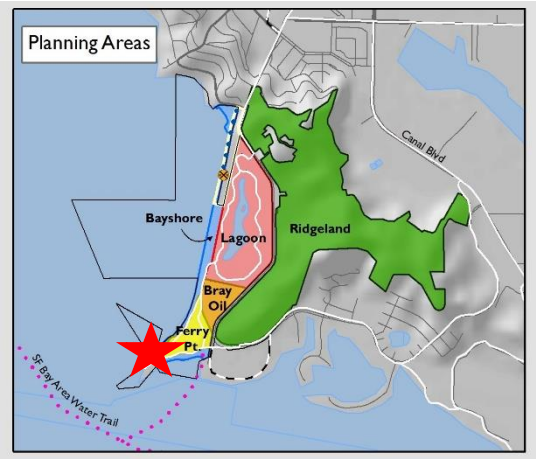


Legend

- Railroad Property
- Railroad Bumper
- EBRPD Lease
- SF Bay Water Trail
- SF Bay Trail - Existing
- SF Bay Trail - Proposed

East Bay Regional Park District

FERRY POINT PLANNING AREA



Location. The Ferry Point Planning Area is triangular property located adjacent to the Bray property at the southern tip of Miller/Knox,[6] shown in yellow on the adjacent graphic. Sweeping panoramic views of the Potrero Hills, Mount Tamalpais, the San Francisco skyline, and San Francisco Bay islands are prominent from the Ferry Point Planning Area. In total, the Ferry Point property is approximately 28 acres, 18 of which are sub-tidal and 10 of which are on land. The District acquired the property in 1991 from Atchison, Topeka and Santa Fe Railroad (ATSF) and the California State Lands Commission (CSLC). The negotiations with the CSLC required the District to undertake phased site clean-up as well as a long-term lease for the Ferry Point Pier and associated sub-tidal areas. The 1991 Negative Declaration for acquisition of the Ferry Point property provided for remediation of hazardous materials prior to opening for public use.[7] The remediation was completed in 2012.

Prior Documents. The 1995 Ferry Point Pier and Ferry Point Terminal Amendment to the Miller/Knox Regional Shoreline Land Use Development Plan and associated Negative Declaration (1995 documents) were prepared specifically for rehabilitation of the historic Ferry Point pier for fishing and other recreation uses. The documents outlined potential additional development of this property but did not make specific recommendations or analyze environmental impacts associated with potential future development. The 1995 documents designated 10-acres of the property as a Recreation Unit, indicating that the area is suitable for more intensive recreational use and are of sufficient size to provide the necessary infrastructure to support the use. Portions were also designated as a Special Protection Unit in recognition of its historic significance. The LUDPA designated the historic Ferry Point pier as a public pier that could be used for fishing. Improvements were completed consistent with the Secretary of the Interior's (SOI's) *Guidelines for Rehabilitation of Historic Structures*, including requirements to maintain the open viewshed at the pier and provide mooring of vessels that is consistent with ADA access guidelines and is compatible with fishing, engineering, bay currents and tidal range. Management measures of the Special Protection Units include avoiding destruction the contributing historic elements which include the railroad freight slop, wharf, and gallows; the rail alignments, the fuel pumphouse, warehouse, and the overall landform supporting the terminal function.

In 2015, Interactive Resources, Inc. prepared the *Ferry Point Buildings Development Study* (2015 Study) for the District's use in developing recommendations for this LUPA. The Study included a historic context of the buildings; summary of eligibility for the National Register of Historic Places and California Register of Historic Resources; property description; the building's character-defining features; an evaluation of the existing material conditions of the buildings; regulatory framework; and analysis of the options.

[6] APNs 561-010-015, 561-010-006, and 561-010-01

[7] Notice of Determination, Acquisition of Ferry Point. December 4, 1991.

The 2015 Study assessed the feasibility and potential implications for the following possible options regarding the historic buildings:

- Full rehabilitation of both buildings for commercial use
- Full rehabilitation of both buildings for commercial use with roof access at the pumphouse building
- Full rehabilitation of the pumphouse building only for commercial use
- Limited rehabilitation of both buildings for passive recreational use
- Limited rehabilitation of both buildings for passive recreational use with roof access at the pumphouse building
- Limited rehabilitation of the pumphouse building only for passive recreational use
- Demolition of both buildings and redevelopment of the area for another park use

Currently, the historic Ferry Point Pier is listed on the City of Richmond's Historic Resources Inventory and is a City of Richmond Landmark. The buildings are considered historic resources related to the historic Ferry Point Pier and the Study assumed them to be included as part of the City Landmark designation. Additionally, based on the 1995 *Historic Property Survey Report* (HSPR) *and Finding of No Adverse Effect for Rehabilitation of Ferry Point Pier*,[8] the Study determined that the historic pier and the buildings are eligible for the National Register of Historic Places under Criterion A, for their association with events that have made a significant contribution to the broad patterns of history, specifically, the development of the western terminus of the transcontinental railroad by the ATSF railway and for the beginning of transportation and industrial development of the City of Richmond. The HSPR further concluded that the site may also be eligible for the National Register under Criterion B for its association with William Benson Storey, Jr., the design engineer of the historic pier and President of Santa Fe from 1920 – 1933, and Criterion C as an early and distinctive example of intermodal transportation technology. Similarly, the property including the historic pier and the buildings appear eligible for the California Register of Historic Resources.

The 2015 Study determined that the remaining portions of both buildings could be rehabilitated for potential future uses and that the structural reinforced concrete appears to be in fair condition overall. The Study further determined that rehabilitation would maintain and "intrinsic and priceless cultural value" associated with the Santa Fe Railway era. Rehabilitation consistent with the SOI's *Guidelines for Rehabilitation of Historic Structures* would be consistent with numerous goals included in the District's 2013 Master Plan and the City of Richmond's General Plan 2030. Demolition of one or both buildings would constitute a loss of historic resources in terms of the California Environmental Quality Act, requiring an Environmental Impact Report and approvals from the City of Richmond and the San Francisco Bay Conservation and Development Commission (BCDC).

Recent Projects. In 2015, the Ferry Point Plaza was revived as part of the Public Access Improvement Project. This project was funded through the National Fish and Wildlife Foundation Cosco Busan Oil Spill Settlement and the District's Measure CC. Ferry Point Plaza was reconfigured to include a kayak wash area, outdoor shower, and fish cleaning station. The outdated restrooms were replaced, and new drinking fountains and picnic areas were installed. In 2016, the Ferry Point Public Access Improvements Project was completed. This project improved access to the small sandy beach which is a popular launch point for non-motorized boats and is part of the San Francisco Bay Water

[8] Urban Conservation and Urban Design

Trail. This project developed a new concrete pathway from the Ferry Point parking area to the beach consistent with ADA requirements with funding from a Water Trail Grant through the Coastal Conservancy. The project also improved the ADA parking spaces to Ferry Point Beach and added "San Francisco Bay Water Trail" signage. The Public Access Improvement Project, discussed also under the Lagoon Planning Area, utilized funding from the Cosco Busan Oil Spill Settlement and the District's Measure CC capital funds to provide a covered rinse-off shower with a sand trap, and a fish cleaning station, and reconfigure the existing Ferry Point parking area to improve access compliant with the Americans with Disabilities Act; and installed four new picnic areas each consisting of two concrete picnic tables and one barbeque along the existing path between Ferry Point Beach and Ferry Point Pier in addition to the improvements at the Lagoon Planning Area.

Operations and Maintenance. Typical operations and maintenance activities in the Ferry Point Planning Area includes daily cleaning the restrooms and fish cleaning station in Ferry Point Plaza, daily emptying of garbage cans, and regular grass mowing in the open space areas. Currently, the buildings at Ferry Point are fenced off and public access is prohibited but illegal access still occurs. District operations staff removes trash from these buildings approximately once a month. The fishing pier is inspected approximately once a month. Maintenance of the historic pier generally occurs on an annual basis and includes general clean-up using a boat and special-made ladder at high tide.

Existing Use. In addition to Ferry Point Plaza and Ferry Point Beach, the Ferry Point Planning Area also features a section of the San Francisco Bay Trail, picnic areas, the historic pier, the Ferry Point Fishing Pier, and open areas for passive recreational use. The National Register-eligible buildings remain behind fencing, excluding this area from public use. The District leases the historic pier and the fishing pier from the State Lands Commission. Interpretive panels and benches are located along the San Francisco Bay Trail and at the Fishing Pier.

LUPA RECOMMENDATIONS

Goal - Maximize Public Amenities and Scenic Vista. The Ferry Point Planning Area contains panoramic views of San Francisco Bay and surrounding areas. The fishing pier, beach, and San Francisco Bay Trail are key recreational features regularly used park visitors which have been enhanced by the recent improvements. Implementation of the proposed LUPA recommendations would maximize public amenities in the Ferry Point Planning Area and enhance the overall usability of this area and include the following:

Recommendations

1. Develop a promenade connecting the Ferry Point Pier to the Lagoon Planning Area through the Bray Oil Property Planning Area
2. Provide drought-tolerant, climate-smart turf in the open area
3. Provide additional picnic areas and benches
4. Expand parking adjacent to the existing staging area
5. Rehabilitate the historic pumphouse building for passive interpretive use
6. Replace the historic warehouse building with day-use and scenic vista point area

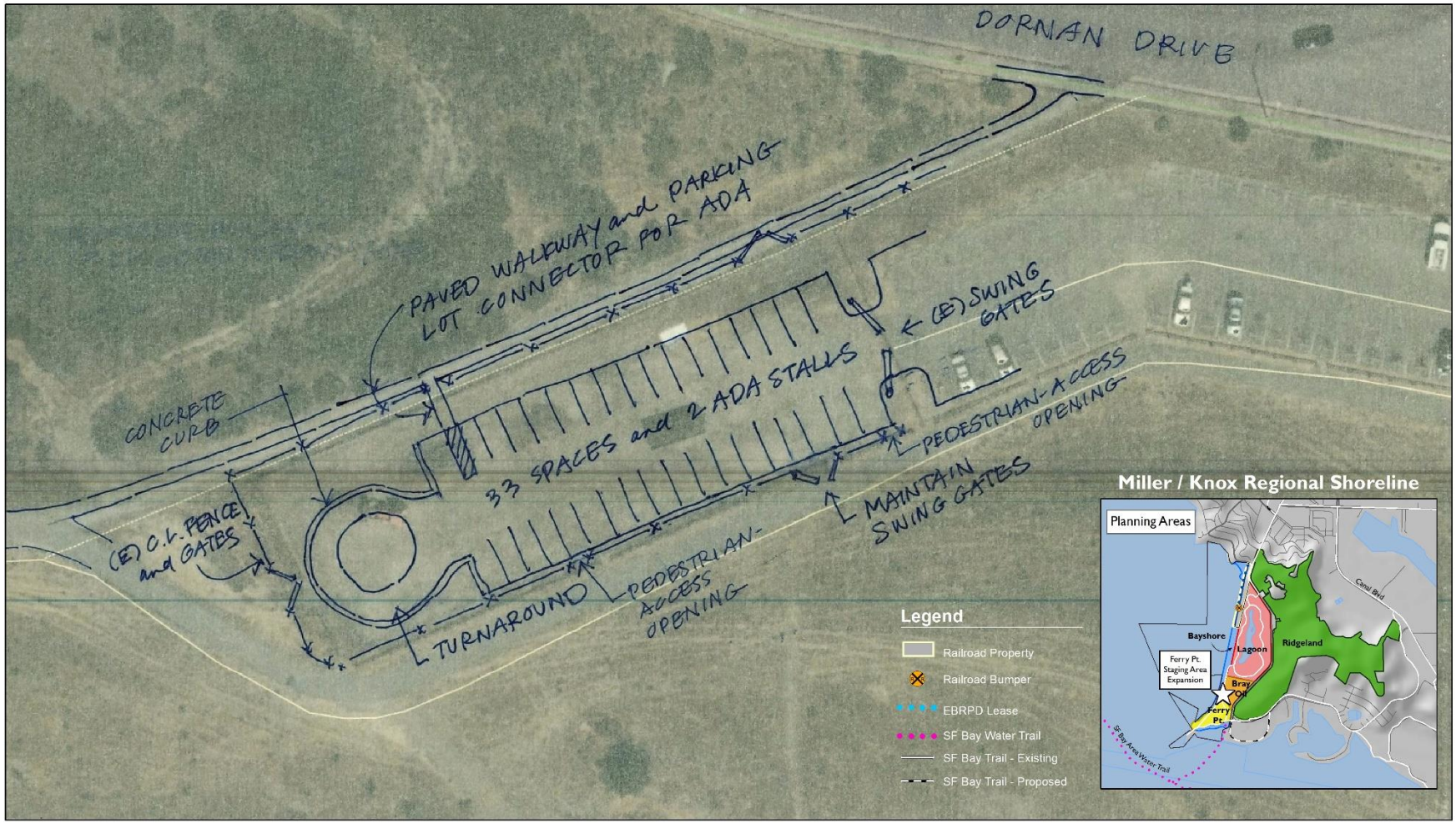
1. **Develop a promenade connecting the Ferry Point Pier to the Lagoon Planning Area through the Bray Oil Property Planning Area.** This would occur by implementing the same recommendation included in the Bray Planning Area. This recommendation is included in both planning areas to ensure a complete understanding of all LUPA recommendations for the Ferry Point Planning Area.

2. **Provide drought-tolerant, climate-smart vegetation in the open areas.** The small hill and surrounding area in the center of the Ferry Point Planning Area is sparsely vegetated with primarily non-native grassland plant species. Enhancing this area with with drought-tolerlant, climate-smart vegetation would compliment the shoreline environment.

3. **Provide additional picnic areas and benches.** Additional picnic areas and benches located at strategic locations within the Ferry Point Planning Area and would provide more opportunities for park visitors to take advantage of the open views provided at this location. Picnic areas would be of the same style of those included in the 2015 Public Access Improvements Project.

4. **Expand parking adjacent to the existing staging area.** This recommendation would develop an additional 35 parking spaces, including two ADA stalls, in the area immediately adjacent to the existing Ferry Point parking area that currently is used by Park Operations. The District anticipates the need for expanded parking in this area due to new residential development adjacent to Miller/Knox. The paved staging area expansion would include a vehicle turn-around and paved walkways for pedestrians to access the park. Please refer to Figure 17.

5. **Rehabilitate the historic pumphouse building for passive interpretive use.** This recommendation would implement improvements to the pump house building to render it consistent with current building codes and provide safe public access. The building would serve as a passive historical interpretive feature to expand on the existing interpretive focus of Ferry Point, highlighting the role of Ferry Point's historic contribution to intermodal transportation, its role in World War II, and in contributing to development of the City of Richmond. The pumphouse would be structurally upgraded, concrete surfaces would be patched, and the interior elements would remain in-situ for historical interpretive uses. The many channels and pits that exist in the floor would remain as part of the historic, interpretive element but would be covered with a clear surface and safety rails would be installed around these elements to prevent falls and tripping hazards. The doors and windows of the pump house could also be reconstructed to replicate the original construction or could be left in their current open condition.



MILLER / KNOX REGIONAL SHORELINE LUPA

Figure 17: Ferry Point Planning Area - Staging Area Expansion

East Bay Regional Park District

While compliance with the National Register requirements may constrain certain building modifications and would require measures to mitigate building modifications and removal, there is flexibility in the SOI's Guidelines for Rehabilitation of Historic Structures to accommodate a wide range of adapted re-uses including re-use of the pump house building for passive interpretive use.

Two options to the LUPA recommendation are discussed below for informational purposes. These options were included in the 2015 Study, were included in the 2013 and 2017 NOPs, and were discussed at both public scoping meetings. Should the District elect to implement one of these options, additional compliance with CEQA would be required.

Option 1 – Full Rehabilitation. Full rehabilitation would redevelop the historic pumphouse building into a fully functioning building that would be able to support a commercial or public use. Implementation of this option would require numerous architectural and structural upgrades beyond those that would be required for the LUPA recommendation, such as installation of new electrical, mechanical and plumbing systems. With approval of a Conditional Use Permit from the City of Richmond, implementation of the Full Rehabilitation option would provide potential use including:

- Museum
- Interpretive center
- Visitor center
- Recreational rental facility, i.e. kayak or bike rentals
- Restaurant or café
- Warming hut

The Full Rehabilitation option would require additional site improvements depending on the intended use. For example, if a visitor center or restaurant is the intended use, additional site improvements would include new vehicle access and parking for visitors and emergency vehicle access, new restrooms, replacement of windows and door, and utility line replacement. Site security would be analyzed during the design phase to provide for control of the site while facilitating passive public access.

Option 2 – Full Demolition. Full demolition of the historic pumphouse building includes the structure and all accessory structures such as the concrete fuel tank holders. Implementation of this option would open the viewshed to San Francisco Bay and provide increased area for other park uses, such as picnic areas. Full demolition may involve removal and subsequent remediation of hazardous materials, the presence of which would be evaluated should the Full Demolition alternative be selected for implementation.

6. **Replace the historic warehouse building with day-use and scenic vista point area.** The warehouse building would be partially demolished to develop a picnic area within the building footprint. The existing concrete structural side and roof beams would be retained to delineate a structure for the picnic area. The picnic area could be covered with lattice or with solar panels, the latter providing electricity for an irrigation system for the native planting areas and for the existing lights on the fishing pier. Please refer to Figure 18 for a conceptual rendering of how this recommendation could look after implementation along with other LUPA recommendations.

   Two options to the LUPA recommendation are discussed below for informational purposes. These options were included in the 2015 Study, were included in the 2013 and 2017 NOPs, were discussed at both public scoping meetings, and Option 1 is included in the Program EIR as an alternative to the LUPA recommendation.

This is the existing view looking towards the historic Ferry Point pier and the historic pumphouse and warehouse buildings.

This is a simulated view showing how the area could look with implementation of LUPA recommendations to develop a promenade connecting the Ferry Point pier to the Lagoon Planning Area; create native grassland in the open turf area; provide additional picnic areas and benches; rehabilitate the historic pumphouse building for passive interpretive use; and replace the historic warehouse building with a day-use and scenic vista point.

FERRY POINT PLANNING AREA VISUAL SIMULATION

FIGURE 18

Graphic prepared by Ascent Environmental

Program EIR. Exhibit 364 and 4.6-3

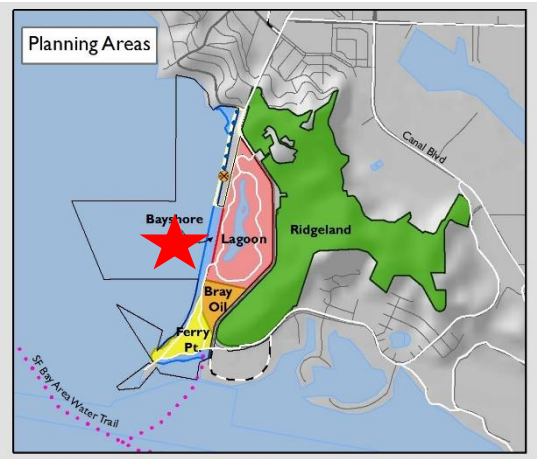
East Bay Regional Park District

Should the District elect to implement one of these options, additional compliance with CEQA would be required.

Option 1 – Full Rehabilitation. This alternative would fully rehabilitate the historic warehouse building into a fully functioning building that would be able to support a commercial or public use. Implementation of this alternative would require numerous architectural and structural upgrades beyond those that would be required for the LUPA recommendation, such as installation of new electrical, mechanical and plumbing systems. If this alternative is selected for implementation in conjunction with the Full Rehabilitation option for the historic pumphouse building, the two fully rehabilitated structures would provide the same potential uses as those listed under LUPA recommendation regarding the historic pumphouse building providing that a Conditional Use permit is approved by the City of Richmond. Additional amenities such as a covered walkway connecting the two structures could be developed.

Option 2 – Full Demolition. This option would fully demolish the historic warehouse building, including the concrete structural side and roof beams proposed for retention under the LUPA recommendation. Implementation of this option would fully open the viewshed to San Francisco Bay. As with the LUPA recommendation, the footprint of the demolished building could be used as a picnic area. Full demolition may involve removal and subsequent remediation of hazardous materials, the presence of which would be evaluated should the Full Demolition option be selected for implementation.

BAYSHORE PLANNING AREA



Location. The Bayshore Planning Area connects Keller Beach and Ferry Point Beach along the San Francisco Bay. Keller Beach is located at the north end of Miller/Knox near the Dornan Drive tunnel, shown in blue on the adjacent graphic.

Keller Beach is approximately 1.3 acres[9] and was established by the City of Richmond in 1967, gifted to the District in 1977[10], and included as part of the Miller/Knox opening in 1977. At this time, Keller Beach was already developed and included picnic tables, barbeques, restrooms, an outdoor shower, horseshoe pits, and landscaping. These amenities are arranged on terraces accentuated by curvilinear rock walls and overlooking the beach and San Francisco Bay. Parking is available along Dornan Drive, a public street in the City of Richmond's jurisdiction.

Ferry Point Beach is a small beach located at the south end of Miller/Knox. It features open views of San Francisco, San Francisco Bay, and the surrounding area. Ferry Point, including Ferry Point Beach, is located along a shipping channel near the Richmond Harbor. There is a 300-foot security exclusion zone around the Chevron Long Wharf, which is located in San Francisco Bay approximately one mile north of Ferry Point Beach. A paved section of San Francisco Bay Trail exists along the shoreline between Ferry Point Beach and Ferry Point Pier, and then it continues landward into the Lagoon Planning Area.

There is one additional small pocket beach located along the shoreline approaching Ferry Point from Keller Beach.

Referring to Figure 13, the area shown in blue along the shoreline near Keller Beach is property owned by BNSF upon which, the District holds a public access agreement and public access is allowed. This property was acquired by the District from ATSF Railroad in 1975. Also near Keller Beach, the area shown with white cross-hatching is owned by BNSF Railroad and remains in active use. The District does not hold an easement on this property, and public access is not permitted. The area shown with red cross-hatch is also owned by BNSF but is not being actively used. The District does not hold an easement on this property, and public access is not permitted. Public access still occurs in this section of BNSF property, though such use is not specifically permitted by BNSF Railroad. The District owns the remaining bayshore area. There are abandoned railroad tracks in areas of this property, however, they are owned by BNSF railroad. This area is designated for additional San Francisco Bay Trail development through the District's Measure CC program, approved by voters in

[9] East Bay Regional Park District. (1973). *"Existing Conditions Resource Analysis and Land Use Study in connection with the George Miller, Jr. Memorial Regional Park, Point Richmond."* Arbegast and Newton Landscape Architects. Berkeley, CA.

[10] District Board of Directors Resolution No. 4235 adopted February 20, 1973 authorized District staff to negotiate with the City of Richmond for transfer of Keller's Beach and other City of Richmond properties to the District. District Board of Directors Resolution No. 1977-3-68 adopted March 8, 1977 authorized the District to accept deeds for these properties, adding 58 acres to George Miller Jr. Regional Shoreline, the then name of Miller/Knox Regional Shoreline, including APNs: 556-011-005, 556-011-008, 558-011-008, 561-020-001.

2004. The District has been unable to implement this project because BNSF retains ownership of the abandoned railroad track and has not yet authorized the District to remove it. The District is currently working to resolve this impediment.

Prior Documents. In 1973, the George Miller, Jr. Memorial Regional Shoreline EIR was published and proposed approximately 8 acres of fill, increasing the shoreline by several hundred feet, a pedestrian bridge was proposed to allow the public access to the water side of the Santa Fe railroad tracks as well as park development east of the railroad tracks, and park development within the Lagoon Planning Area. In 1974, the George Miller, Jr. Memorial Regional Shoreline Phase 1 Environmental Impact Assessment (EIA) incorporated the 0.16-acre easement section that was granted to the District from ATSF Railway Company. The main purpose of development in this area of the park was to provide an extension of the Keller's Beach Shoreline for safe use by fishermen and to provide the public access to the beach without having to cross private property and potentially dangerous rip-rap. The project consisted of repair to the existing rip-rap, gravel protective surfacing along the top, and adding a 12-foot-wide section of rock toe armor along the base to prevent erosion by wave action as well as provide a walking surface at low tide. Fencing was included to limit public access per the agreement between Santa Fe Railroad and the District as well as separate pedestrians and trains as a safety measure. In 1976, the George Miller, Jr. Regional Shoreline EIR (1976 EIR) was prepared for a project that consisted of filling approximately 7.9 acres of bay and placing rip-rap to protect the shoreline from erosion and create new shoreline recreation areas. In the Bayshore Planning Area, the project included the rip-rap repair along the shoreline from Keller's Beach, fishing areas, two beaches, a restroom, a parking area, a path to link with the existing Keller's Beach and a pedestrian crossing over the railroad tracks to provide access to Keller's Beach, and a fishing groin west of the railroad tracks. Most of these improvements were achieved. The shoreline trail from Keller's Beach, the pedestrian crossing over the railroad, and the fishing groin were not implemented.

Recent Project. In November 2016, the District completed a public access improvement project at Ferry Point Beach which included parking consistent with the Americans with Disabilities Act (ADA) requirements, a concrete pathway from the new ADA parking spaces to the beach, and related signage with Trail grant funding through the Coastal Conservancy. Amenities including an outdoor shower, restroom, fish cleaning station, parking, and the San Francisco Bay Trail are located in this area, described in this document under the Ferry Point Planning Area section.

Operations and Maintenance. Typical operations and maintenance activities in the Bayshore Planning Area includes regular trash collection and grass mowing. Trash collection occurs daily at Ferry Point Beach and Keller Beach, as well as daily restroom cleaning at Keller Beach.

Existing Use. Keller Beach and Ferry Point Beach are connected along the shoreline on sections of existing and former railroad alignment where the most common public use is walking.

Park visitors refer to Keller Beach as a "hidden gem" and it is popular year-round. It is a designated beach location on the San Francisco Water Trail. Open water swim events are conducted two – five days per week by the East Bay Open Water Swim Group, and an annual open water swim event is hosted by *Richmond Swims*. The inaugural event was held in 2010 and had 68 participants. Over the years the event grew, and in 2016 included approximately 300 participants. The District, in coordination with the Contra Costa County Environmental Health Department, tests Keller Beach for bacterial levels in accordance with the California Department of Public Health's *Guidance for Salt*

Water Beaches. Water quality tests are conducted weekly between the months of April and October, and twice a month between the months of November and March.

Ferry Point Beach is a designated location on the San Francisco Water Trail and is a popular launch location for non-motorized watercraft including canoes, kayaks, and paddleboards.

LUPA RECOMMENDATIONS

Goal – Improve public access along the shoreline. Currently, the trail connection between Keller Beach and Ferry Point along the bayshore consists of a natural surface pathway adjacent to abandoned railroad tracks interrupted by a small area where public access is not permitted. Near Ferry Point, there is a section of paved Bay Trail. The direct connection between Keller Beach and the center of Miller/Knox is off Dornan Drive via Western Drive. Recommendations for the Bayshore Planning Area include the following:

Recommendations

1. Remove the abandoned railroad tracks within District jurisdiction and develop a section of the San Francisco Bay Trail between Keller Beach and Ferry Point
2. Formalize access between the Bayshore and the Lagoon Planning Areas
3. Upgrade landscaping at Keller Beach
4. Upgrade amenities including the restroom, drinking fountain, outdoor shower, picnic tables and benches at Keller Beach
5. Conduct an engineering design development study along the Bayshore and implement shoreline features to improve resiliency and climate change adaptation

1. Remove the abandoned railroad tracks within District jurisdiction and develop a section of the San Francisco Bay Trail between Keller Beach and Ferry Point. This recommendation is a project approved by voters for the District's Measure CC in 2004 and assumes that the District will successfully resolve the current impediment to remove the railroad track. Implementation of this recommendation would involve removal of the abandoned railroad track and development of a new section of the San Francisco Bay Trail. The trail would be a paved surface for multi-use recreation along the San Francisco Bay shoreline and would be developed consistent with the San Francisco Bay Trail Design Guidelines and Toolkit to the greatest degree possible within the existing constraints of the area. Trail width would be 12 feet with 3-foot-wide shoulders on each side, space permitting. The trail surface would be paved with a permeable surface for the shoulders. The abandoned railroad track could then be re-purposed to provide edging for the "Grand Promenade" described in the Ferry Point Planning Area section of this document.

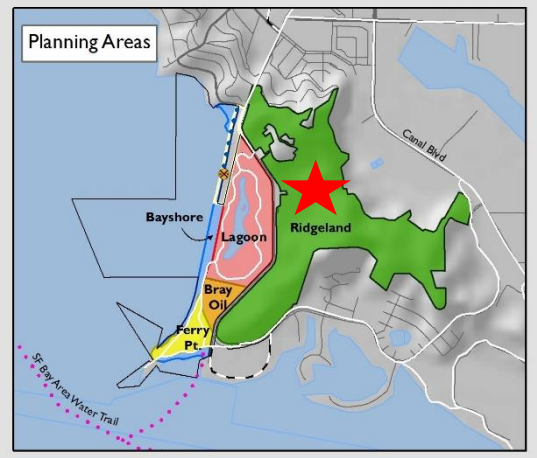
2. **Upgrade Landscaping at Keller Beach.** Habitat restoration including removal of invasive plant species, such as French broom, would be conducted to improve habitat and enhance park visitor experience along the shoreline.

3. **Upgrade amenities including the restroom, drinking fountain, outdoor shower, picnic tables and benches at Keller Beach.** Existing picnic areas and benches, the restroom, drinking fountain, and outdoor shower would be upgraded to match the style of the 2015 Public Access Improvements Project at Ferry Point. These upgrades would improve access and overall visitor experience at Keller Beach.

4. **Formalize access between the Bayshore to the Lagoon Planning Area.** The 1976 EIR included a pedestrian bridge crossing over the railroad track to provide access between the Lagoon Planning Area and the Bayshore Planning Area. The railroad has not permitted the development of this bridge to date. Currently, there are a few informal access points created by park visitors providing access between the Lagoon Planning Area and the Bayshore Planning Area. This LUPA recommendation would formalize these access points on District-owned property by developing short trails to connect these areas of Miller/Knox.

5. **Conduct an engineering design development study along the Bayshore and implement shoreline features to improve resiliency and climate change adaptation.** Recommendations resulting from an engineering study along the Bayshore to improve resiliency and climate change adaptation would provide bolstered shoreline protection from sea level rise.

RIDGELAND PLANNING AREA



Location. The Ridgeland Planning Area encompasses approximately 163 acres and is located on the east side of Dornan Drive. It is shown as green on the adjacent graphic. It features approximately four miles of hiking trails in open-space grassland intermixed with patches of scrubland and woodland. The high point is Nicholl Knob, a 371-foot peak accessed via the Crest Trail. The four established vista points in the Ridgeland Planning Area offer panoramic views of Miller/Knox, the San Francisco Bay, and the surrounding Bay Area. Mount Tamalpais, the San Francisco skyline, Brooks Island, and the East Bay hills are all visible on clear days. Parking is available off Dornan Drive adjacent to the Rambler's Clubhouse and along Dornan Drive.

Prior Documents. The Ridgeland Planning Area was included in the 1983 Resource Analysis, Land Use-Development Plan, and Environmental Impact report for Miller-Knox Regional Shoreline (1983 LUDP/EIR) which were completed in September 1983 and December 1983 respectively. These documents were prepared by The Planning Collaborative, Inc. and covered the entire parkland area at the time of publication, 263.4 acres, owned in fee by the District including approximately 60 acres in the Bay, 40 acres that comprise the Lagoon Planning Area, and the 163-acre Ridgeland Planning Area. At this point, there remained a number of inholdings remaining in private or agency ownership in the Ridgeland Planning Area and the District held several scenic easements surrounding the park and agreements with the railroad and the City of Richmond. Existing built facilities within the Ridgeland Planning Area when the 1983 LUDP/EIR were published included the Thompson Paint Company warehouse, the historic Bernardi House, an East Bay Municipal Utility water tank, and two power lines, and several wooden buildings and sheds. The Thompson Paint Company warehouse is now the park office, corporation yard, and the Model Train Museum. The remaining area, consisted of open-space grassland intermixed with patches of brush in drainage swales and north-facing slopes and scattered planted pine and eucalyptus trees. The 1983 LUDP/EIR recommended the ridgeland area be developed with trails, interpretive vista points, and natural management areas.

The Wildfire Hazard Reduction and Resource Management Plan (Wildfire Management Plan)[11] provides long-term strategies for reducing fuel loads and managing vegetation to minimize the risk of Diablo wind-driven catastrophic wildfire along the wildland-urban interface, while also ensuring the protection and enhancement of ecological values and resources within the District's jurisdiction. The Wildfire Management Plan was developed to guide ongoing vegetation management activities on District park lands along the wildland-urban interface to reduce the likelihood of a catastrophic, wind-driven wildfire, such as the 1991 Oakland Hills fire. The Wildfire Management Plan is consistent with the District's Master Plan and builds upon the District's ongoing fuels management activities, as well as the 1982 Blue Ribbon Report, the 1995 Fire Hazard Mitigation Program and Fuel Management Plan for the East Bay Hills, and other applicable District plans and policies. The District's Fire Department

[11] East Bay Regional Park District. 2009. (April). *Wildfire Hazard Reduction and Resource Management Plan and Environmental Impact Report*. Resolution #2010-2-103 (EIR) and #2010-4-104 (Plan).

follows the Wildfire Management Plan as a guiding tool for which fuel management approaches should be used for a given park, including strategies to implement fuels management processes. The District's Fire Department creates an annual work plan of fuels treatment projects, the success of which depends largely on the collaborative work that is done with Park Stewardship, Park Operations, park supervisors, and other departments. An important part of the fuels management process is the ongoing maintenance to ensure wildland fuel loads are kept to an acceptable level. Maintenance actions may be required one or more times each year, depending on amount of new vegetation that has grown since the previous treatment.

Operations and Maintenance. Typical operations and maintenance activities in the Ridgeland Planning Area includes daily trash collection and regular trail maintenance. Trail maintenance includes vegetation management, such as trimming tree branches to provide overhead clearance and removal of invasive species. Occasionally, trails are closed to the public for safety reasons. The District typically includes Miller/Knox in its annual Ivan Dickson Trail Maintenance Program during which a targeted project is undertaken by volunteers under supervision by the District's Regional Trails and Park Operations staff. Typical Ivan Dickson activities include pruning; erosion control; trailhead and travel way improvements such as installation of specialized trail structures including drain dips, retaining walls, and steps; and new trail construction.

Existing Use. Hiking is the primary activity in the Ridgeland Planning Area. In total, Miller/Knox features approximately 5.5 miles (29,120 linear feet) of trails, including 24,790 feet of official trail and 4,330 feet of user-createde trails. The ridgeland trails range in width between one and 20 feet, and conisisting of natural, asphalt, and wood surfaces. The trails meander throughout the park, offering recreationists with a variety of views and habitats to experience. The Ridgeland has six official trails, which are described below:

Marine View Trail. The Marine View Trail is accessed from Crest Avenue, at a location identified as Trailhead 2 on Figure 24. This trail occurs to a large extent along old existing road cuts, which in some cases traverse or are very close to erosional or slide areas. It traverses the hillside above the water tower and concludes at "The Saddle." The Marine View Trail is a natural surface trail approximately 0.5 mile (2,660 feet) in length, ranging in width between three and ten feet.

Dornan Grove. This trail is accessed north of the Richmond Rambler's Clubhouse at the existing informal staging area at Dornan Drive, which is identified as Trailhead 3 on Figure 24. The Dornan Grove Traill connects to the Old Country Road Trail just below the water tank. The official trail is approximately 0.23 mile (510 feet) long natural surface trail approximately one foot in width.

Old County Road. This is the major access trail from the existing informal staging area at Dornan Drive, shown as Trailhead 3 on Figure 24. It can also be accessed at the northern terminus of Miller/Knox at Belvedere Avenue, shown as Trailhead 1 and on Dornan Drive south of the informal staging area at Trailhead 4 as shown on on Figure 24. It is steep and traverses shrubland, woodland, grassland, and seasonal wetland areas. It continues easterly to "The Saddle," an important juncture between the False Gun Site, Vista Point, and Nicholl Knob. The official Old Country Road Trail is an approximately one mile (5,380 feet) long natural surface trail ranging in width between three and twelve feet.

West Ridge Trail. The West Ridge Trail is accessed from Dornan Drive towards the southern end of Miller/Knox, identified as Trailhead 5 on Figure 24. It can also be accessed from the Old Country Road Trail. From Dornan Drive, the West Ridge Trail heads up to West Ridge Point then follows

the steep ridge up to False Gun site and connects with the Crest Trail. The official length is approximately 0.74 mile (3,890 feet) in length. It ranges in width between six and twenty feet and consists of a natural surface.

Crest Trail. The Crest Trail is accessed from a driveway off Canal Boulevard, at a location identified as Trailhead 7 on Figure 24. This is the main trail that runs along most of the park's ridgeline from the Canal Boulevard driveway, up to False Gun and "The Saddle" until it reaches Nicholl Knob. The official trail is an approximately 1.2 miles (6,080 feet) long mix of natural and asphalt surface trail ranging in width between three and fifteen feet. The asphalt section starts near Canal Boulevard and climbs the hillside to the False Gun site where it changes to a natural surface trail that slopes down to the saddle, where it again rises towards Nicholl Knob.

East Trail. The East Trail is accessed from a driveway off Canal Boulevard, at a location identified as Trailhead 7 on Figure 24. This trail trends along the hillside, and ultimately connects with the Crest Trail, the Marine View Trail, and the West Ridge Trail at "The Saddle." The length of the official East Trail is approximately 0.54 mile (2,810 feet). It is a natural surface trail ranging in width between 2 and 4 feet.

LUPA RECOMMENDATIONS

Goals - Improve Public Access and Enhance the Existing Trail System. The majority of the existing trails are former jeep roads, and some are showing signs of severe erosion and degradation. The LUPA recommendations would improve the existing trail system in the Ridgeland Planning Area, rendering them more stable, and enhance vista points for a more meaningful public experience. The Trail Recommendations include twelve trail closures and development of two new trails. Implementation of the various recommendations for vegetation management would complement the trail improvement recommendations while reducing potential fuel loads and improving habitat. Currently there are no formal staging areas associated with the Ridgeland Planning Area. Development of two staging areas is recommended in this LUPA to improve public access to the trail system.

Recommendations

1. Develop new staging areas off Dornan Drive and off Canal Boulevard
2. Develop trailheads and new vista points, repair trails damaged by erosion, and decommission trails too damaged for repair
3. Continue to implement the District's Wildfire Hazard Reduction and Resource Management Plan recommendations and implement Integrated Pest Management and grazing recommendations to enhance habitat and site conditions in this planning area.

1. Develop new staging areas off Dornan Drive and off Canal Boulevard. Implementation of this recommendation would provide formal staging areas off Dornan Drive, near The Rambler's Clubhouse, and off Canal Boulevard in order to improve visitor access to the ridgeland trails.

Dornan Drive Staging Area. The Dornan Drive Staging Area is identified as Trailhead 3 on Figure 24. This existing gravel parking area provides trailhead access to the Dornan Grove Trail and two distinct trailheads for the Old Country Road Trail. Three options for a formal staging area are being considered by the District and the City of Richmond. All three include a paved parking area, improved access to existing trails, signage, park brochure dispenser, drinking water, picnic

tables, debris bins, dog-waste bag stations, a two-unit sewered restroom, and a pedestrian crossing across Dornan Drive to the sidewalk.

***LUPA Recommendation- District and City of Richmond Property – Maximum Build-out*.** The LUPA recommendation would provide a total of 83 parking spaces, including four ADA stalls, located on District and City-owned properties, and would require an easement with the City of Richmond. Development would not require any tree removal. Please refer to Figure 19.

The two options to the LUPA recommendation are included for informational purposes.

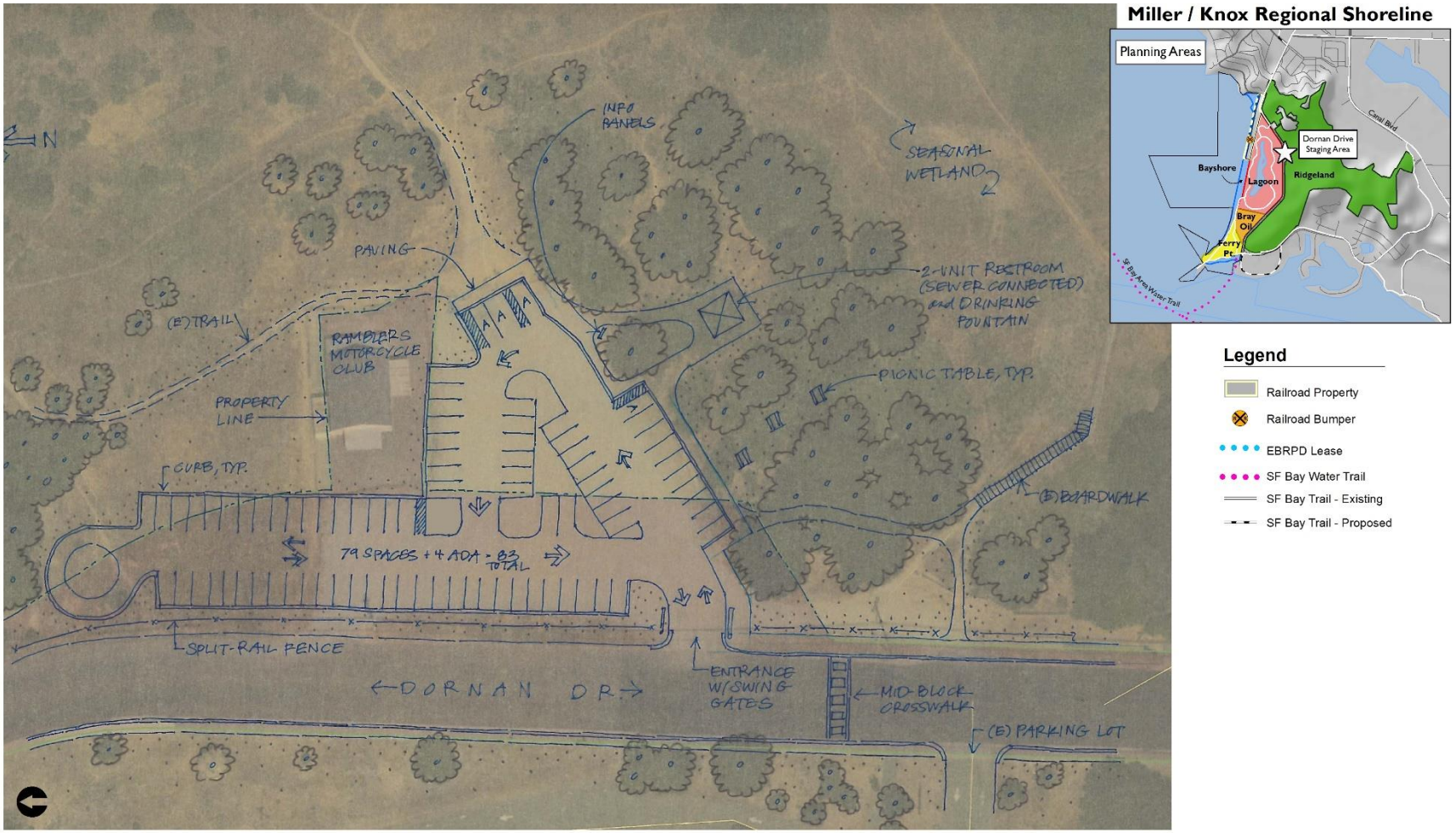
Option 1 – District and City of Richmond Property. Option 1 would provide a total of 33 parking spaces, including two ADA stalls, with some of the parking spaces and the access driveway from Dornan Drive located on City-owned property. Option 1 would not require any tree removal and would require an easement from the City of Richmond. Please refer to Figure 20.

Option 2 – District Property Only. Option 2 would provide a total of 33 parking spaces, including two ADA stalls. All parking spaces and the access driveway from Dornan Drive would be located on District-owned property. The access driveway would require removal of seven coast live oak (*Quercus agrifolia*) trees, ranging in breast-height diameter between 6-inches and 27-inches. Please refer to Figure 21.

Canal Boulevard Staging Area. The Canal Boulevard Staging Area is identified as Trailhead 7 on Figure 23. Currently, there is no formal parking for park visitors at this trailhead access. The District anticipates public demand for parking at this park entrance to accommodate the new residential development approved adjacent to the park. Miller/Knox visitors park along the narrow driveway off Canal Boulevard, which has no shoulders and provides access to local businesses. Development of the Canal Boulevard Staging Area would provide a safer parking area for park visitors. Trailhead access to the East Trail and the Crest Trail is provided at this location. Two options for a formal staging area are being considered by the District and the City of Richmond. Both include a paved parking area, improved access to existing trails, signage, park brochure dispenser, drinking water, picnic tables, debris bins, dog-waste bag stations, and a two-unit sewered restroom parking, a restroom.

LUPA Recommendation – District Access Easement and City of Richmond Property. The LUPA recommendation would be developed on an access easement held by the District on property owned by the City of Richmond and on separate property owned by the City of Richmond. Implementation would require an additional easement from the City of Richmond. The staging area would include 27 parking spaces including two ADA stalls for a total of 29 new parking spaces, with a sidewalk connecting to the restroom. Implementation would include re-routing of a section of the San Francisco Bay Trail and may require retaining walls. Implementation of this alternative would require removal of 24 eucalyptus trees with breast-height diameter ranging between 3-inches and 36-inches and one toyon, for a total of eleven distinct trunks with breast-height diameter ranging between 6-inches and 22-inches. Please refer to Figure 22.

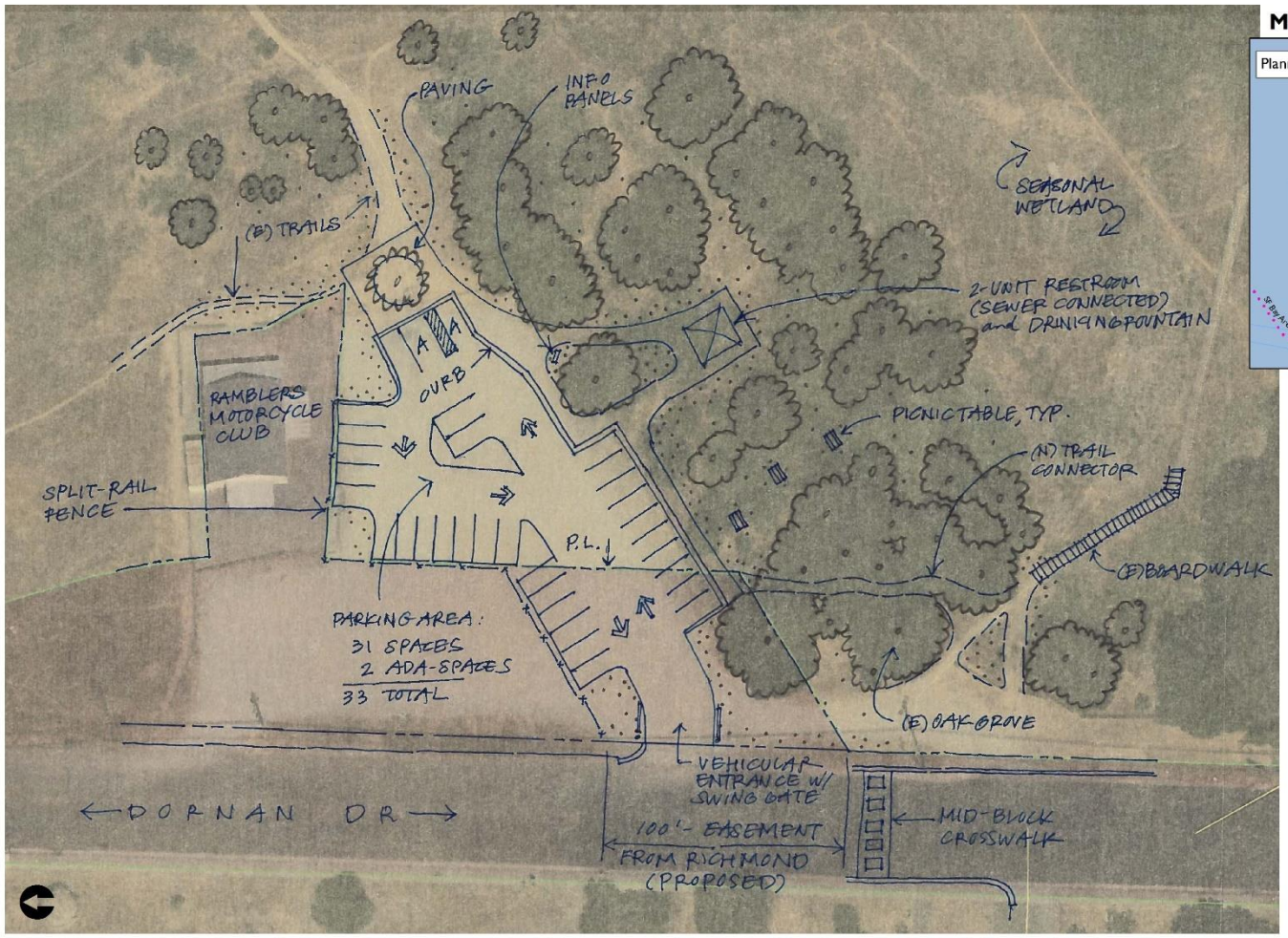
The option to the LUPA recommendation are included for informational purposes.



MILLER / KNOX REGIONAL SHORELINE LUPA

Figure 19: Ridgeland Planning Area - Dornan Drive Staging Area: LUPA Recommendation

East Bay Regional Park District



MILLER / KNOX REGIONAL SHORELINE LUPA

Figure 20: Ridgeland Planning Area - Dornan Drive Staging Area: Option 1

East Bay Regional Park District

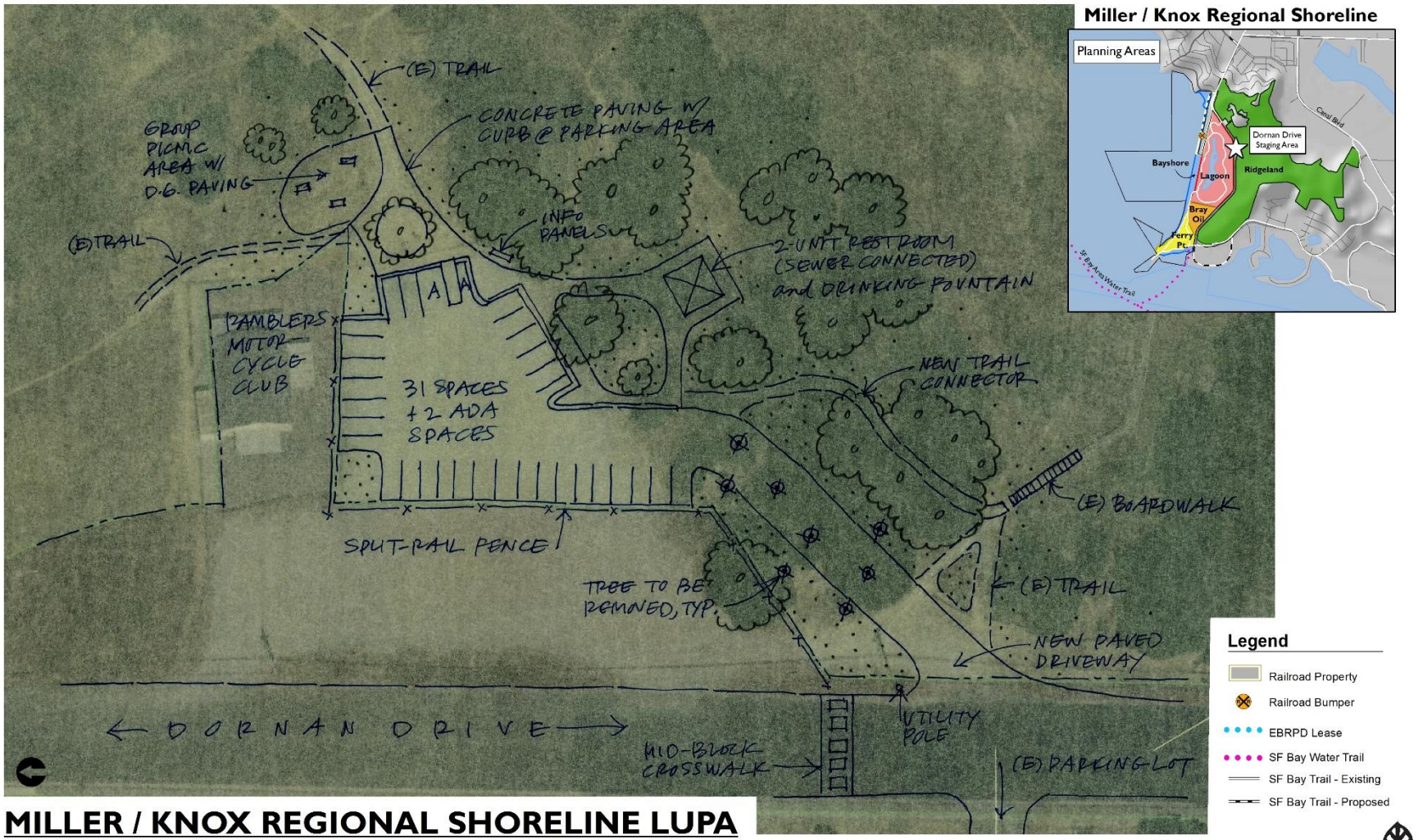


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Figure 21: Ridgeland Planning Area - Dornan Drive Staging Area: Option 2

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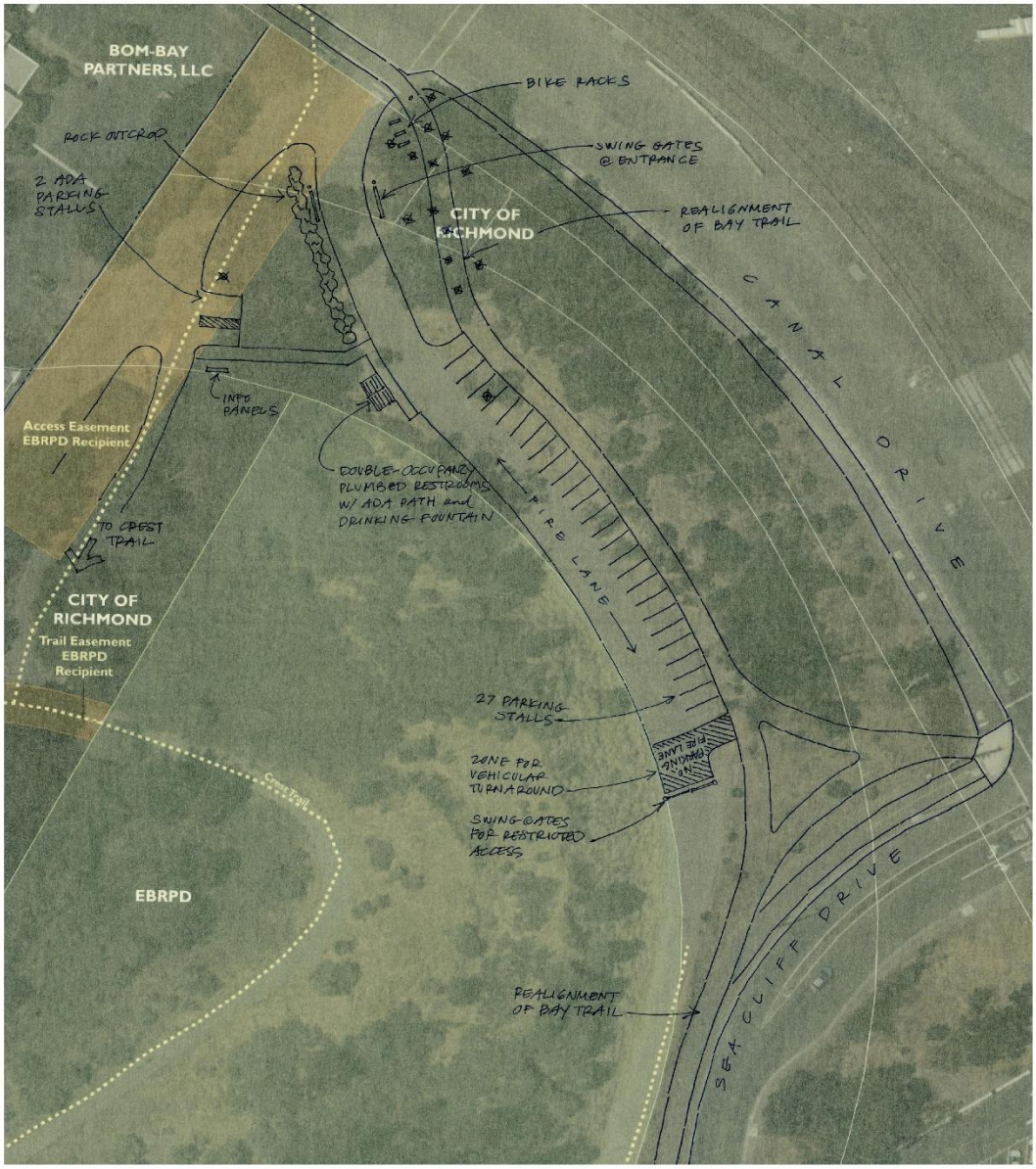
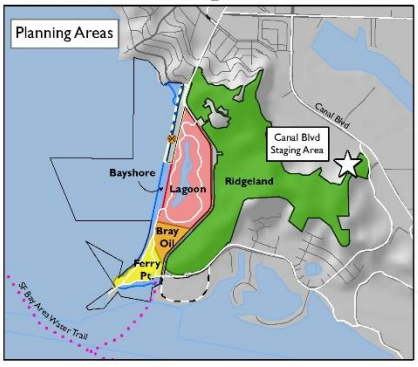
Figure 22: Ridgeland Planning Area
Canal Boulevard Staging Area: LUPA Recommendation



Miller / Knox Regional Shoreline



Legend

- Railroad Property
- Railroad Bumper
- EBRPD Lease
- SF Bay Water Trail
- SF Bay Trail - Existing
- SF Bay Trail - Proposed

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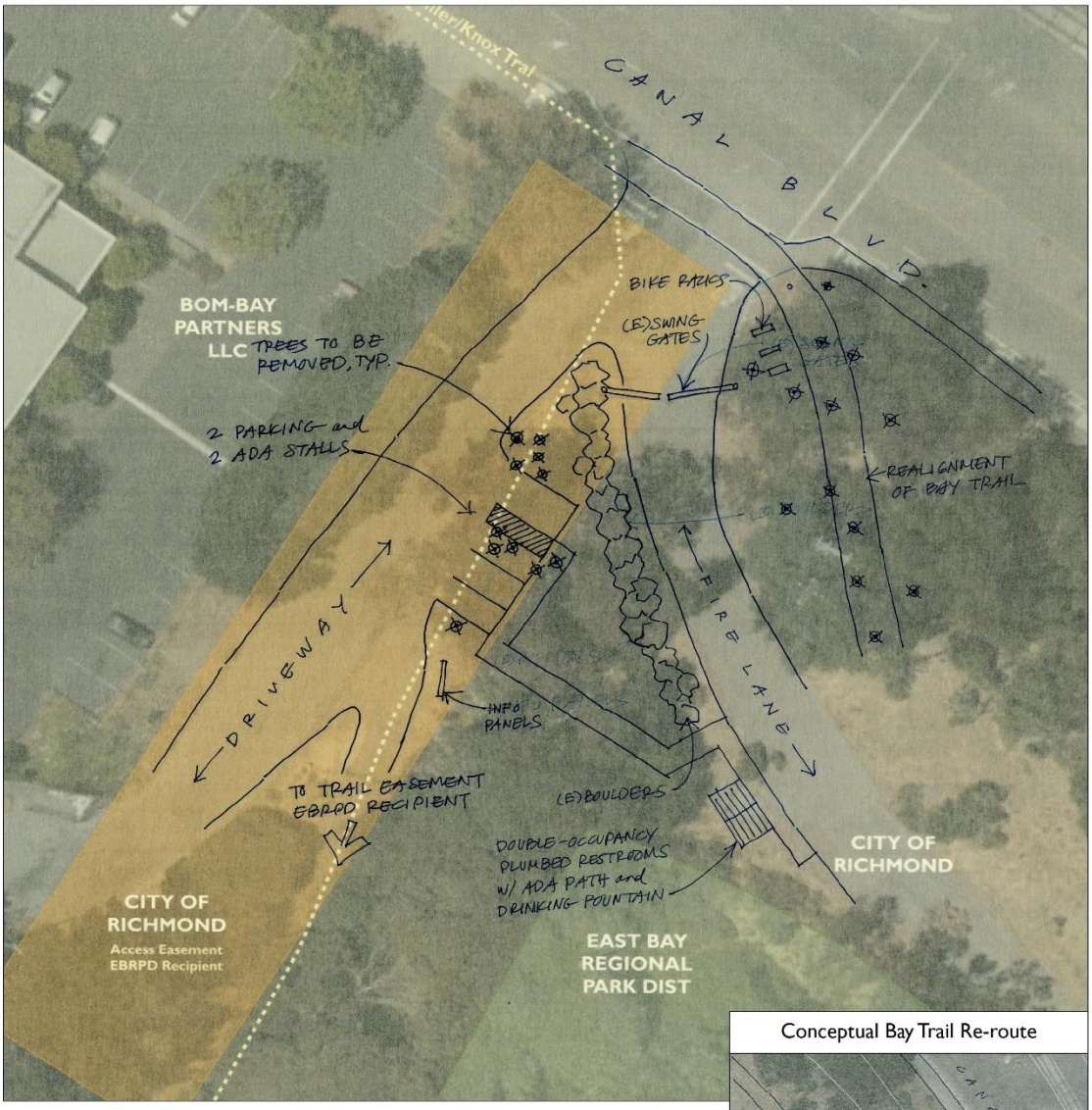
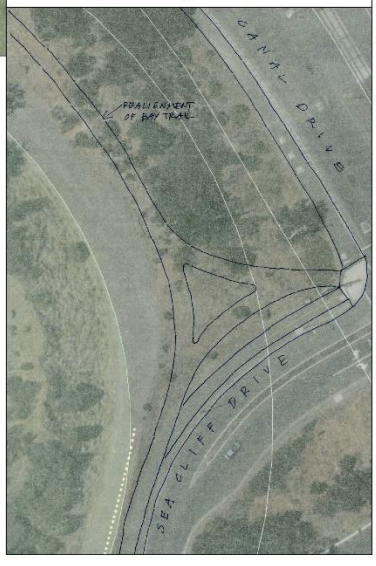
Figure 23: Ridgeland Planning Area
Canal Boulevard Staging Area: Option



Conceptual Bay Trail Re-route



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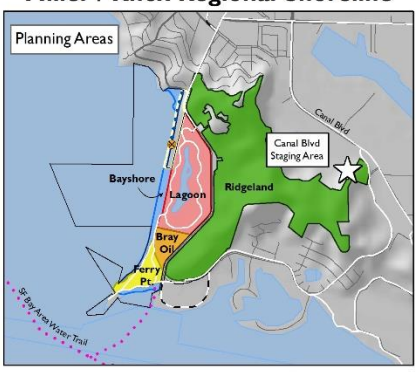

Legend

- Railroad Property
- Railroad Bumper
- EBRPD Lease
- SF Bay Water Trail
- SF Bay Trail - Existing
- SF Bay Trail - Proposed

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***Option - District Access Easement Only*.** The optional concept would be developed on an access easement held by the District on property owned by the City of Richmond. The staging area would include four parking spaces, two for any vehicle and two ADA stalls. Implementation would require removal of eucalyptus trees, five single trunk trees and two multi-trunk trees, for a total of eleven distinct trunks with breast-height diameter ranging between 3-inches and 22-inches. Please refer to Figure 23.

2. **Develop trailheads and new vista points, repair trails damaged by erosion, and decommission trails too damaged for repair.** The majority of the existing trails in the Ridgeland Planning Area are former off-road motorcycle and jeep trails and some are showing signs of severe erosion and degradation. Implementation of the trail recommendations would improve the existing trail system in the Ridgeland Planning Area, rendering them more stable and operationally sustainable, and enhance existing vista points for a more meaningful public experience. Specific trail recommendations[12], which are represented on Figure 24 are as follows:

Trailheads. There are currently eight trail access points around the Ridgeland Planning Area. These are described in the following text along with the LUPA recommendations.

Trailhead 1. Trailhead 1 accesses the Old Country Road Trail from Belvedere Avenue. Currently, there is very limited street side parking outside of the park boundary. It is recommended that the District coordinate with the City of Richmond to maintain the trailhead, and install or replace signage, trail brochure dispenser, debris cans, and dog-waste bag station.

***Trailhead 2*.** Trailhead 2 provides access to the Crest Trail and the Marine View from Crest Avenue. It is located outside of the park boundary. Currently, there is very limited street side parking within the park boundary. It is recommended that the District coordinate with the City of Richmond to maintain the trailhead, establish or define parking spaces on the edge of the park boundary, and install or replace signage, trail brochure dispenser, debris cans, and dog-waste bag station.

***Trailhead 3*.** Trailhead 3 provides access to the Dornan Grove Trail, the Ramblers' Trail, and the Boardwalk Trail. It is located adjacent to the existing Richmond Ramblers' clubhouse on District property off Dornan Drive. Currently, Trailhead 3 is a large and unorganized gravel parking area. It is recommended that the previously described recommendation to develop a new staging area off Dornan Drive is implemented.

Trailhead 4. Trailhead 4 provides access to the Old Country Road Trail off Dornan Drive. Currently, there is no parking for this trailhead access and no available right-of-way to develop a staging area at this location. Visitors wishing to access the Old Country Road Trail at this location must walk from other staging areas. It is recommended that the District work with the City of Richmond to install a pedestrian crossing on Dornan Drive to provide safe pedestrian access from the Miller/Knox staging areas at Ferry Point or the Lagoon Planning Area, and install or replace signage, park brochure dispenser, debris cans, and a dog-waste bag station.

[12] East Bay Regional Park District. 2018 (February). *Miller/Knox Trail Recommendations*. Unpublished District staff report prepared by Sean Connelly, Trails Coordinator.

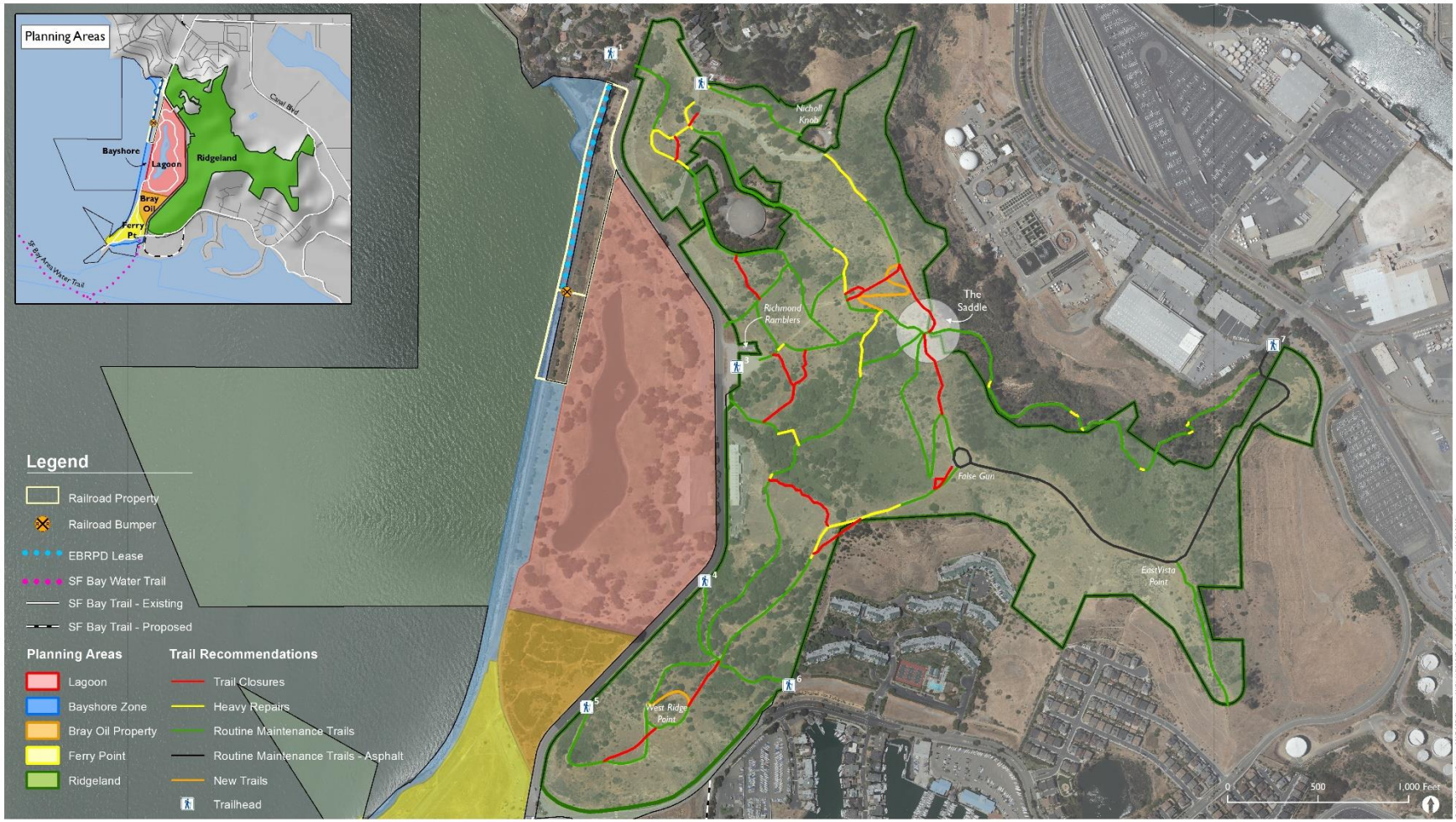

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Figure 24: Ridgeland Planning Area - Trail Recommendations

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Trailhead 5. Trailhead 5 provides access to the West Ridge Trail. Currently, there is no parking for this trailhead access and no available right-of-way to develop a staging area at this location. Visitors wishing to access the West Ridge Trail at this location must walk from other staging areas. It is recommended that the District work with the City of Richmond to install a pedestrian crossing on Dornan Drive to provide safe pedestrian access from the Miller/Knox staging areas at Ferry Point or the Lagoon Planning Area, and install or replace signage, park brochure dispenser, debris cans, and a dog-waste bag station.

Trailhead 6. Trailhead 6 provides access to the Brickyard Cove Trail off Brickyard Cove Road. Currently, this is an unofficial trailhead with limited parking at what appears to be an abandoned parking lot. It is recommended that the District install or replace signage, park brochure dispenser, debris cans, and a dog-waste bag station on District property.

Trailhead 7. Trailhead 7 provides access to the East Trail and the Crest Trail from a narrow driveway off Canal Boulevard. Currently, there is limited on-street parking for Park visitors along the driveway which is on City of Richmond property. It is recommended that the previously described recommendation to develop a new staging area off Canal Boulevard is implemented.

Trails. While several of the less sloped trail segments need only routine maintenance, many areas are in dire need of upkeep and others need to be closed entirely and rehabilitated. The trail system has been assessed for improvements by balancing environmental conservation with recreation opportunities and operational needs. In that regard, the Ridgeland Planning Area trail segments have been triaged into three categories that are referenced on Figure 24.

Routine Maintenance. Shown as the "Green" trails on Figure 24. Approximately 3.98 miles (21,010 linear feet) of existing trails that are in good or satisfactory condition, requiring minimal and routine upkeep. Routine maintenance activities would include:

- Trail edge berm removal
- Drain/water bar cleaning and repairs
- Tread repair including slough removal, out-sloping tread, clearing debris
- Mechanized grading of existing trails, which could include use of heavy machines such as bulldozers, back hoes, graders, and dump trucks to manipulate the trail tread into the desired condition. Machine work is typically prescribed to trails that need to accommodate District park operations and emergency vehicles and/or have bedrock or other hardened surfaces that render it prohibitively difficult to address with hand tools alone.
- Clearing brush and trees that are encroaching on the trail corridor

Heavy Repairs. Shown as the "Yellow" trails on Figure 24. Approximately 0.54 mile (2,850 linear feet) of trails that require more intensive repairs than routine maintenance. Activities associated with heavy repairs include the following:

- Incorporation of drainage features such as check steps, water bars, drain dips to slow or divert water off trail
- Addition of fill/tread material to ruts in trail tread
- Construction of retaining walls, replacement/repair of boardwalks and steps

- Narrowing of trail tread by reseeding and planting native flora, placing native rocks and logs along sides of trail to encourage users to stay on trail while also slowing storm water runoff

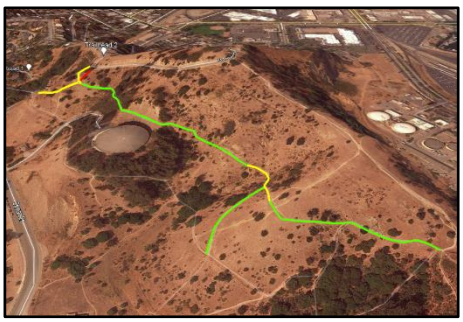
New Trails. Shown as the "Orange" trails on Figure 24. Approximately 0.18 mile (930 linear feet) of new trails recommended to improve user experience and maintain trail network connectivity. New trails would include the following parameters:

- Maximum grade should be no more than 15 percent, average no more than 10 percent, out-slope tread 6-10 percent
- Utilize natural contours and grade reversals to encourage sheet flow
- Trail grade should not exceed half the grade of the side-slope
- Avoid building trails on flat ground to minimize water collection on the trail
- Route trails to positive control points, such as viewpoints and interpretive areas and away from negative control points, such as (sensitive habitat and unstable ground

Trail Closures. Shown as the "Red" trails on Figure 24. Approximately 0.82 mile (4,330 linear feet) of trails that have been deemed redundant, unsafe or impractical to repair. These trails are often user created, fall line short cuts that collect water. Closures would include the following activities:

- Removal of bridges, boardwalks, steps and other built structures
- De-compaction of trail tread soils, re-establishment of natural hillside grade
- Installation of check dams and water bars to slow/disperse storm water runoff
- Installation of jute netting, spread native seed, place native debris such as rocks and rocks to obscure trail
- Installation of signage and fencing to discouraging further use while explaining closure

For the purpose of this LUPA and describing the trail recommendations, the Miller/Knox trails have been subdivided. The subdivisons include the six official trails and five existing trail segments that have been renamed. The specific recommendations for each subdivision are described in the following text, inset maps, and tables. In the tables which are part of each description, "Acronym" refers to labeling on Figure 24.



Marine View Trail. From Crest Avenue, the Marine View Trail follows along old road cuts and traversing the hillside above the water tower and concludes at the saddle. The Marine View Trail includes seven segments as shown on the table below, including an 80-foot segment of user-created trail recommended for closure.

TABLE 6 – MARINE VIEW TRAIL RECOMMENDATIONS						
Trail Segment	**Acronym**	**Routine**	**Heavy**	**New**	**Closure**	**Notes**
Marine View Trail Segment 1	MVT1		170 feet			Fill and machine grade
Marine View Trail Segment 2	MVT2	1,120 feet				Machine work
Marine View Trail Segment 3	MVT3		280 feet			Install 40 feet of puncheon; Install 18 box steps
Marine View Trail Segment 4	MVT4	540 feet				Machine work
Marine View Connector Trail 1	MVC1		230 feet			Fill and machine grade
Marine View Connector Trail 2	MVC2	320 feet				Machine work
Marine View Trail Closure	MVTC				80 feet	Hand work
TOTALS		**1,980 feet**	**680 feet**		**80 feet**	

Dornan Grove Trail. From the informal Dornan Drive Staging Area, the Dornan Grove Trail connects to the Old Country Road Trail just below the water tank. The Dornan Grove Trail includes two segments as shown on the table below, including a 280-foot long user-created trail recommended for closure.

TABLE 7 – DORNAN GROVE TRAIL RECOMMENDATIONS						
Trail Segment	**Acronym**	**Routine**	**Heavy**	**New**	**Closure**	**Notes**
Dornan Grove Trail	DGT	510 feet				Hand work
Dornan Grove User Trail	DGTC				280 feet	Hand work

Old County Road Trail. From the Dornan Drive staging area, the trail rises up to "The Saddle" where it follows the road cut before narrowing as it travels north across the park before ending at Belevede Avenue. The Old Country Road Trail includes eleven segments as shown on the table below, including a connector trail that heads up to Marine View Trail and two user-created trails totalling approximately 630 feet that are recommended for closure.

TABLE 8 – OLD COUNTRY ROAD TRAIL RECOMMENDATIONS

Trail Segment	Acronym	Routine	Heavy	New	Closure	Notes
Old Country Road Segment 1	OCR1	410 feet				Machine work
Old Country Road Segment 2	OCR2	1,190 feet				Machine work
Old Country Road Segment 3	OCR3		30 feet			Install 8 Box Steps
Old Country Road Segment 4	OCR4	810 feet				Machine work
Old Country Road Segment 5	OCR5		230 feet			Install 30 box steps, Repair/replace 20 feet of puncheon
Old Country Road Segment 6	OCR6	1,460 feet				Machine work
Old Country Road Segment 7	OCR7		330 feet			Fill & machine grade
Old Country Road Segment 8	OCR8	480 feet				Hand work
Old Country Connector Trail	OCCT	440 feet				Hand work
Old Country Road Closure 1	OCRC1				480 feet	Hand work
Old Country Road Closure 2	OCRC2				140 feet	Hand work
TOTALS		**4,790 feet**	**590 feet**		**620 feet**	

West Ridge Trail. From the trailhead at Dornan Drive, the West Ridge Trail connects with the Crest Trail at the False Gun site. The West Ridge Trail includes eleven segments as shown on the table below, including four segments totaling 1,220 feet recommended for closure and one 230-foot long segment of recommended new trail.

TABLE 9 – WEST RIDGE TRAIL RECOMMENDATIONS

Trail Segment	Acronym	Routine	Heavy	New	Closure	Notes
West Ridge Trail Segment 1	WRT1	960 feet				Machine work
West Ridge Trail Segment 2	WRT2	620 feet				Machine work
West Ridge Trail Segment 3	WRT3	770 feet				Machine work
West Ridge Trail Segment 4	WRT4		610 feet			Fill and machine grading
West Ridge Trail Segment 5	WRT5	390 feet				Machine work
West Ridge Point Segment 1	WRP1	310 feet				Machine work
West Ridge Point Segment 2	WRP2			230 feet		4-foot-wide natural surface trail
West Ridge Trail Closure 1	WRTC1				340 feet	Hand work
West Ridge Trail Closure 2	WRTC2				300 feet	Hand work
West Ridge Trail Closure 3	WRTC3				320 feet	Hand work
West Ridge Trail Closure 4	WRTC4				260 feet	Hand work
TOTALS		**3,050 feet**	**610 feet**	**230 feet**	**1,220 feet**	

Crest Trail. From the Canal Boulevard driveway, the Crest Trail runs along most of the park's ridgeline from the Canal Boulevard driveway, up to False Gun and "The Saddle" until it reaches Nicholl Knob. The Crest Trail includes eight segments as shown on the table below, including approximately 1,390 feet of trail recommended for closure and 700 feet of recommended new trail.

TABLE 10 – CREST TRAIL RECOMMENDATIONS						
Trail Segment	**Acronym**	**Routine**	**Heavy**	**New**	**Closure**	**Notes**
Crest Trail (Asphalt)	CTSA	3,150 feet				Machine work
Crest Trail Segment 1	CTS1	1,480 feet				Machine work
Crest Trail Segment 2	CTS2			700 feet		4-foot-wide natural surface trail
Crest Trail Segment 3	CTS3	410 feet				Machine work
Crest Trail Segment 4	CTS4		340 feet			Machine filling and grading
Crest Trail Closure 1	CTC1				470 feet	Machine work
Crest Trail Closure 2	CTC2				440 feet	Machine work
Crest Trail Closure 3	CTC3				480 feet	Machine work
TOTALS		**5,040 feet**	**340 feet**	**700 feet**	**1,390 feet**	

East Trail. This trail trends along the hillside, and ultimately connects with the Crest Trail, the Marine View Trail, and the West Ridge Trail at "The Saddle." The East Trail includes thirteen segments, as shown on the table below.

TABLE 11 – EAST TRAIL RECOMMENDATIONS						
Trail Segment	**Acronym**	**Routine**	**Heavy**	**New**	**Closure**	**Notes**
East Trail Segment 1	ET1	490 feet				Hand work
East Trail Segment 2	ET2		20 feet			Repair/replace 20 feet of puncheon
East Trail Segment 3	ET3	60 feet				Hand work
East Trail Segment 4	ET4		30 feet			Install 30 feet of puncheon
East Trail Segment 5	ET5	520 feet				Hand work
East Trail Segment 6	ET6		20 feet			Repair/replace 20 feet of puncheon
East Trail Segment 7	ET7	500 feet				Hand work

TABLE 11 – EAST TRAIL RECOMMENDATIONS						
Trail Segment	**Acronym**	**Routine**	**Heavy**	**New**	**Closure**	**Notes**
East Trail Segment 8	ET8		20 feet			Repair/replace 20 feet of puncheon
East Trail Segment 9	ET9	80 feet				Hand work
East Trail Segment 10	ET10		70 feet			Install 70 feet of puncheon
East Trail Segment 11	ET11	380 feet				Hand work
East Trail Segment 12	ET12		20 feet			Install 20 feet of puncheon
East Trail Segment 13	ET13	600 feet				Hand work
TOTALS		**2,630 feet**	**180 feet**			

Nicholl Knob Trail – New Trail Name. The Nicholl Knob Trail is accessed from Crest Avenue, at a location identified as Trailhead 2 on Figure 24. It is approximately 660 feet in length, ranges is width between two and four feet, and consists of a natural surface. This trail starts at Crest Avenue then leads to the Nicholl Knob summit. The Nicholl Knob Trail includes two segments as shown on the table below.

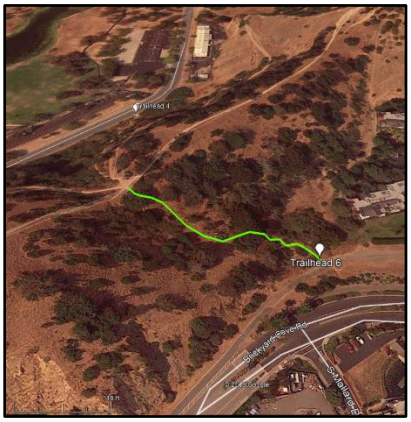
TABLE 12 – NICHOLL KNOB TRAIL RECOMMENDATIONS						
Trail Segment	**Acronym**	**Routine**	**Heavy**	**New**	**Closure**	**Notes**
Nicholl Knob Trail Segment 1	NKT1		40 feet			Install 10 box steps
Nicholl Knob Trail Segment 2	NKT2	620 feet				Hand work

Boardwalk Trail – New Trail Name. The Boardwalk Trail is accessed from the informal Dornan Drive Staging Area, which is identified as Trailhead 3 on Figure 24. They total approximately 1,250 feet of trail which range in width between four and six feet and consisting of natural and wood surfaces. From the trailhead, the formal Boardwalk Trail crosses a wetland and and connects with the Old Country Road Trail. It encompasses 250 feet of four foot wide elevated wood boardwalk and approximately 170 feet of steep hillside trail with wooden steps. The Boardwalk Trail includes three segments as shown on the table below, including a 740-foot long user created trail which is recommended for closure because it crosses through a seasonally wet and sensitive wetland.

TABLE 13 – BOARDWALK TRAIL RECOMMENDATIONS						
Trail Segment	**Acronym**	**Routine**	**Heavy**	**New**	**Closure**	**Notes**
Boardwalk Segment 1	BWT1	340 feet				Hand work
Boardwalk Segment 2	BWT2		170 feet			Install 30 Box Steps; Repair/replace 23 steps
Boardwalk Trail Closure	BWC1				740 feet	Hand work

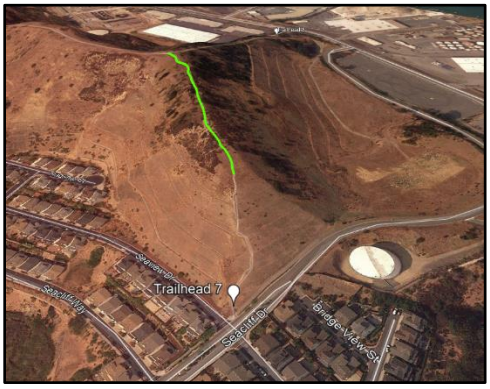
Ramblers' Trail – New Trail Name. The Ramblers' Trail is accessed from the informal Dornan Drive Staging Area, which is identified as Trailhead 3 on Figure 24. In total, it is approximately 1,900 feet in length, ranges in width between two and five feet, and consists of a natural surface. The trail rises steeply rises to the saddle as it connects with other trails including the Old Country Road Trail and includes a shortcut trail connecting to the Dornan Grove Trail. The Ramblers' Trail includes five segments, as shown on the table below.

TABLE 14 – RAMBLERS' TRAIL RECOMMENDATIONS						
Trail Segment	**Acronym**	**Routine**	**Heavy**	**New**	**Closure**	**Notes**
Ramblers Trail Segment 1	RT1	120 feet				Hand work
Ramblers Trail Segment 2	RT2		70 feet			Install 12 box steps
Ramblers Trail Segment 3	RT3	320 feet				Hand work
Ramblers Trail Segment 4	RT4		170 feet			Install 30 box steps; Repair/replace 13 steps
Ramblers Connector Trail	RCT	290 feet				Hand work
TOTALS		**730 feet**	**240 feet**			



Brickyard Cove Trail – New Trail Name. The Brickyard Cove Trail is accessed off Brickyard Cove Road, identified as Trailhead 6 Figure 24, and connects with Old Country Road Trail, West Ridge Trail, and Crest Trail. The Brickyard Cove Trail is approximately 460 feet of trail, ranging in width between two and four feet, and consisting of a natural surface.

TABLE 15 – BRICKYARD COVE TRAIL RECOMMENDATIONS						
Trail Segment	**Acronym**	**Routine**	**Heavy**	**New**	**Closure**	**Notes**
Brickyard Cove Trail	BYC	460 feet				Hand work



East Vista Trail – New Trail Name. The East Vista Trail is accessed from the asphalt section of the Crest Trail at the East Vist Point. It traverses down the ridge leaving District property onto a non-District trail. The official trail concludes at the park boundary part way down the ridgeline. The remainder of the trail to Seacliff Drive is not on District property and therefore is not included in the LUPA recommendations. East Vista Point is where the bench is near the end of the trail and the park boundary. The East Vista Trail is approximately 860 feet long within District property,ranges in width between two and four feet, and consists of a natural surface.

TABLE 16 - EAST VISTA TRAIL RECOMMENDATIONS						
Trail Segment	**Acronym**	**Routine**	**Heavy**	**New**	**Closure**	**Notes**
East Vista Trail	EVT	860 feet				Hand work

Trail Names. The existing trail names will remain through implementation of this LUPA. New trail names have been assigned to some trail segments to clarify the trail system, which would provide an aide to park visitors, District staff, and to emergency response personnel in case of rescue or other emergency consistent with the District's Naming Policy[13]. The new trail names are:

- Ramblers Trail
- Boardwalk Trail
- Nicholl Knob Trail
- Brickyard Cove Trail
- East Vista Trail

Trail Signage. The trail signage should include: wayfinding, interpretive and regulatory signage to encourage responsible trail use, identify regional trail routes, and provide trail users with information regarding property rights in order to minimize public/private use conflicts and trespassing. In areas where an old trail is being relocated or abandoned, the former trail area under restoration will be posted "*not a trail, habitat restoration taking place.*" In addition to trail signs, information should be disseminated through the District web site; park brochures distributed at the park; District events; and through outreach with clubs, shops, and schools.

[13] East Bay Regional Parks District. 2004 (April). Adopted by the District's Board of Directors April 20, 2004 by Resolution Number 2004-04-73.

3. **Continue to implement the District's Wildfire Hazard Reduction and Resource Management Plan recommendations and implement Integrated Pest Management and grazing recommendations to enhance habitat and site conditions in this planning area.** This collection of recommendations works together to protect the plant communities, habitat, and wildlife in the Ridgeland Planning Area.

Wildfire Hazard Reduction and Resource Management Plan. The Wildfire Management Plan and associated Environmental Impact Report were approved and certified by the District's Board of Directors in 2010[14], and identified the following five recommended treatment areas within the Ridgeland Planning Area. The intention of this LUPA is to ensure that the Fuels Management Plan recommendations for Miller/Knox are implemented throughout the life of the LUPA. Please refer to Figure 25, which shows the recommended treatment locations.

MK001: 5.9 acres at the northern edge of District property south of the tunnel, extending eastward into the Ridgeland Planning Area. Vegetation is a mix of grassland, scrubland, and woodland. The vegetation management goals identified for this treatment area are to generally maintain the existing vegetation types with increasing proportion of oak-bay woodland and grass, less scrub and pine. Manage area to stop pine seedling growth. Mechanical and hand labor treatments are recommended for this treatment area to reduce shrubs, limb up trees of lower branches, remove all pines smaller than 12 inches in diameter to approximately 20-foot minimum spacing, remove all dead pines, and selectively remove shrubs on north aspect. All oaks and bays on north aspect are recommended for retention, as well as pines which screen antennas on top of Nicholl Knob.

MK002: 0.4 acre at the most northeastern point of District property near Nicholl Knob. Vegetation is primarily scrubland. The vegetation management goals identified for this treatment area are for landscaping, annual grassland, scattered shrubs, pruned oaks and pines. Hand labor is recommended to create and maintain spacing according to defensible space performance standards.

MK003: 2.7 acres of grassland intermixed with scrubland located in the vicinity of the Bernardi House. The goals identified for this treatment area is to manage vegetation for landscaping, annual grassland, scattered shrubs, pruned oaks, and pines by creating and maintaining spacing according to defensible space standards.

MK004: 3.2 acres of scrubland and woodland located near the Old Country Road trailhead off Dornan Drive. The vegetation management goals identified for this treatment area are to encourage an open pine stand. Mechanical methods are recommended to thin the existing pine stand to 50 percent canopy closure, selecting smaller, unhealthy pine trees for removal as well as all trees below the ridgeline for a distance equal to the height of the tree to prevent ember spread across the ridgeline under a westerly wind. Removal of all understory is also recommended.

MK005: Ten acres of grassland intermixed with some scrubland and woodland wrapping around the southeastern portion of MK004 and extending easterly along the Crest Trail

[14] East Bay Regional Parks District. 2010 (April). Op cit.

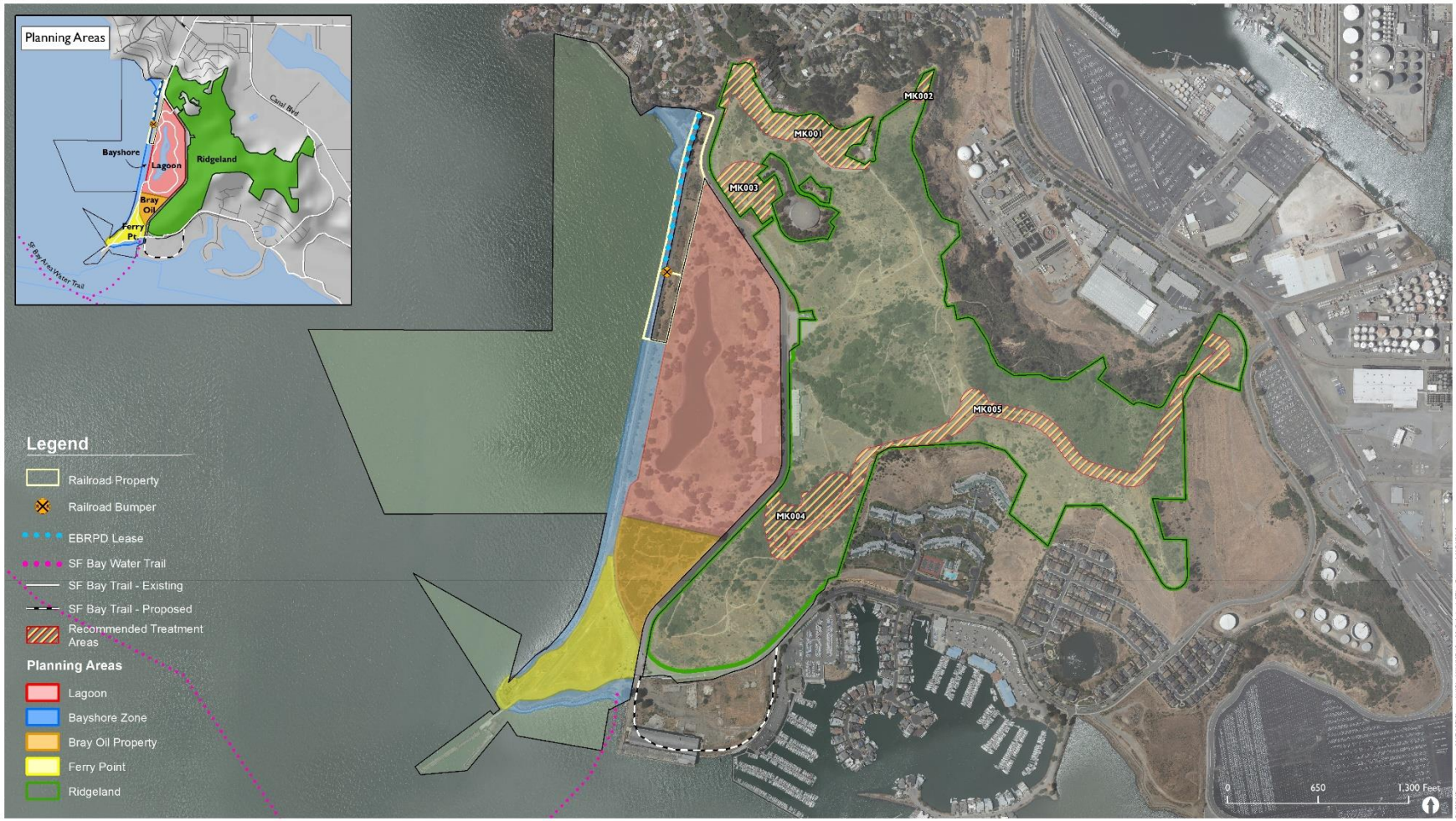


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Figure 25: Ridgeland Planning Area - Recommended Treatment Areas

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towards Canal Boulevard. The vegetation management goals identified for this treatment area are to remove invasive species using chemical control measures where necessary; thinning shrubs and pruning trees according to scrub vegetation performance standards leaving buckeye trees intact; and cutting pines within 50 feet of the ridgetop, scattering cut branch pieces onsite.

Integrated Pest Management Recommendations[15]**:** Integrated Pest Management (IPM) recommendations pertain to the Ridgeland Planning Area, implementation of which would improve native plant habitats and reduce fire risk. IPM recommendations include the following:

- Control various perennial weedy species, most importantly *Genista monspessulana* (French broom), *Foeniculum vulgare* (fennel) that is encroaching on native grasslands.
- Remove ailing Monterrey pine plantation and accumulated woody debris to enhance coastal prairie and facilitate future coastal burns.
- Remove encroaching eucalyptus plantation and maintain property line on East Bay Municipal Utility District reservoir property boundary.
- Begin control and pushing back French broom infestation in and adjacent to the *Stipa pulchra* (purple needlegrass) dominated quarry.
- Engage public and school groups to create a volunteer presence in order to maintain and monitor prairies.
- Support volunteer groups in rehabilitation projects, invasive plant removal and citizen monitoring.
- Control woody species, native and non-native by mechanical, cultural, and chemical methods to reduce fuel loading and to preserve and enhance coastal prairie grasslands. Mechanical methods my include hand-pulling, cutting, or brush mowing. Cultural methods may include target grazing. Pile burning, green waste disposal, or chipping bay be utilized to remove woody material. Pile burning is covered by the Biological Opinion issued by the U.S. Fish and Wildlife Service for the District's Wildfire Hazard Reduction and Resource Management Plan.[16]
- Decommission social trails to preserve prairie continuity and discourage invasive species.

Vegetation Management Recommendations[17]**:** The vegetation communities in the Ridgeland Planning Area will require ongoing management for biodiversity enhancement, wildlife habitat and public enjoyment. Without disturbance like fire, mechanical treatment or herbivory, grasslands along the coast of California become increasing invaded by woody shrubs and trees. The coastal prairie grassland contains a high number of native grass species,

[15] East Bay Regional Park District. 2016 (June). *Miller/Knox Land Use Plan Amendment Integrated Pest Management Recommendations.* Unpublished District staff report prepared by Pamela Beitz, District Resource Analyst.

[16] United States Department of the Interior. Fish and Wildlife Service. 2013 (May). *Biological Opinion for the Proposed Federal Emergency Management Agency (FEMA) Hazardous Fire Risk Reduction Project in the East Bay Hills of Alameda and Contra Costa Counties.*

[17] East Bay Regional Park District. 2016 (November). *Miller/Knox Vegetation.* Unpublished District staff report prepared by Michele Hammond, District Biologist.

this species richness is threatened by an invasion of coyote brush, French broom (*Genista monspessulana*) and a multitude of other weedy herbaceous species. Grassland, shrubland and woodland vegetation communities will be managed to maintain open coastal prairie grassland as well as a diversity of northern coastal scrub plants and other native trees. Some of the existing trails within the Ridgeland Planning Area are legacies from off road vehicle use. Some of these trails require revegetation with native plant communities. Vegetation management recommendations include:

- Use targeted goat grazing for short durations to reduce grassland nonnative plant species as well as impact the coyote brush and Monterey pine invasion. Goats with their small mouths, agile feet on steep slopes and preference for weedy and slightly woody species will be the most appropriate herbivory tool.
- Remove eucalyptus and pine trees that are on the leading edge of invading the grassland using hand pruning and followed with herbicide where applicable.
- Thin eucalyptus and pine woodlands where native understory plants like oaks are located.
- Remove dead or diseased pine trees from woodland areas as needed and when not considered to be wildlife habitat. In cases of large tree die off, care should be used to remove trees in phases i.e. remove one dead tree leave one dead tree in order to not affect wildlife habitat or trail aesthetics.
- Any native plant introductions for restoration projects and landscaping should use locally sourced native plant species or plant seed from native grasslands or shrublands within Miller Knox, Point Molate or adjacent historically native vegetation to the greatest degree possible.
- If possible, collect local seed from perennial grass species like purple needlegrass and Idaho fescue (*Festuca idahoensis*) before the planned restoration. Contract a nursery, or use in-house facility, to grow plugs or enhance seed stock for restoration purposes.

Grazing Recommendations[18]**.** The District's Wildland Vegetation Manager recommends that grazing be utilized in the Ridgeland Planning Area for vegetation management to maintain and enhance the native grassland, reduce weedy species such as fennel, mustards, and thistles; and to reduce or maintain encroaching coyote brush shrubland. Goats or sheep or a combination of the two have been determined to be most appropriate livestock for the steep hillsides and the intended results. Properly managed livestock could be used for short duration in spring or fall to target weedy plants, reduce seed stock, and reduce plant biomass. The hooves of goats and sheep break down the skeletons of old plant material and break up plant material, allowing it to decay faster, thus opening up areas of the soil to sunlight and moisture, allowing new plants the opportunity to grow. Contracted goat and sheep grazing is commonly used for fuel reduction reasons in early summer with the primary goal of reducing fuel loads and providing a defensible space along the park – urban interface.

Figure 26 shows the vegetation overlay (from Figure 8), with the comprehensive LUPA recommendations (from Figure 13).

[18] East Bay Regional Park District. 2016 (September). District Email regarding Grazing. Denise Defreese, District Wildland Vegetation Manager.

MILLER / KNOX REGIONAL SHORELINE LUPA

Figure 26: Comprehensive Recommendations with Vegetation

East Bay Regional Park District

III. ANALYSIS OF MASTER PLAN POLICIES

District's 2013 Master Plan. The District's Master Plan was updated and approved by the District's Board of Directors in 2013. The Master Plan is a policy document that guides the District in future expansion of parks, trails, and services. It defines the overall mission and vision for the District and contains the policies, descriptions of the programs for achieving those policies, and provides a framework for the decision making of the staff, the Park Advisory Committee, and the District's Board of Directors. The District's 2013 Master Plan states the District's Vision and Core Mission as follows:

> **District Vision.** The East Bay Regional Park District will preserve a priceless heritage of natural and cultural resources open space, parks and trails for the future and will set aside park areas for enjoyment and healthful recreation for generations to come. An environmental ethic guides us in all that we do.
>
> **District Core Mission.** We will acquire, develop, manage, and maintain a high quality, diverse system of interconnected parklands which balances public usage and education programs with protection and preservation of our natural and cultural resources.

This chapter provides a detailed analysis of the LUPA's consistency with District Master Plan policies in the areas of land use, public participation, and climate change. A summary analysis of the LUPA's consistency with all District Master Plan policies follows. The results of this analysis conclude that the LUPA is consistent with the District's Master Plan policies.

LUPA Purpose. The purpose of the Miller/Knox LUPA is to enhance the existing environmental and scenic values at Miller/Knox Regional Shoreline while providing additional recreational and interpretive opportunities for park visitors, consistent with the District's Vision and Core Mission as included in the District's 2013 Master Plan.

LUPA Objectives. The following objectives guide the recommendations presented in this LUPA:

1. Protect and enhance existing natural, historical, and scenic resources
2. Improve public access through additional trails, pathways, and parking
3. Enhance physical fitness opportunities
4. Provide additional interpretive and recreational programming
5. Optimize opportunities for quiet reflection and passive recreation
6. Incorporate strategies for climate adaptation, sea-level rise, and resiliency

A. LUPA Consistency with Land Use Policies

Miller/Knox is a Regional Shoreline, for which the following Master Plan policies apply.

Regional Shoreline. A Regional Shoreline provides significant recreational, interpretive, natural, or scenic values on land, water, and tidal areas along the San Francisco Bay and the Sacramento/San Joaquin Delta. There are 14 Regional Shorelines: Antioch, Bay Point, Big Break, Carquinez Strait, Eastshore State Park, Miller-Knox, Hayward, Martin Luther King, Jr., Martinez, Oyster Bay, Point Isabel, Point Pinole, Robert w. Crown Memorial State Beach, and San Pablo Bay. A Regional Shoreline, whether it be one area or a group of smaller shoreline areas that are connected by trail or water access, must contain a variety of natural environments and manageable units of tidal, near-shore wetland and upland areas that can be used for scientific, interpretive, or environmental purposes; and/or contain sufficient land and water to provide a variety of recreational activities, such as swimming, fishing, boating, or viewing. The Recreation/Staging Unit providing for public access and services may comprise no more than 30 percent of a Regional Shoreline.

Land Use Designations. The 2013 District Master Plan requires the District establish land use designations to indicate the level of resource protection and intensity of recreational activity for specific areas of a park, as indicated in the following policy:

> **PRPT 19:** The District will establish unit designations (Natural Units, Recreation/Staging Units) and Special Features (Special Protection Features and Special Management Features) in a LUP or a System-wide Plan and will identify these units in appropriate planning documents.

Natural Units. The primary object of a Natural Unit is to preserve and enhance natural habitats. Lower intensity recreation and educational activities are allowed in designated Natural Units, such as hiking, bicycling, horseback riding, and plant and wildlife study.

- Trails, marked with informational and directional signage Resource creation and enhancement
- Interpretive facilities including overlooks, structures, and displays
- Facilities for resource management, park operations, and public safety such as corrals, security residences, fencing, telephones, potable water, and toilets.

The following policy applies to Natural Units:

> **PRPT 20:** Natural, open space, or wildland areas with lower intensity recreational uses and facilities (primarily trails) will be designated as Natural Units. Natural Units will generally comprise the majority of parkland acreage, except in Regional Recreation Areas. Parklands will be designated as Natural Units to maintain open space and significant features in a cohesive area. A Natural Unit may contain Special Protection Features and Special Management Features.

Recreation/Staging Units. The primary object of the Recreation/Staging Units is to provide more intensive public recreational use and support the necessary parking, utilities, and infrastructure needed for this use. Recreation/Staging Units are generally located near access roads on relatively flat land areas near the edge of designated Natural Units whenever possible, and along natural or artificial water bodies. Design and landscaping of all facilities

are required to harmonize with the surrounding natural landscape and to avoid or minimize potential impacts on natural resources. Typical improvements that may be located within designated Recreation/Staging Units include:

- Vehicular parking
- Restrooms and showers
- Picnic areas
- Irrigated turf and non-irrigated meadows
- Interpretive facilities including signage and kiosks
- Event centers and meeting rooms
- Shelters
- Public safety and maintenance service facilities
- Research facilities
- Children's play areas
- Equestrian facilities
- Camping facilities
- Aquatic facilities
- Archery facilities
- Food concessions

The following guidelines apply to Regional Shorelines:

- Improvements including beaches, bath houses, fishing piers, boat launches, marinas, and services related to boating, fishing, and swimming are permitted in addition to the list above for Recreation/Staging Units.
- The District is encouraged to expand public shoreline access to a Regional Shoreline, including landing or launching spots for small boats.
- Whenever possible, staging and recreational facilities should be confined to uplands that are a minimum of 100 feet from the actual shoreline, and facilities such as parking that do not depend on water are required to be located in areas that are screened from view, when practical.
- Development must consider projected sea level elevations that are based upon scientific analysis. Accommodation of sea level rise must utilize biologically based methods when feasible.

The following policy applies to Recreation/Staging Areas:

PRPT 21: Areas of higher level recreational use and concentrations of service facilities will be designated as Recreation/Staging Units. Where possible, these areas will be clustered and located on the edges of the park.

Discussion. The existing composition of Miller/Knox is consistent with this requirement and these land use designations are shown on Figure 27. The ridgeland planning area comprises approximately 70 percent of the total Miller/Knox acreage and with adoption of this LUPA, will be designated as a natural unit. The remaining 30 percent of the total Miller/Knox acreage will be designated as a recreation/staging unit and include the Ferry Point, Bray property, lagoon, and bayshore planning areas.

MILLER / KNOX REGIONAL SHORELINE LUPA

Figure 27: Landuse Designations

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Special Protection Features. The primary objective of Special Protection Features is to identify those areas with unique or fragile natural, cultural, aesthetic, or educational features of a biological, hydrological, archaeological, historical, or geological nature. The Special Protection Feature designation provides the greatest amount of protection for these resources. Special Protection Features may require specialized types of management for resource preservation and enhancement, which are provided through written "prescriptions" that guide park operations and maintenance activities. The following policy applies to Special Protection Features:

PRPT 22: Areas with unique or fragile features will be designated as Special Protection Features to preserve and enhance them through specialized management. Special Protection Features may be closed seasonally or permanently to public access, if public access will endanger them.

Discussion. Currently, the area including Ferry Point Pier and Terminal are designated as a Special Protection Unit. This designation will be carried forward with implementation of the LUPA recommendations. The LUPA recommendations to rehabilitate the historic pumphouse building for passive interpretive use and to replace the historic warehouse building with a day use and scenic vista area are in keeping with this designation. The historic pumphouse structure would be retained. Improvements would be implemented to render it consistent with current building codes and provide safe public access. This building would serve as a passive historical interpretive feature to expand on the existing interpretive focus of Ferry Point. The historic warehouse would be partially demolished to retain the existing concrete structural side and roof beams, which would delineate a structure for a day-use picnic area and scenic vista point. Interpretive panels would highlight the role of Ferry Point's historic contribution to intermodal transportation, its role in World War II, and in contributing to development of the City of Richmond.

While compliance with the National Register requirements may constrain certain building modifications and would require measures to mitigate building modifications and removal, there is flexibility in the Secretary of the Interior's Guidelines for Rehabilitation of Historic Structures to accommodate a wide range of adapted re-uses including re-use of the pumphouse building for passive interpretive use. The LUPA and the Program EIR have incorporated the following Environmental Protection Feature to avoid and minimize impacts to sensitive resources and the environment.

> An exhibit/display of the history of the warehouse building would be incorporated into the Ferry Point Planning Area to include information such as historic and current photographs, interpretive text, drawings, videos, interactive media, and oral histories. The exhibit/display would be developed in consultation with Contra Costa County, local historical organizations, and those with an interest in the history of Miller/Knox. Additionally, the exhibit/display would be displayed in a location within Miller/Knox that is accessible to the public and may be incorporated into the interpretive exhibit.

The Program EIR concluded that the partial demolition of the historic warehouse building and replacing its historic use with a different use would result in a significant impact pursuant to CEQA. The following two mitigation measures are included in the Program EIR to reduce the impacts related to the loss of this historic resource and are based on

the Secretary of the Interior's Guidelines. The Program EIR further concluded that implementation of the mitigation measures would only partially mitigate the impact on historical resources associated with the loss of the historic warehouse building because the complete historic resources would no longer exist. The impact would remain significant and unavoidable after implementation of the mitigation measures. Implementation of the mitigation measures would ensure compliance with the Secretary's Rehabilitation Standards and impacts to the pumphouse would be reduced to a less-than-significant level.

Mitigation Measure 4.5-1a: Document historic buildings before removal. The District shall complete documentation of the historic warehouse and pumphouse buildings before any demolition/construction work is conducted. Documentation shall consist of written history of the property, plans, and drawings of the historic resources, and photographs, as described below:

- **Written History.** The report shall be reproduced on archival bond paper.
- **Plans and Drawings.** An architectural historian (or historical architect, as appropriate) shall conduct research into the availability of plans and drawings of the Historic Warehouse Building as the building currently exists. If such plans/drawings exist, their usefulness as documentation for the building shall be evaluated by the architectural historian. If deemed adequate, the plans/drawings shall be reproduced on archival mylar. If no plans/drawings are available, or if the existing plans/drawings are not found to be useful in documenting the historic resource, a historical architect shall prepare dimensioned plans and exterior elevations of the building. A combination of existing and new drawings is acceptable. All drawings shall be reproduced on archival mylar.

  The architectural historian shall conduct research into the existence of the original architectural plans and drawings of the building. If found, the plans shall be reproduced on archival mylar. Alternatively, the architectural plans can be scanned and saved as TIFF files. The scanning resolution shall be not less than 300 dpi.

  All digital files, including drawing files, shall be saved on media and labeled following the Secretary's Standards and Guidelines for Archeology and Historic Preservation Digital Photography Specifications.

- **Photographs.** Digital photographs shall be taken of the historic warehouse and pumphouse buildings following the Secretary's Standards and Guidelines for Archeology and Historic Preservation Digital Photography Standards.

  The documentation shall be prepared by an architectural historian, or historical architect as appropriate, meeting the Secretary's Standards and Guidelines for Archeology and Historic Preservation, Professional Qualification Standards. The documentation shall be submitted to the Contra Costa County Library, Contra Costa County Museums, and the Richmond Historic Register.

Mitigation Measure 4.5-1b. Ensure appropriate rehabilitation plans for the pumphouse building. To ensure the protection of the historic integrity of the NRHP-eligible pumphouse throughout the rehabilitation period, the District shall prepare a rehabilitation plan for the pumphouse building that meets the Secretary's Standards to the greatest degree feasible. The SOI Guidelines contain flexibility for rehabilitation of historic structures to accommodate a wide range of adapted re-uses. Specific protection measures and recommendations shall be developed in conjunction with an architect and site design team experienced in historic preservation work. Protection measures for the rehabilitation plan shall include but are not limited to, the following:

- Historic finishes and materials shall be protected with appropriate methods.
- Infrastructure upgrades (e.g., conduit in walls) shall be installed where they will not affect significant historic fabric.
- Training on protection of historical features shall be provided for all construction workers before the beginning of work on-site.
- In addition to the protective measures, above, cleaning of historic finishes using "the gentlest means possible" as directed by the Standards for Rehabilitation shall be used.

Special Management Features. The primary objective of Special Management Features is to identify constructed or modified features such as wildland vegetation management areas, plantations or exotic trees, farm fields and dams that require specialized types of management. As with Special Protection Features, written "prescriptions" are prepared to guide park operations and maintenance activities.

PRPT 23: Areas and facilities that have special requirements, such as fields and dams, will be designated as Special Management Features.

Discussion. Currently, Miller/Knox does not identify any Special Management Features. This LUPA includes a recommendation to designate the island within the lagoon as a Special Management Feature. This small ruderal island is located somewhat in the middle of the lagoon and provides nesting habitat for waterfowl as well as foraging, roosting, and nesting habitat for local and migratory passerines. Implementation of this LUPA recommendation would prevent public access to the island and would require specific treatment protocols for dredging, such as excluding the island from the activity and conducting dredging activities outside of waterfowl nesting and roosting season.

B. LUPA Consistency with Public Participation Policies

The District's 2013 Master Plan includes the following policies regarding public participation associated with land use plans, found Key Elements of the Planning Process (KEP) and Public Service (PS) sections:

KEP 1: The District will notify the public about the publication of plans, including proposed design of major new facilities, and the scheduled times for public review and comment. The Board will schedule plan review sessions in the geographic locale of interested communities and will conduct other public outreach efforts as needed to fully communicate the goals of the plan and to accept review and comment from interested individuals.

KEP 2: All District planning documents will be developed and approved in compliance with the California Environmental Quality Act (CEQA) and when appropriate, the National Environmental Policy Act (NEPA).

PS 5: All meetings of the Board of Directors and its committees will be open to the public and conducted in full compliance of the Ralph M. Brown Act. The District will use the public meeting process to receive and evaluate public comment and will properly notify newspapers of general circulation in the area of its meetings. The District will communicate with neighbors and community groups and will conduct informational meetings with interested groups as needed to clarify District programs and activities. Where appropriate, the District will mail notices of its meetings to interested park users and adjacent landowners.

PS 6: The District will provide information services to encourage public use of the parklands and to communicate about the purposes of the District, the environmental value of parklands, program offerings, and meeting schedules.

Discussion. The following is a summary of the public participation opportunities associated with the Miller/Knox LUPA to date. In addition to these formal opportunities, District staff has posted information regarding the LUPA and projects occurring outside of the LUPA at the Miller/Knox kiosks and have responded to on-going questions and information requests. The District's primary goal has been to engage the public and other interested parties in the preparation of the LUPA and associated Program Environmental Impact Report (EIR). In the various forums, District staff has provided information regarding the District's project planning and development process, policy framework, and requirements pursuant to the California Environmental Quality Act (CEQA). The District satisfied the 2013 Master Plan policies pertaining to public participation through these meetings, notifications, and on-going communication with interested persons.

2013 District Park Advisory Committee Meeting. District staff introduced the Miller/Knox LUPA at the February 25, 2013 Park Advisory Committee Meeting. This meeting was noticed on the District's website consistent with standard agenda and meeting notification. District staff presented the major themes of the LUPA, the five planning areas, the goals of the LUPA recommendations for each of the planning areas, and the plans for publishing the Notice of Preparation.

2013 Point Richmond Neighborhood Council Meeting. District staff presented the preliminary LUPA recommendations to the Point Richmond Neighborhood Council Meeting on March 27, 2013. This was a public meeting hosted by the Neighborhood Council. The District announced that the Notice of Preparation (see next entry) would be published within the next few months and that a public scoping meeting would be scheduled on-site at Miller/Knox.

2013 Notice of Preparation and Public Scoping Meeting. The District initiated the Miller/Knox LUPA in May 2013 with publication of a Notice of Preparation (2013 NOP) of an Environmental Document for the Miller/Knox Regional Shoreline Land Use Plan Amendment. The 2013 NOP was posted at the Contra Costa County clerk's office, on the District's webpage, and at the Miller/Knox information kiosks. It was direct mailed to neighbors adjacent to and in the vicinity of Miller/Knox as well as to agencies, organizations, and stakeholder groups. The 2013 NOP generally described the key elements under consideration, requested public comment, and provided notice of a public scoping meeting. The formal 30-day public comment period concluded June 28, 2013. The 2013 public scoping meeting was held on-site at Miller/Knox on June 8, 2013. District staff provided a tour of the park, discussed the key elements under consideration, answered questions from meeting participants, and conducted a voluntary survey. From this survey, District staff learned that a favorite activities at Miller/Knox include hiking in the ridge lands, walking, especially along the shoreline, and visiting Keller Beach; that visitors particularly like the views and atmosphere at Miller/Knox; and that there was general support for improving existing facilities such as picnic tables, benches, restrooms, and showers, and for providing additional facilities including the Bay Trail along the shoreline, additional trails, and a boat ramp at Ferry Point Beach balanced with a desire for minimum development and more natural areas.

2013 Board of Directors Site Visit. The District conducted a tour of Miller/Knox for the District's Board of Directors on August 6, 2013. This meeting was noticed on the District's webpage consistent with the District's standard agenda and meeting notification for Board meetings. The District's Board and participating members of the public were led on a tour of Miller/Knox and the LUPA recommendations were discussed.

2017 Re-Issued Notice of Preparation and Public Scoping Meeting. The District re-issued the NOP on June 26, 2017 because the previous NOP was issued over four years ago; improvements have been made to Miller/Knox which were not subject to the Land Use Plan Amendment or associated environmental document, but which have changed the baseline conditions; and changes have been made to the State CEQA Guidelines. The 2017 NOP was posted at the Contra Costa County clerk's office, on the District's webpage, and at the Miller/Knox information kiosks. It was direct mailed and/or emailed to neighbors adjacent to and in the vicinity of Miller/Knox, individuals who requested such notices, as well as to agencies, organizations, and stakeholder groups. Information regarding the 2017 public scoping meeting was highlighted on the District's Facebook page. The District conducted a second public scoping meeting on July 19, 2017. Approximately 24 individuals attended the 2017 scoping meeting and the District received 24 comment letters from individuals, agencies, and organizations. Public comment, both at the 2017 scoping meeting and written comments during the public review period on the NOP, indicated general support for the LUPA recommendations. Concerns were

expressed regarding the lagoon enhancement project recommendation to breach the lagoon to San Francisco Bay and suggestions to instead dredge the lagoon to achieve the desired water quality goals. As a result, District staff evaluated dredging the lagoon and revised the LUPA recommendations to include dredging as the preferred alternative.

2017 District Park Advisory Committee Meeting. The District presented an update on the Miller/Knox LUPA to the District's Park Advisory Committee on July 24, 2017. This meeting was noticed on the District's website consistent with the District's standard agenda and meeting notification for these meetings. District staff shared information regarding projects and special studies that had been completed since 2013, the LUPA recommendations, a summary of the 2017 NOP public comment, an overview of the Program EIR, and the key environmental issues that had been identified. The PAC indicated support of the LUPA recommendations.

2017 District Board Executive Committee Meeting. The District presented an update on the Miller/Knox LUPA to the District's Board Executive Committee on October 5, 2017. This meeting was noticed on the District's website consistent with the District's standard agenda and meeting notification for these meetings. District staff shared information regarding projects and special studies that had been completed since 2013, the LUPA recommendations, a summary of the 2017 NOP public comment, an overview of the Program EIR, and the key environmental issues that had been identified. The Board Executive Committee indicated support of the LUPA recommendations and encouraged the District to evaluate dredging the lagoon relative to the recommendation of breaching the lagoon to San Francisco Bay. As a result, District staff evaluated dredging the lagoon and revised the LUPA recommendations to include dredging as the preferred alternative.

2017 Agency Scoping Meeting. In addition to the public meetings discussed above, the District and Ascent Environmental, the consulting firm preparing the Program EIR for the LUPA, hosted a scoping meeting with regulatory agencies that will have discretionary authority over certain LUPA recommendations through the regulatory permitting process on October 12, 2017. This meeting was not open to the public however, this targeted outreach to the regulatory agencies further satisfies District Master Plan policies pertaining to participation and outreach. Representatives from the San Francisco Bay Regional Water Quality Control Board (SFRWQCB), California Department of Fish and Wildlife (CDFW), San Francisco Bay Conservation and Development Commission (BCDC), and the State Lands Commission (SLC) participated in the meeting. Agency input included support for dredging the lagoon over breaching the lagoon to San Francisco Bay; include evaluation habitat for the existing lagoon and other aquatic features; suggestion to utilize BCDC's Adapting to Rising Tides Program for information associated with climate change and se level rise; include accommodations for public transit and public parking; include clarification of lands within SLC jurisdiction and City of Richmond jurisdiction relative to Ferry Point pier and terminal. The LUPA and the Program EIR address all input received from Agency representatives.

On June 14, 2017, the District and Ascent Environmental conducted a check-in meeting with BCDC staff to ensure that the approach and strategy regarding the analysis of greenhouse gas emissions and climate change was acceptable. BCDC staff agreed to the approach and strategy, and this is summarized in the next section of this LUPA Policy chapter and fully discussed in the Program EIR in chapter 4.10.

Tribal Outreach. Assembly Bill (AB) 52, signed by the California Governor in September of 2014, requires that lead agencies undertaking CEQA review must, upon written request of a California Native American tribe, begin consultation once the lead agency determines that the application for the project is complete, and before the Notice of Preparation to prepare an EIR is issued. The District provided notification by letters mailed on October 24, 2017 to eight tribes who are included on the Native American Heritage Commission list of tribal contacts for the area that includes Miller/Knox. The notification letters sent to the tribes included the location of Miller/Knox, background information about the LUPA, LUPA objectives, and a summary of location and recommendations within the planning area. These tribal contacts were also provided copies of the re-issued Notice of Preparation when it was published on June 26, 2017. None of the eight tribes responded within the time periods provided for either notice and therefore, no tribal consultation was undertaken. The tribal contacts were provided a Notice of Availability of the Draft LUPA and Draft Program EIR as part of the 45-day public review required by CEQA.

Future Public Meetings. The District published a Notice of Availability when the Draft Program EIR was published for the 45-day public review required by CEQA. The Draft LUPA was provided for public review along with the Draft Program EIR. The District scheduled a public input meeting during the 45-day public review period. The Notice of Availability included information regarding the public input meeting and the projected dates for the Board Executive Committee meeting and Park Advisory Committee meeting, during which District staff will request recommendations to certify the Program EIR and adopt the LUPA, as well as the Board of Director's meeting during which District staff will request the Board certify the Program EIR and adopt the LUPA. The Notice of Availability was posted at the Contra Costa County clerk's office, on the District's webpage, and at the Miller/Knox information kiosks. It was directly mailed and/or emailed to neighbors adjacent to and in the vicinity of Miller/Knox, individuals who requested such notices, as well as to agencies, organizations, and stakeholder groups. Information regarding the Board Executive Committee meeting, the Park Advisory Committee Meeting, and the District's Board of Directors meeting will also be provided using the District's standard agenda and meeting notification protocols for those meetings.

C. LUPA Consistency with Climate-Related Policies

The District's 2013 Master Plan includes policies that specifically address climate change and several that relate to climate change, greenhouse gas reduction, and resiliency. This section provides information regarding the Miller/Knox climate change setting, anticipated greenhouse gas emissions associated with implementation of the Miller/Knox LUPA recommendations, the Miller/Knox LUPA recommendations that support climate readiness and climate adaptation, and an analysis of how the Miller/Knox LUPA recommendations address specific policies included in the District's 2013 Master Plan that pertain to climate change.

On April 17, 2018, the District's Board of Directors adopted Resolution 2018-04-081 to establish a policy framework for managing park resources in a changing climate consistent with the policies included in the District's 2013 Master Plan. The climate policy framework includes five key principles:

1. **Climate in All Policies.** *Park District policies, planning documents, decisions, and management practices will strive to mitigate and adapt to a changing climate whenever possible, including to reduce Greenhouse gas emissions and develop nature-based protection from the impacts of climate change.*
2. **Climate Friendly.** *The Park District will consider climate impacts in all activities and strive for environmentally sustainable operations and design, including land use planning and overall project implementation. This includes actions, whenever feasible, for Greenhouse gas emission reduction; toxic reduction; waste recycling and reduction; water conservation; clean-fuel vehicles and energy efficient facilities; habitat restoration to increase carbon storage and enhancement of nature-based services, the East Bay's green infrastructure.*
3. **Climate Readiness.** *When possible, Park District natural and built infrastructure projects will slow erosion, provide flood protection, encourage green transportation, improve water retention and water biofiltration, provide respite to migrating wildlife, increase bio-interconnectivity in the urban fabric, and include practices that increase green infrastructure resilience and ensure the perpetuity of public parklands and open space. In parallel, the Park District will pursue all appropriate activities to ensure its fiscal health including influencing and pursuing climate change related local, state, and federal opportunities, grants, donation, financial assets, and services.*
4. **Lead Climate Smart Practices.** *The Park District will continue to act as a leader to advance such policies at the state, federal, and local level; advance practices in support of the nature-based solutions found on public parklands; and influence funding opportunities to restore and sustain green infrastructure.*
5. **Advancing Climate Science.** *The Park District will continue to serve as a natural laboratory to monitor the effects of climate change mitigation and adaptation efforts and to disseminate what has been learned from this laboratory both regionally, and nationally.*

To implement this policy, the District has completed an inventory of the agency GHG emissions in the building and vehicle fleet sectors, developed a baseline of carbon sequestration on District lands, and is working to implement a strategic energy plan, including development of a solar array that generates renewable energy sufficient to offset the District's energy use in its buildings. Additionally, the District's Climate Smart Initiative includes integrated adaptive management,

such as wetland restoration at Dotson Family Marsh, wildfire hazard reduction practices, study and monitoring of harmful algae bloom, and expansion of a network of trails for green transportation. The LUPA's consistency with Master Plan policies associated with climate change also achieves consistency with the District's 2018 Climate Policy.

Summary of LUPA Climate Adaptation Analysis. Like most shoreline parks, the Miller/Knox shoreline provides coastal resilience and protection from sea-level rise as the shoreline itself buffers the community from flooding events. This effect is enhanced at Miller/Knox by the existing railroad berm and rock slope protection that exists along most of the shoreline and provides approximately three feet of freeboard during typical high tide events. Climate change effects include global warming, sea-level rise, more frequent and intense storm events, increased flooding, and increased erosion affecting open coastal areas and inland waterways amongst other changing conditions. According to the San Francisco Bay Conservation and Development Commission's (BCDC) Adapting to Rising Tides (ART) Program, the region including Miller/Knox could gain up to one foot of sea-level rise from year 2000 levels by the year 2030. This would inundate approximately one percent of the park. By the year 2100, more than five feet of sea level rise could occur within the region, which would inundate approximately two percent of the Miller/Knox.

The District and Ascent Environmental conducted two phone meetings with staff from BCDC. The first was a general scoping meeting on October 12, 2017 and included staff from the San Francisco Bay Regional Water Quality Control Board, the California Department of Fish and Wildlife, and the State Lands Commission. On June 14, 2017, the District and Ascent Environmental conducted a second meeting with BCDC staff to ensure that the methodology regarding the analysis of greenhouse gas emissions and climate change in the Program EIR was acceptable. The agreed to methodology for analyzing greenhouse gas emissions impacts focuses on quantifying the emissions from the most greenhouse gas emissions-intensive proposed LUPA activities that could occur and overlap within one year. Emissions of criteria air pollutants and precursors were calculated using the California Emissions Estimator Model (CalEEMod) Version 2016.3.2 computer program, as recommended by the Bay Area Air Quality Management District (BAAQMD). Modeling was based on LUPA-specific information where available, such as size of areas to be graded and or to be paved; reasonable assumptions based on typical construction activities; and default values in CalEEMod that are based on location. Emissions associated with the LUPA recommendations were then compared to BAAQMD-adopted thresholds. The full discussion of greenhouse gas emissions and climate change impacts associated with the LUPA is included in chapter 4.12 of the Program EIR and the specific model assumptions and inputs for these calculations can be found in Appendix B of the Program EIR. The Program EIR concluded that impacts associated with greenhouse gas emissions and climate change would be less than significant and no mitigation measures are required. The Program EIR further concluded that many of the LUPA recommendations would contribute to GHG reduction, climate readiness, and climate adaptation through public education, improved water and energy efficiency and conservation, and by installing renewable energy systems such as solar arrays. These features would reduce the extent and severity of climate change-related impacts to the LUPA recommendations.

Existing Climate Resilience Features at Miller/Knox. The Miller/Knox shoreline provides coastal resilience and protection from sea-level rise. [1] Shoreline parks in general provide resilience features in that they buffer their communities from flooding events by providing a setback from San Francisco Bay, by detaining stormwater, and by reducing the height and strength of waves across wetlands. At Miller/Knox, the railroad berm and rock slope protection along the bayshore provides a coastal barrier to the remainder of the park. The elevation of the railroad berm and rock slope protection varies from approximately 12 feet NAVD[2] near the Bray Planning Area to almost 15 feet NAVD near Keller Beach. Currently, the railroad berm provides about three feet of freeboard during typical high tide events. The lagoon is perched approximately 4 to 6 feet above San Francisco Bay at MHHW.[3]

Anticipated Climate Change Effects at Miller/Knox. Climate scientists have documented changes in climate, the impacts of which include global warming, sea-level rise, more frequent and intense storm events, increased flooding, and increased erosion affecting open coastal areas and inland waterways amongst other changing conditions. At Miller/Knox, the effects of climate change are anticipated to result in increased wildfire due to extreme heat events and drought and flooding due to sea level rise.

Anticipated Sea Level Rise Effects at Miller/Knox. The Miller/Knox shoreline, located along San Francisco Bay, is tidally influenced and therefore potentially vulnerable to flooding at current sea levels and will be at higher risk of flood exposure based on the projected scenarios of sea level rise (SLR). While the railroad berm currently protects the Miller/Knox shoreline, it may become vulnerable to wave overtopping during extreme high-water levels coinciding with local wind wave events. The effectiveness of the railroad berm as coastal flood and erosion protection may decrease as sea level rises in the future.[4] Rising sea levels could result in more frequent flood inundation in low lying areas and larger tidal events and increased erosion. As climate change is expected to increase the frequency and severity of natural disasters related to flooding and more severe storm events, damage from debris is also anticipated at tidally influenced waterways.

In 2013, ESA-PWA completed the *Lagoon Enhancement Feasibility Study – Phase I: Opportunities, Constraints, and Conceptual Design Approaches"* (2013 ESA-PWA Study) which included a SLR analysis. This analysis considered guidance from the San Francisco Bay Conservation and Development Commission (BCDC), the State of California's interim guidance by the Ocean Protection Council (OPC), the National Research Council (NRC), and vertical land motion data[5] of San Francisco Bay to derive the relative sea level change value used in analyzing how the

[1] East Bay Regional Park District. 2018. http://www.ebparks.org/climatesmart. Accessed March 20, 2018.

[2] NAVD refers to the North American Vertical Datum of 1988, a fixed reference for vertical control datum of orthometric height, established for vertical control surveying in the United States. It is based upon the General Adjustment of the North American Datum of 1988.

[3] MHHW refers to Mean Higher High Water, a tidal datum that is calculated as an average of the higher high water height of each tidal day, observed over the National Tidal Datum Epoch. The current Epoch is 1983-2001. Tidal datum defines the intersection between the ocean and the land, and is referenced to an average fixed height of the water level during the tidal cycle

[4] East Bay Regional Park District. 2013 (November) and 2014 (October). Op cit.

[5] Vertical land motion changes the sea level relative to land. For example, land subsidence induces a rise in relative sea level. Vertical land motion can affect relative sea level rise substantially, as has occurred in the San Francisco Bay area due to groundwater removal and fill placement on weak soils.

conceptual design approaches could respond to SLR. The SLR projections are expressed in the table below.

TABLE 17: SEA LEVEL RISE PROJECTIONS FROM THE LAGOON ENHANCEMENT FEASIBILITY STUDY			
Year	**ESA-PWA Selected Values**	**OPC Average High**	**OPC Range of Values**
2000	0	0	0
2030	0.5 feet (06 inches)	0.58 feet (07 inches)	05 –0 8 inches
2050	1.5 feet (18 inches)	1.17 feet (14 inches)	10 – 17 inches
2070	2.5 feet (30 inches)	2.25 feet (27 inches)	20 – 32 inches
2100	4.5 feet (54 inches)	4.58 feet (55 inches)	43 – 69 inches

The San Francisco Bay Conservation and Development Commission's (BCDC) *Adapting to Rising Tides* (ART) *Program*[6] used the NOAA Cooperative Science Center SLR Viewer to develop a detailed SLR and storm event vulnerability/risk assessment and response that could lead to improved resilience at the District's shoreline parks, including Miller/Knox. As part of this effort, the ART Program prepared an exposure analysis that overlaid park maps with future SLR scenarios to aid preparation for future SLR and flood events. The inundation maps show areas that may be subject to temporary flooding from large storm events and areas that may be subject to permanent inundation from SLR. The ART Program's High-Level Exposure Analysis included the following projections for percentage of park area at Miller/Knox that would likely be inundated for six future water levels associated with SLR:

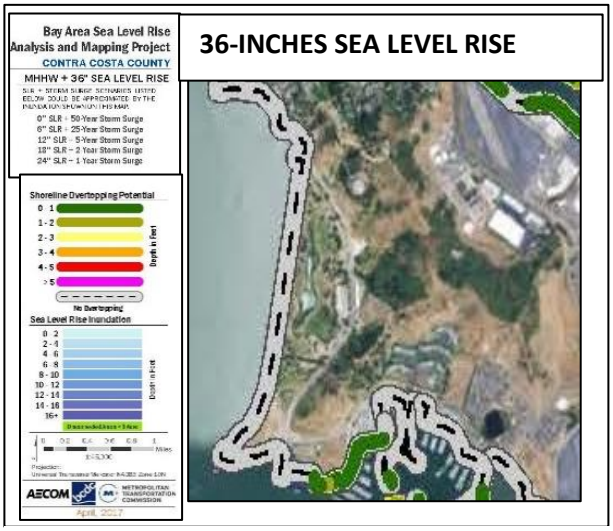
TABLE 18 – HIGH-LEVEL EXPOSURE ANALYSIS DUE TO SEA LEVEL RISE							
	O' SLR	**1' SLR**	**2' SLR**	**3' SLR**	**4' SLR**	**5' SLR**	**6'SLR**
Percent of inundation at Miller/Knox	0	1%	2%	2%	2%	2%	7%

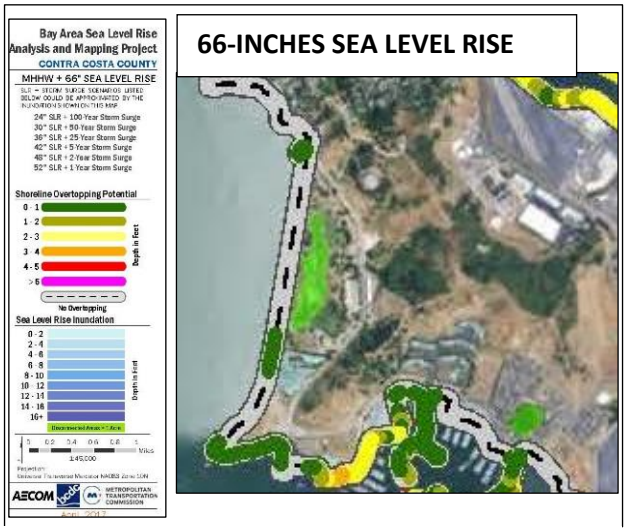
In addition to the ART Program report, BCDC completed the Bay Area SLR Analysis and Mapping Project to estimate shoreline overtopping potential and SLR inundation for ten scenarios of MHHW plus SLR. A selection of four of these scenarios are included on the following page.

The ART Program's exposure analysis and the vulnerability and risk assessments were conducted for water levels between current MHHW and MHHW plus six feet of SLR. Based on predictions from the National Research Council, six feet of SLR is considered a reasonable proxy for a year 2100 storm event, based on the prediction that three feet of SLR is the most likely scenario for San Francisco Bay and the current 100-year storm event is approximately three feet above MHHW. The ART Program identified the following key vulnerabilities and planning issues at Miller/Knox, shown on Table 20. Table 21 provides the definition and adaptation response included in the ART Program's exposure analysis and the vulnerability and risk assessments for the vulnerability classifications included in Table 20.

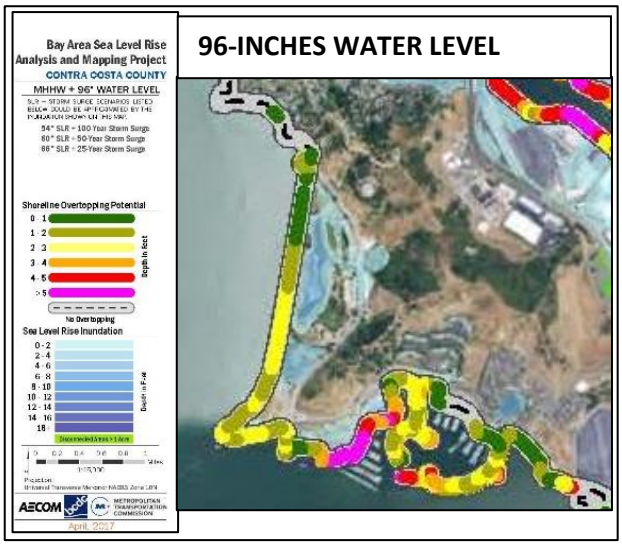
[6] Bay Conservation and Development Commission. 2015. *Adapting to Rising Tides Program: Preserving Shoreline Parks in the Face of Climate Change.* http://www.adaptingtorisingtides.org/wp-content/uploads/2016/08/ContraCostaCoARTSLR-Maps2017.WEB .pdf. Accessed March 20, 2018.

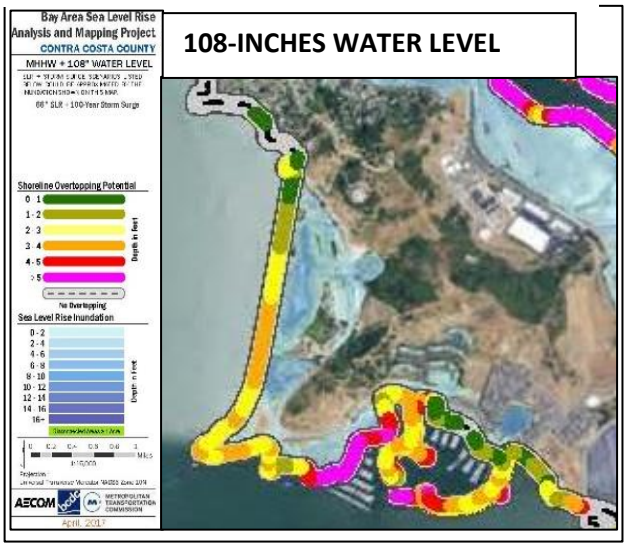
FIGURE 28: SEA LEVEL RISE SCENARIOS





The ART Program anticipates that minor level overtopping will begin at 52 inches of SLR, with more substantial overtopping at 66 inches.





The ART Program anticipates very minor inundation of one percent or less of Miller/Knox is projected by 77 inches SLF. The Local Hazard Mitigation Plan anticipates that 16 percent of the site will be inundated by 96 inches of SLR.

TABLE 19 – KEY VULNERABILITIES AND PLANNING ISSUES AT MILLER/KNOX DUE TO SEA LEVEL RISE		
Vulnerability	**Classification**	**Consequence**
Rising sea level will exacerbate shoreline erosion.	Physical	Recreation opportunities will be lost as EBRPD closes or reroutes trails and shoreline access points.
	Functional	Natural shorelines such as beaches, cliffs, and marshes provide habitat that may be lost due to erosion.
The service road along the shoreline could be compromised by shoreline erosion and overtopping.	Functional	EBRPD cannot access the shoreline and historic buildings to maintain and manage the park without an open service road.
Riprap along the shoreline is not properly stacked, keyed, and engineered.	Physical	EBRPD could not continue maintenance and operations without incurring greater costs or loss of recreation services.
Keller Beach may be subject to increased erosion due to storm events and sea level rise.	Physical	Sandy beach swimming opportunities could be lost.

TABLE 20 – DEFINITION OF AND ADAPTION RESPONSE TO KEY VULNERABILITIES DUE TO SEA LEVEL RISE		
Classification	**Definition**	**Adaptation Response**
Physical	Depending on the type and design, structural shorelines have varying sensitivity to tidal action and wave energy (e.g., daily tides can cause wear and tear, while overtopping during larger storm events can cause destabilization and failure).	• Protect, enhance, or restore baylands outboard of structural shorelines to preserve wave attenuation benefits, thereby reducing wave erosion, the likelihood of overtopping, and maintenance needs for structures such as non-engineered berms and levees. • Increase the size or amount of armor on structural shorelines to reduce erosion and scour. • Enhance or reinforce non-engineered berms, e.g., armor to protect from erosion. • Increase the height of structural shorelines, if technically feasible and if physical and environmental constraints allow, to reduce potential overtopping. • Combine different types of structural shorelines, e.g., construct a flood wall on top of a levee. • Relocate or re-align structural shorelines to a landward location in conjunction with partner agencies and neighboring landowners.
Functional	Birds and wildlife that rely on tidal marshes will be displaced by more frequent flooding and permanent inundation that lead to habitat changes, e.g., downshifting or drowning. These changes will force them to forage and nest closer to people and infrastructure, such as roads and highways, and will reduce the amount of available high tide refugia.	• Develop policies, guidance, or incentives to encourage appropriate setbacks and buffers adjacent to tidal marshes that support sensitive bird and wildlife species. • Install “artificial” high tide refugia in habitats exposed to tidal inundation where natural refugia are limited. • Protect existing, or create new, corridors that facilitate the movement of birds and wildlife to viable nearby or adjacent habitats.

Greenhouse Gas (GHG) Emissions. GHG emissions associated with implementation of the Miller/Knox LUPA would be generated during project construction and by post-construction operation. Short-term construction-generated GHG emissions would occur as specific LUPA recommendations are implemented, with sources including construction equipment used. Post-construction operational GHG emissions are expected to be similar to existing operational GHG emissions, sources including fuel combustion sources for landscaping equipment, emergency backup generator operation, and vehicle miles traveled by employees and vendors deliveries. Indirect emissions would be associated with the on-going consumption of electricity, natural gas, and water.

Climate Readiness LUPA Recommendations. The following recommendations included in the Miller/Knox LUPA would contribute to climate readiness[l] and climate adaptation:[l]

- **Implement lagoon enhancement project for comprehensive dredging.** Lagoon dredging would improve the hydrologic and ecological function of the lagoon by restoring capacity of the lagoon close to its original capacity. This would improve the general function of the lagoon, water quality, aesthetics, and conditions for wildlife. Routine dredging conducted on an as-needed basis would minimize the likelihood of sediment accumulation in the lagoon and thereby maintain storage capacity and water quality improvements. On-site disposal of dredge material minimizes greenhouse gas emissions that would otherwise occur from off-site disposal.

- **Evaluate shoreline for resiliency from sea-level rise and implement recommendations.** Future study to evaluate the existing rock slope protection along the Miller/Knox shoreline is recommended to identify additional measures would be needed to increase resiliency of the shoreline from future sea level rise.

- **Increase drought-tolerant, climate-smart vegetation in the Ferry Point and Lagoon Planning Areas.** These recommendations would replace under-utilized areas of turf with **drought-tolerant, climate-smart** vegetation. In the Lagoon Planning Area, implementation of this recommendation could ultimately reduce existing irrigation requirements.

- **Incorporate public education associated with climate change, resiliency, and adaptation.** The LUPA includes recommendations to enhance existing public education to include topics regarding climate change, resiliency, and adaptation to be incorporated throughout the park. Enhanced public education would be particularly valuable associated with the LUPA recommendations in the Bray Planning Area regarding the demonstration gardens, green-waste composting area, and the dredge disposal area, and the recreational programs and storage building.

- **Establish native plant communities as demonstration gardens in the Bray Planning Area.** Implementation of this recommendation would create an outdoor classroom of native plants in small garden-like settings with a trails, benches, and picnic tables. In addition to improving native habitat, the demonstration gardens would include public education panels including information about the coastal plant communities and habitats and other appropriate topics. Plant palettes for individual gardens could include coastal grassland, coastal scrub, coast live oak woodland, and a raingarden wetland.

- **Provide a green-waste area for Operations use and public education in the Bray Planning Area.** Implementation of this recommendation would relocate the existing green-waste composting area before the Ferry Point staging area is expanded. The green-waste composting

area provides an area for park operations staff to process green waste accumulated from on-going park maintenance activities. Full implementation of the LUPA recommendation would also provide public education, which could include information on the composting process and the environmental benefits of composting green waste.

- **Implementation trail Improvements in the Ridgeland Planning Area.** Repairing trails damaged by erosion and decommissioning trails too damaged for repair would improve the existing trail system in the Ridgeland Planning Area, rendering them more stable and operationally sustainable as well as reducing future erosion and associated water quality issues.
- **Implement the District's Wildfire Hazard Reduction and Resource Management Plan recommendations in the Ridgeland Planning Area**. These long-term strategies for reducing fuel loads and managing vegetation to minimize the risk of Diablo wind-driven catastrophic wildfire along the wildland-urban interface, while also ensuring the protection and enhancement of ecological values and resources, improving native plant habitats, and reducing fire risk.
- **Implement Integrated Pest Management (IPM) recommendations in the Ridgeland Planning Area.** Implementation of which would improve native plant habitats and reduce fire risk.
- **Implement grazing recommendations in the Ridgeland Planning Area.** Implementation of the grazing recommendations would help to manage vegetation management which would, in turn, maintain and enhance the native grassland, reduce weedy species; and reduce or maintain encroaching coyote brush shrubland. Vegetation management by grazing would also compliment the District's Wildfire Hazard Reduction and Resource Management plan recommendations.
- **Include installation of solar panels on the day-use picnic structure in the Ferry Point Planning Area.** The LUPA includes a recommendation demolish the existing historic warehouse building at Ferry Point, preserving the existing concrete structural side and roof beams, and develop a day-use picnic area within the building footprint. The picnic area could be covered with solar panels, which could provide electricity for an irrigation system for the native planting areas and for the existing lights on the fishing pier.

Consistency with the District's Master Plan Climate Policies. The District's 2013 Master Plan includes policies directly pertaining to climate change and several other policies that relate to climate change. This section addresses how the LUPA recommendations complies with those 2013 Master Plan policies.

Bullet Point Under 2013 Master Plan Vision Statement

Monitor the effects of climate change on District resources and utilize adaptive management techniques to adjust stewardship methods and priorities to preserve the natural, cultural, and scenic values of the parks and trails.

Discussion. *Miller/Knox is currently managed in manner that utilizes adaptive management techniques to preserve the park's natural, cultural, and scenic values. Current park management and the effects of implementation of the LUPA recommendations are discussed under each of the applicable 2013 Master Plan policies.*

2013 Master Plan Polices that Address Climate Change

RM 1: Climate Change is expected to affect these resources in various ways. Changes in the ranges of various species, increased potential for wildfires and pests are anticipated with this change in the weather. In a manner consistent with the desire to conserve and enhance" its resources, the District must closely track the impact of this phenomenon and if necessary, act to relocate or protect in-situ resources that are being degraded or potentially lost by this change.

Discussion. Miller/Knox currently provides habitat to a variety of plant and animal species. The woodland, shrubland, and grassland areas, particularly in the ridge land area of Miller/Knox, are potentially vulnerable to climate change effects related to cycles of drought, abundant rainfall, and strong wind events. These climate related cycles could result in loss of existing vegetation and succession by different vegetation, including non-native vegetation. The recommendations included in the LUPA are not expected to result in or exacerbate any climate change effects. The LUPA includes recommendations for tree planting and habitat creation utilizing native plants of the different plant communities common to the east bay shoreline area. Implementation of these recommendations is expected to enhance the existing natural resources at Miller/Knox.

The LUPA recommendation to implement the District's Wildfire Hazard Reduction and Resource Management Plan recommendations, Integrated Pest Management recommendations, and grazing recommendations would address Master Plan Policy RM 1 by reducing risk of wildfire and pests, rendering Miller/Knox more resilient to these effects associated with climate change. Vegetation monitoring is expected to occur with implementation of these LUPA recommendations. If these resources are found to be depleting, revegetation efforts could be implemented to maintain the existing acreage of woodland, shrubland, and grassland areas.

RM 1b: The District will specifically track and monitor the effects of Climate Change on its resources, interceding when necessary to relocate or protect in-situ resources that are being degraded or lost by this shift in the environment.

Discussion. Miller/Knox currently is approximately ten feet above sea-level, the shoreline protected by bedrock, a railroad berm, rock slope protection, and three beaches. Existing rock slope protection is an average of twelve feet in height, protecting the park and resources

from sea-level rise and the climate change effects associated with sea level rise. The beaches, located along the shoreline and the lagoon, help to absorb tidal fluctuation.

The LUPA recommendation to implement the lagoon enhancement project is expected to provide additional protection from the effects of sea-level rise and associated climate change effects by increasing the volume of water that the lagoon could hold. Implementation of this recommendation is also expected to improve water quality, conditions for wildlife, and the general function of the pump equipment.

The LUPA recommendation for the District "evaluate shoreline for resiliency from sea-level rise and implement recommendations" will assess the existing condition of the rock slope protection, bedrock, and beaches along the Miller/Knox shoreline and suggest measures to increase resiliency from future sea level rise.

NRM 1b: To help mitigate the effects of climate change, the District will endeavor to conserve and connect habitat for native species through its acquisition and planning processes.

Discussion. Miller/Knox currently provides habitat to a variety of plant and animal species. The LUPA recommendations to increase use of "**drought-tolerant, climate-smart** vegetation in the Ferry Point and Lagoon Planning Areas and establish native plant communities as demonstration gardens in the Bray Planning Area" would address Master Plan Policy NRM 1b by enhancing existing habitat for native species.

NRM 12b: The District will engage in watershed management planning and practices that will address the shifts in habitat ranges caused by climate change through the preservation and enhancement of streams and wetland areas.

Discussion. Miller/Knox is a regional shoreline park that features three beaches, a tidally-influenced lagoon, and wetland. Beaches and the wetland will remain unchanged, and the lagoon will be enhanced through implementation of the recommendation to implement the Lagoon Enhancement Project. As with Master Plan Policy NRM 1b, the LUPA recommendations to establish native plant communities as demonstration gardens in the Bray Planning Area including coastal grassland, coastal scrub, coast live oak woodland, and raingarden wetland would address Master Plan Policy NRM 12b by improving habitat ranges for native species. The LUPA recommendations to implement trail recommendations in the Ridgeland Planning Area, which includes drainage improvements, and the lagoon enhancement project is expected to preserve and enhance watershed features within the park, attract additional native species, manage the watershed, and address potential shifts in habitat ranges caused by climate change.

2013 Master Plan Bullet Points that Address Sea Level Rise and Climate Change. In addition to specific policies, the 2013 Master Plan also includes the following bullet points directly relating to sea level rise and climate change.

- **Reserve funding for repair and maintenance of shoreline facilities from storm damage resulting from sea level rise, including the protection of tidal marsh habitat.**

  Discussion. The Operations Budget for Miller/Knox would address funding for the repair and maintenance of facilities from storm damage resulting from sea level rise. The Miller/Knox shoreline is currently protected by bedrock, an average of twelve feet of rock slope protection, and beaches. These factors provide protection of the park and resources from

sea-level rise and the climate change affects associated with sea level rise. Implementation of the Miller/Knox LUPA recommendation to conduct an engineering analysis of the shoreline and implement recommendations to increase resiliency from the impacts of climate change would be funded by the District's Measure CC. Implementation of the Miller/Knox LUPA recommendation to implement the lagoon enhancement project is expected to provide additional protection from the effects of sea-level rise and associated climate change effects by increasing the volume of water that the lagoon can hold. Implementation of this recommendation would also protect the marginal tidal marsh habitat associated with the lagoon. Measure CC funding is currently allocated to implement this LUPA recommendation.

- **Plan new facilities to ensure maximum sustainability in anticipation of rising tidal levels.**

  Discussion. The Miller/Knox LUPA includes recommendations for the following new facilities: partial demolition of the existing historic warehouse building, utilizing the structure and footprint for a new picnic and day-use structure equipped with solar panels, a staging area expansion at Ferry Point, formalization of the staging area in the Ridgeland Planning Area at Dornan Drive, and a new staging area in the Ridgeland Planning Area at Canal Boulevard. As Miller/Knox is approximately ten feet above mean sea level and the shoreline is protected by rock slope protection, it is not expected that these facilities would be jeopardized by rising tidal levels until the year 2100, when SLR is project at 4.5 feet (54 inches). The ART program projects that when MHHW plus 52 inches of SLR occurs, the Ferry Point shoreline area of Miller/Knox would experience overtopping of up to one foot and Ferry Point Beach would experience overtopping of up to three feet. The ART project concluded that six feet of SLR is a reasonable proxy for a year 2100 storm event. The LUPA does not include recommendations for new structures along the shoreline.

- **Continue to work with other concerned agencies and programs, such as the San Francisco Bay Conservation and Development Commission (BCDC), National Oceanic and Atmospheric Administration (NOAA), the Adapting to Rising Tides (ART) Project, U.S. Army Corps of Engineers (ACOE), and Adapting to the Alameda and Contra Costa Flood Control Districts, to plan and manage for sea level rise. Regionally based planning and the coordinated implementation of preventive measures by all agencies with interests along the shoreline will save everyone substantial repair and replacement costs in the future.**

  Discussion. Planning staff and the CEQA consultants met with staff from the San Francisco Bay Conservation and Development Commission (BCDC), U.S. Army Corps of Engineers (USACOE), the State Lands Commission (SLC), and the California Department of Fish and Wildlife (CDFW) on October 12, 2017 regarding the LUPA, and included discussion related to SLR. The RWQCB acknowledge the District's commitment to addressing SLR resilience, and BCDC recommended utilizing their Adapting to Rising Tides (ART) Program to aid in this analysis. The RWQCB also commented that they are interested in a long-term vision for adapting to sea-level rise, such as creating habitat along the shore instead of just armoring it. The LUPA recommendation for the District to evaluate shoreline for resiliency from sea-level rise and implement recommendations will address this bullet point.

- **Increased fuel/energy costs and a limited supply of potable water will impede the District's 113,000 acre, two-county, 65-park operation, making the reuse and recycling of resources essential and the investigation into alternative energy sources and adoption of the recycling water and water efficient technology vital to developing a sustainable operational program.**

Regional park open spaces provide opportunities to harvest wind and solar energy. However, the consistency of these development projects with the mission of the Park District and the welfare of natural resources must be carefully assessed.

Discussion. The LUPA includes a recommendation to replace under-utilized areas of irrigated turf with native vegetation in the Lagoon Planning Area, which would reduce the amount of potable water used for irrigation. The LUPA also includes recommendations to install solar panels on the roof of the day-use picnic structure that will replace the existing historical warehouse building at Ferry Point, which would provide an alternative to electric energy for some of the electrical needs at the park.

- **As East Bay area cities plan and pursue sustainable and more intensive development goals, the Regional Parks will become the matrix of green open space between urbanized communities, acting as community separators while offering nearby nature-oriented outdoor recreation to residents. The vegetation in the parks also acts as a "carbon sink," helping to offset the carbon dioxide generated by automobile traffic and urban/industrial uses.**

  Discussion. The Miller/Knox LUPA includes recommendations for habitat enhancement including replacing under-utilized areas of turf with native vegetation; establish native plant communities as demonstration gardens in the Bray Planning Area including coastal grassland, coastal scrub, coast live oak woodland, and raingarden wetland; and a recommendation implementing Integrated Pest Management recommendations that would reduce non-native vegetation and thereby maximize conditions for native vegetation.

D. LUPA Consistency with Master Plan Policies

RESOURCE MANAGEMENT

RM 1: Climate Change is expected to affect these resources in various ways. Changes in the ranges of various species, increased potential for wildfires and pests are anticipated with this change in the weather. In a manner consistent with the desire to conserve and enhance" its resources, the District must closely track the impact of this phenomenon and if necessary, act to relocate or protect in-situ resources that are being degraded or potentially lost by this change.

RM 1b: The District will specifically track and monitor the effects of Climate Change on its resources, interceding when necessary to relocate or protect in-situ resources that are being degraded or lost by this shift in the environment.

Discussion. LUPA consistency with these Master Plan policies is addressed in the Compliance with Climate-Related Polices section of this chapter.

NATURAL RESOURCE MANAGEMENT

NRM 1: The District will maintain, manage, conserve, enhance, and restore park wildland resources to protect essential plant and animal habitat within viable, sustainable ecosystems.

NRM 1b: To help mitigate the effects of climate change, the District will endeavor to conserve and connect habitat for native species through its acquisition and planning processes.

NRM 2: Plant and animal pest species will be controlled by using Integrated Pest Management (IPM) procedures and practices adopted by the Board of Directors. The District will employ IPM practices to minimize the impacts of undesirable species on natural resources and to reduce pest-related health and safety risks to the public within developed facilities and/or high-recreational areas.

NRM 3: The District will manage park wildlands using modern resource management practices based on scientific principals supported by available resources. New scientific information will be incorporated into the planning and implementation of District wildland management programs as it becomes available. The District will coordinate with other agencies and organizations in a concerted effort to inventory, evaluate, and manage natural resources and to maintain and enhance the biodiversity of the region.

Discussion. LUPA consistency with Master Plan policy NRM 1b is addressed in the Compliance with Climate-Related Polices section of this chapter. LUPA consistency with Master Plan policies NRM 1, NRM2, and NRM 3 is addressed through the LUPA recommendations to implement the District's Wildfire Hazard Reduction and Resource Management Plan recommendations, Integrated Pest Management recommendations, and grazing recommendations and to establish native plant communities as demonstration gardens with connecting paths.

RARE, THREATENED AND ENDANGERED SPECIES MANAGEMENT

NRM 4: The District will identify, evaluate, conserve, enhance and restore rare, threatened, endangered or locally-important species of plants and animals using scientific research, field experience, and other proven methodologies. Populations of listed species will be monitored through periodic observations of their condition, size, habitat, reproduction,

and distribution. Conservation of rare, threatened, and endangered species of plants and animals and their supporting habitats will take precedence over other activities. If the District determines that the other uses and activities would have a significant adverse effect on these natural resources.

Discussion. The Program EIR includes mitigation measures to ensure that implementation of the LUPA recommendations would not impact rare, threatened, or endangered species.

VEGETATION MANAGEMENT

NRM 5: The District will maintain and manage vegetation to conserve, enhance, and restore natural plant communities, to preserve and protect populations of rare, threatened, endangered, and sensitive plant species and their habitats; and where possible, to protect biodiversity and to achieve a high representation of native plants and animals.

NRM 6: The District will evaluate exotic eucalyptus, Monterey pine and cypress plantations, shrubland or woodland areas occurring along the wildland/urban interface on a case-by-case basis for thinning, removal and/or conversion to a less fire-prone condition, following the methods laid out in the Fuels Management Plan. The District will minimize the widespread encroachment of exotic and/or invasive species such as coyote brush, poison oak, and broom, etc. on parkland and work to preserve native plants where feasible.

NRM 7: The District will manage agricultural sites and cultivated areas in accordance with appropriate agricultural or landscaping practices or IPM methods to control noxious weed infestations, broom and other invasive, non-native shrubs and to eventually replace these invasive plants with desirable native species.

NRM 8: The District will conserve, enhance, and restore biological resources to promote naturally functioning ecosystems. Conservation efforts may involve using managed conservation grazing in accordance with the District's Wildland Management Policies and Guidelines, prescribed burning, mechanical treatments, IPM and/or habitat protection and restoration. Restoration activities may involve the removal of invasive plants and animals, or the reintroduction of native or naturalized species, adapted to or representative of a given site.

Discussion. LUPA compliance with Master Plan policies NRM 5, NRM 6, and NRM 8 is addressed through the LUPA recommendations to implement the District's Wildfire Hazard Reduction and Resource Management Plan recommendations, Integrated Pest Management recommendations, and grazing recommendations and to establish native plant communities as demonstration gardens with connecting paths. There are no agricultural sites or cultivated areas at Miller/Knox, therefore Master Plan policy NRM 7 is not applicable to the LUPA.

WILDLIFE MANAGEMENT

Terrestrial Wildlife

NRM 9: The District will conserve and protect native animal species and enhance their habitats to maintain viable wildlife populations within balanced ecosystems. Non-native and feral animals will be managed to minimize conflicts with native wildlife species. The District will cooperate on a regular basis with other public and private land managers, and recognized wildlife management experts to address wildlife management issues on a regional scale.

Discussion. On-going park operations and management practices at Miller/Knox is consistent with Master Plan policy NRM 9.

Aquatic Wildlife

NRM 10: The District will conserve, enhance, and restore native fish and amphibian populations and their habitats; will develop aquatic facilities, where appropriate, to create a wide variety of fisheries; will monitor fisheries resources to determine species composition, size, population, and growth rates; and will cooperate with the California Department of Fish and Wildlife to conserve, enhance, and manage fisheries resources for ecological and recreational benefit.

Discussion. Implementation of the LUPA recommendations for the lagoon enhancement project and to improve resiliency and climate change adaptation along the shoreline would be consistent with current laws and regulations that protect native fish and amphibian populations, consistent with Master Plan policy NRM 10.

WATER MANAGEMENT

Water Resources

NRM 11: Park water resources will be used for beneficial purposes. Water quality will be monitored to comply with established standards. The District will participate in cooperative efforts to plan comprehensive watershed management and will adopt "best management practice" guidelines for District land use activities to minimize potential storm water pollution. The District will monitor land use planning and development activities by other agencies and cities to avoid potential adverse impacts to parkland from pollutants generated by off-site or upstream sources.

NRM 11b: The District will pursue conservation and control technologies for the use of potable and irrigation water. The District will seek to reduce the use of imported water for uses other than human consumption through conservation and by developing other sources of water for irrigation and non-potable needs.

Discussion. Implementation of the LUPA recommendation to repair trails damaged by erosion and decommission trails too damaged for repair will improve water quality be reducing sediment load entering surface water. Implementation of the LUPA recommendation to replace under-utilized area of irrigated turf with drought-tolerant, climate-smart vegetation will reduce water use from irrigation. Additionally, implementation of all LUPA recommendations would be in compliance with current laws and regulations that protect water quality, consistent with Master Plan policies NRM 11 and 11b.

Riparian and Wetland Resources

NRM 12: The District will manage riparian and other wetland environments and their buffer zones to preserve and enhance the natural and beneficial values of these important resources and to prevent the destruction, loss, or degradation of habitat. The District will participate in the preservation, restoration, and management of riparian and wetland areas of regional significance and will not initiate any action that could result in a net decrease in park wetlands. The District will encourage public access to the Bay/Delta shoreline, but will control access to riparian and wetland areas, when necessary, to protect natural resources.

NRM 12b: The District will engage in watershed management planning and practices that will address the shifts in habitat ranges caused by climate change through the preservation and enhancement of streams and wetland areas.

Discussion. LUPA consistency with Master Plan policy NRM 12b is addressed in the Compliance with Climate-Related Polices section of this chapter. Miller/Knox does not include riparian environments. Implementation of LUPA recommendations will not affect the ephemeral drainage/seasonal wetland in the ridgeland planning area. Implementation of the lagoon enhancement project would be consistent with current laws and regulations that protect water quality and implementation of mitigation measures 4.1-3a, b, c, and d included in the Program EIR will be consistent with Master Plan policy 12b.

GEOLOGY, SOILS AND PALEONTOLOGY

NRM 13: The District will identify existing and potential erosion problems and take corrective measures to repair damage and mitigate its causes. The District will manage the parks to assure that an adequate cover of vegetation remains on the ground to provide soil protection. Where vegetative cover has been reduced or eliminated, the District will take steps to restore it using native or naturalized plants adapted to the site. The District will minimize soil disturbance in areas with unstable soils whenever possible. The District will arrest the progress of active gully erosion where practical and take action to restore these areas to stable conditions. The District will notify adjacent property owners of potential landslide situations and risks on District lands and will conform with applicable law. The District will protect important geological and paleontological features from vandalism and misuse.

Discussion. LUPA consistency with Master Plan policy NRM 13 will be achieved through implementation of the LUPA recommendation to repair trails damaged by erosion and to decommission trails too damaged for repair, which will improve stability of the trail system in the ridgeland planning area and through implementation of the LUPA recommendations regarding Integrated Pest Management and grazing, which will improve vegetative cover and soil protection.

CULTURAL RESOURCE MANAGEMENT (CRM)

CRM 1: The District will manage, conserve, and when practical restore parkland cultural and historic resources and sites; to preserve the heritage of the people who occupied this land before the District was established; and continue to encourage the cultural traditions associated with the land today.

CRM 2: The District may acquire cultural and historic resource sites when they are within lands that meet parkland acquisition criteria and will maintain an active archive of its institutional history and the history of its parklands and trails.

CRM 3: The District will maintain a current map and written inventory of all cultural features and sites found on park land and will preserve and protect these cultural features and sites “in situ” in accordance with Board policy. The District will evaluate significant cultural and historic sites to determine if they should be nominated for State Historic Landmark status or for the National Register of Historic Places.

CRM 4: The District will determine the level of public access to cultural and historic resources using procedures and practices adopted by the Board of Directors. The District will

employ generally accepted best management practices to minimize the impact of public use and access on a regional scale

CRM 5: The District will notify Native Americans and other culturally associated peoples in a timely manner of plans which may affect sites and landscapes significant to their culture and will include them in discussions regarding the preservation and land use planning of culturally significant sites and landscapes.

CRM 6: The District will accommodate requests by Native Americans, ranching or farming communities, and other groups to help maintain and use cultural sites and to play an active role in their preservation and interpretation.

Discussion. LUPA consistency with Master Plan policies CRM 5 and 6 is addressed in the *LUPA Consistency with Public Participation Policies* section of this chapter. The LUPA does not include acquisition of any properties, therefore Master Plan policy CRM 2 is not applicable. Known cultural and historic resources are documented in the District's Cultural Atlas, and implementation of the LUPA recommendations will not affect any known cultural resources. Miller/Knox includes historic resources that are eligible for the National Register of Historic Places. These include the historic pump house and warehouse buildings at Ferry Point and the historic pier at Ferry Point. Implementation of the LUPA recommendations to rehabilitate the historic pump house building for passive interpretive use and to replace the historic warehouse building with day-use and scenic vista point area will provide public access to these historic structures, will enhance existing historical interpretation of these resources. Implementation of these LUPA recommendations will incorporate mitigation measures 4.5-1a and 4.5-1b, and therefore the LUPA is consistent with Master Plan policies CRM 3 and 4.

PUBLIC ACCESS (PA)

PA 1: The District will use the concepts of the Healthy Parks Healthy People movement to focus its outreach and education efforts. To achieve the goals of the Healthy Parks Healthy People movement the District will partner with other park, recreation, and community organizations; along with schools, local health providers, and businesses to provide opportunities for families and individuals to experience both traditional and non-traditional types of outdoor activities while reconnecting to the outdoors.

PA 2: The District will provide information about its parks, trails, and programs in a variety of venues, languages, and types of media. There is a need to serve both a more ethnically diverse set of residents and an increasing number of seniors and youth.

PA 3: The District will regularly use formal and informal survey methods to assess the interests of its constituents. This information will be used to guide the development of outreach and educational programs, facilities, and activities found in the parks.

Discussion. The District currently partners with several park, recreation, community organizations, schools, and health providers to provide programs at Miller/Knox that focus on the concepts of the Health Parks Healthy People movement. Implementation of the LUPA recommendation to develop a recreational programs and storage building for District use in outdoor education, interpretive programs, and volunteer activities would be utilized by the District's Interpretive and Recreational division for the following types of programs and activities: Program meeting space and headquarters for various community outreach

programs, including Teen Eco-Action and Adventure Crew/Richmond Rangers, both of which target under-served West Contra Costa County youth; Classroom and program storage space for interpretive and recreational programs offered in the park including fishing, biking, and kayaking programs as well as natural and cultural history talks; and Staging area and storage space for park conservation and garden volunteers. This, along with implementation of LUPA recommendations to improve trails in the ridgeland area and develop new trails throughout the flatland areas of the park, achieves consistency with Master Plan policy PA-1. Consistency with Master Plan policies PA 2 and PA 3 will be achieved through the existing and on-going activities within the District's Public Affairs division.

PROVIDING PARKING AND ENCOURAGING GREEN TRANSPORTATION

PA 4: The District will provide access to parklands and trails to suit the level of expected use. Where feasible, the District will provide alternatives to parking on or use of neighborhood streets. The District will continue to advocate and support service to the regional park system by public transit.

PA 4: The District will cooperate with local and regional planning efforts to create more walkable and bikeable communities, and coordinate park access opportunities with local trails and bike paths developed by other agencies to promote green transportation access to the Regional Parks and Trails.

Discussion. Implementation with the LUPA recommendations to provide an expanded staging area at Ferry Point, formalize the existing staging area at Dornan Drive, and a new staging area at Canal Boulevard will be consistent with Master Plan Policy 4 by providing access to suit the level of existing and projected future use as well as reducing parking on public streets. The District has been working with the City of Richmond to provide walkable and bikeable trail connections between approved new residential developments and Miller/Knox, consistent with Master Plan policy PA 5.

ACCESSIBILITY FOR THOSE REQUIRING SPECIAL ASSISTANCE OR FACILITIES

PA 6: The District will comply with the requirements of the Americans with Disabilities Act and use the current edition of the California State Parks Accessibility Guidelines as its standard for making the improvements necessary to create accessible circulation, programs, and facilities throughout the Park District.

PA 7: The District will evaluate and monitor the compliance level of access routes from public transit stops into the parks and encourage local agencies to make the improvements necessary to provide compliant accessibility to the parks.

PA 8: The District will endeavor to assist individuals and groups who require special assistance with programs or facilities because of physical disability or economic circumstances.

Discussion. LUPA consistency with Master Plan policy PA 6 would be met through implementation with the LUPA recommendations to provide an expanded staging area at Ferry Point, formalize the existing staging area at Dornan Drive, and a new staging area at Canal Boulevard by providing designated parking spaces per the requirements of the Americans with Disability Act. Additionally, implementation of LUPA recommendations to rehabilitate the historic pumphouse building for passive interpretive use, and replace the historic warehouse building with day-use and scenic vista point area and develop a

recreational programs and storage building would be accomplished in compliance with the Americans with Disabilities Act. Consistency with Master Plan policies PA 7 and PA 8 would be achieved through on-going District efforts to improve compliant accessibility and assistance to those who require it.

INTERPRETATION AND RECREATION SERVICES (IRS)

Interpretation

IRS 1: The District will provide a variety of interpretive programs that focus attention on the region's natural and cultural resources. Programs will be designed with sensitivity to the needs and interests of people of all ages and backgrounds. Programs will enhance environmental experiences and foster values that are consistent with conserving natural and cultural resources for current and future generations to enjoy. The District will pursue and encourage volunteer support to assist in meeting these objectives.

Recreation

IRS 2: The District will offer recreational programs and services that appeal to participants of all ages and backgrounds, in keeping with its vision and mission. The District will create and manage a comprehensive offering of recreational opportunities, tours, and outdoor skills training that will help visitors use and enjoy the parks and trails, and will collaborate with other agencies, organizations, and partners to provide a broad spectrum of regional recreational opportunities.

Discussion The District participates in a number of interpretive and recreational programs at Miller/Knox. LUPA consistency with Master Plan policies IRS 1 and 2 will be achieved through on-going interpretive programming. Additionally, implementation of the LUPA recommendation to develop recreational programs and storage building for District use in outdoor education, interpretive programs, and volunteer activities would be utilized by the District's Interpretive and Recreational division for the following types of programs and activities: Program meeting space and headquarters for various community outreach programs, including Teen Eco-Action and Adventure Crew/Richmond Rangers, both of which target under-served West contra Costa County youth; Classroom and program storage space for interpretive and recreational programs offered in the park including fishing, biking, and kayaking programs as well as natural and cultural history talks; and Staging area and storage space for park conservation and garden volunteers.

REGIONAL FACILITIES AND AREAS (RFA)

RFA 1: The District will provide areas and facilities that serve the recreational needs of park users, in accordance with the plans, policies, and park classifications adopted by the Board of Directors. The District will generally not develop or provide facilities that are more appropriately provided by local recreational and park agencies. Where possible and appropriate, the District will provide multiple-use facilities to serve recreational needs.

Discussion. The LUPA recommendations associated with recreation are consistent with the Master Plan policies associated with a regional shoreline. The LUPA's consistency with the land use policies included in the Master Plan is discussed in the *Consistency with Land Use Policies* section.

Trails

RFA 2: The District will provide a diverse system of non-motorized trails to accommodate a variety of recreational users including hikers, joggers, people with dogs, bicyclists, and equestrians. Both wide and narrow trails will be designed and designated to accommodate either single or multiple users based on location, recreational intensity, environmental, and safety considerations. The District will focus on appropriate trail planning and design, signage, and trail user education to promote safety and minimize conflicts between users.

Dedicated and Shared Use Narrow Trails

RFA 3: The District will continue to add narrow trails designated as both single- and multi-use for hikers, equestrians, people with dogs, and bike riders throughout the system of regional parklands.

Unpaved Multi-Use Trails

RFA 4: The District will expand its unpaved multi-use trail system as additional acreage and new parks are added. The District will continue to provide multi-use trails to link parks and to provide access to park visitor destinations.

Paved Multi-Use Trails

RFA 5: The District will continue to plan for and expand the system of paved, multi-use regional trails connecting parklands and major population centers.

Discussion. Miller/Knox includes approximately four of existing trails in the ridgeland planning area that can be used by hikers, joggers, people with dogs, and equestrians. Bicyclists are not permitted on the ridgeland trails because the trails are narrow and erodible. The flatland areas of the park include sections of San Francisco Bay Trail and other informal trails. The San Francisco Bay Trail is multi-use and can be used by bicyclists in addition to other trail uses. The LUPA includes recommendations to improve the ridgeland trails; remove the abandoned railroad tracks within District jurisdiction and develop a section of the San Francisco Bay Trail between Keller Beach and Ferry Point; Formalize access between the Bayshore and the Lagoon Planning Areas; Develop a promenade connecting the Ferry Point Pier to the Lagoon Planning Area through the Bray Oil Property Planning Area; Establish native plant communities as demonstration gardens with connecting paths; and Establish a new trail on the east side of lagoon achieve consistency with Master Plan policies RFA 2, RFA 2, RFA 4, and RFA 5.

Picnic Areas

RFA 6: The District will continue to develop group and family picnic facilities throughout the parks system and will continue to improve the reservation system.

Discussion. Miller/Knox currently includes nine group picnic areas and a number of individual picnic areas throughout the park. The UPA includes recommendations to refurbish existing amenities, including picnic areas and barbeques and to provide additional picnic areas and benches. These recommendations, along with on-going implementation of the District's existing reservation system, render the LUPA consistent with Master Plan policy RFA 6.

Children's Play Areas

RFA 7: The District will continue to develop children's play areas in suitable park settings designated for recreation. The District will attempt to incorporate environmental and cultural themes in the design of these facilities.

Discussion. Miller/Knox currently includes a children's play area, consistent with Master Plan policy RFA 7.

Aquatics

RFA 8: The District will continue to plan, develop, and provide a regional system of aquatic facilities at parks that can support these activities. The District will strive to improve public access to lakes and to the San Francisco Bay and Delta shorelines for boating and fishing and will increase access to swimming beaches.

Discussion. Miller/Knox features a salt-water lagoon and three beaches along its shoreline. Swimming, fishing, and operation of non-motorized watercraft is allowed from the beaches but not at the lagoon. Implementation of the lagoon enhancement project would improve water quality within the salt-water lagoon. Implementation of LUPA recommendations to Establish a new trail on the east side of lagoon; Remove the abandoned railroad tracks within District jurisdiction and develop a section of the San Francisco Bay Trail between Keller Beach and Ferry Point will improve public access to these aquatic features. Together, implementation of these LUPA recommendations will be consistent with Master Plan policy RFA 8.

Camping

RFA 9: The District will continue to plan and develop a balanced system of regional camping facilities, including day camps, group camps, backpack camps, family camps, and residential camps.

Discussion. Miller/Knox currently does not include over-night camping facilities and the LUPA does not include recommendations for over-night camping facilities. Miller/Knox is utilized for day camp activities and implementation of the LUPA recommendations would increase the value of Miller/Knox for this purpose, particularly additional recreational and interpretive improvements, consistent with Master Plan policy RFA 9.

Special Facilities

RFA 10: The District will continue to provide special recreational facilities throughout the parklands to broaden the range of opportunities in the parks and to take advantage of existing resources. The District will ensure that these facilities are compatible with the District's vision and mission, with other parkland resources and priorities, and with public needs and demands.

Discussion. Miller/Knox currently includes a variety of recreational facilities that take advantage of existing resources and are consistent with the District's vision, mission, other parkland resources and priorities, and with public needs and demands. Some of these include the existing beaches and San Francisco Bay Trail segments along the shoreline and throughout the park, the fishing pier, and the salt-water lagoon. Implementation of LUPA recommendations to develop a promenade connecting the Ferry Point Pier to the Lagoon Planning Area through the Bray Property Planning Area; establish native plant communities as demonstration gardens with connecting paths; develop a recreational programs and storage building for District use in outdoor education, interpretive

programs, and volunteer activities; Rehabilitate the historic pumphouse building for passive interpretive use; Replace the historic warehouse building with day-use and scenic vista point area' and Remove the abandoned railroad tracks within District jurisdiction and develop a section of the San Francisco Bay Trail between Keller Beach and Ferry Point would provide additional special recreational facilities at Miller/Knox consistent with Master Plan policy RFA 10.

BALANCED PARKLAND DISTRIBUTION (BPD)

BPD 1: The District will continue to acquire, develop, and operate areas and facilities and to provide programs and services with the primary goal of achieving a long-term balance throughout the park system. The District will continue to allocate resources based on the populations from the most current Census data for the West Metropolitan, South Metropolitan, and Diablo sectors. To make the most efficient use of public funds, the District will evaluate and seek to support and enhance the parks, programs, and services of other agencies.

Discussion. Miller/Knox is a regional shoreline facility that contributes to balance within the regional parks system. On-going allocation of resources, including use of public funds, will continue as part of the District's annual budget process. Implementation of LUPA recommendations will be completed as resources and funding are available, consistent with Master Plan policy BPD 1**.**

KEY ELEMENTS OF THE PLANNING PROCESS (KEP)

Public Participation

KEP 1: The District will notify the public about the publication of plans, including proposed design of major new facilities, and the scheduled times for public review and comment. The Board will schedule plan review sessions in the geographic locale of interested communities and will conduct other public outreach efforts as needed to fully communicate the goals of the plan and to accept review and comment from interested individuals.

Discussion. The LUPA process included public notifications, meetings, outreach such as updates on the District's webpage and Facebook page, consistent with Master Plan policy KEP 1. The LUPA's consistency with the public participation policies included in the Master Plan is discussed in the *Consistency with Public Participation Policies* section.

Environmental Compliance

KEP 2: All District planning documents will be developed and approved in with the California Environmental Quality Act (CEQA) and when appropriate, the National Environmental Policy Act (NEPA).

Discussion. A Program Environmental Impact Report has been prepared to support the LUPA, in compliance with the California Environmental Quality Act, consistent with Master Plan policy KEP 2.

Resource Protection and Recreational Use Analysis

KEP 3: The District will identify the important resources in parklands and develop recommendations for protecting them. The park planning process will consider the needs

of potential park users along with resource protection recommendations to minimize the impact to identified resources or if necessary, to mitigate of this impact.

Discussion. Miller/Knox includes several important resources, which are described in the Introduction and Setting section of the LUPA. LUPA recommendations to Implement the Lagoon Enhancement Project; Designate the island as a Special Management Feature; Replace under-utilized area of irrigated turf with drought-tolerant, climate-smart vegetation; Repair trails damaged by erosion, and decommission trails too damaged for repair; and Implement the District's Wildfire Hazard Reduction and Resource Management Plan recommendations, Integrated Pest Management recommendations, and grazing recommendations all serve to protect and enhance existing resources. LUPA implementation incorporates environmental protection features and mitigation measures included in the Program EIR to protect these resources as the LUPA recommendations are implemented. All of these factors render the LUPA consistent with Master Plan policy KEP 3.

Open Space Protection

KEP 4: The District will participate in efforts to protect scenic or cultural resources, develop larger, multi-agency open space preserves, provide recreational opportunities, protect agricultural use, avoid hazards, and plan for appropriate urban growth boundaries. The District will work with other jurisdictions to develop open space preservation plans and policies that recognize the District's public interests in open space preservation and that are consistent with Board policy.

Discussion. Miller/Knox is known for its scenic resources and also includes important cultural resources in the form of the historic Ferry Point buildings and pier. LUPA objectives include *"Protect and enhance existing natural, historic and scenic resources; Improve public access through additional trails, pathways, and parking; Enhance physical fitness opportunities; and Provide additional interpretive and recreational programming"* and the LUPA recommendations have been developed with these objectives in mind, consistent with Master Plan policy KEP 4.

Liaison with Other Jurisdictions

KEP 5: The District will work actively with cities, counties, districts, and other governmental agencies to assure that they understand and consider District interests. The District will protect its interests when other jurisdictions plan or approve projects that affect the District and will work with them to develop and articulate mutual goals that are consistent with the District's standards. The District will seek to understand the perspectives of other governmental agencies and to resolve conflicts in mutually satisfactory ways that maintain the District's standards.

KEP 6: The District will work with local governments and other agencies to develop funding agreements that offset the cost of maintaining and operating open space, parklands, and trails accepted by the District in a manner consistent with the District's standards.

Discussion. The District will continue to work with cities, counties, districts, and other governmental agencies regarding District interests, as it has with the City of Richmond, consistent with Master Plan policy KEP 5 and KEP 6.

ACQUISITION (ACQ)

Park and Trail Acquisition Criteria

ACQ 1: The District will acquire property in accordance with the Master Plan; giving careful consideration to operating and program needs, the District's financial position, timing factors that affect the sale of the property, opportunities provided under Measure WW, and any other funding sources.

Acquisition Procedures

ACQ 2: Before acquiring land or land rights, the District will prepare an Acquisition Evaluation for the proposed land based on the best available information to determine its consistency with the Master Plan and its suitability as an addition to the District's park and trail system.

Land Banking

ACQ 3: The District will hold acquisitions in land bank status until the property is suitable for public access.

Parkland Dedication in Perpetuity

ACQ 4: District parklands the Board determines are appropriate for permanent commitment to park, recreational, or trail use will be dedicated in perpetuity as provided for in state law. Non-dedicated parklands the District determines are not necessary, or appropriate for District use, may be transferred to other agencies or sold when doing so is in the best interest of the District.

Discussion. The LUPA does not include recommendations for acquisition of property, land rights or parkland dedication in perpetuity, and there are no land-banked properties at Miller/Knox, therefore Master Plan policies ACQ 1, ACQ 2, ACQ 3 and ACQ 4 do not apply to the LUPA.

PLANNING FOR REGIONAL PARKS AND TRAILS (PRPT)

Classifying Parklands

PRPT 1: The District will classify existing and potential parklands in the Master Plan. All District parks are categorized into one of the following classifications:

a. Regional Park
b. Regional Preserve
c. Regional Recreation Area
d. Regional Shoreline
e. Regional Trail

At the time that the District prepares a Land Use Plan for a park, it will review the classification of the park and reclassify the park, if appropriate.

Discussion. Miller/Knox is classified as a Regional Shoreline, consistent with Master Plan policy PRPT 1.

Regional Park

PRPT 2: A Regional Park must be 500 acres or more, including land and water. It must have scenic or natural resources in at least 70 percent of its area. A Regional Park must have the capacity to accommodate a variety of recreational activities; however, these activities, in a designated Recreation/Staging Unit, may not take place in more than 30 percent of its area.

Regional Preserve

PRPT 3: The primary objective of a Regional Preserve is to preserve and protect significant natural or cultural resources. A Regional Preserve must have great natural or scientific importance (for example, it may contain rare or endangered plant or animal species and their supporting ecosystems, significant fossils, unique geologic features, or unusual topographic features) or be of such significant regional historic or cultural value as to warrant preservation.

PRPT 4: The size of a Natural or Cultural Preserve must be sufficient to ensure that its significant resource(s) can be managed so as to be protected and enjoyed. The significant resource(s) will consist of botanical, wildlife, geologic, topographic, archaeological, historic, or other features. The Recreation/Staging Unit(s) providing for public access and services will comprise no more than five percent of the area.

PRPT 5: A Wilderness Preserve is a distinct District category and is different from state or federally designated wilderness areas. A Wilderness Preserve must be sufficiently wide at all points to minimize disturbance from noise and to protect the qualities of the wilderness. The area will be a minimum of 3,000 acres. The area may exceed 10,000 or more acres with the potential for both unrestricted and possibly restricted public access areas. The area will include a view shed that does not degrade the values of the preserve. Motorized vehicles will not be allowed within the Wilderness Preserve except for park maintenance or emergency services. Generally, the Recreation/Staging Unit(s) providing for public access and services will comprise no more than one percent of the area.

PRPT 6: An Open Space Preserve will generally consist of at least 200 acres of undeveloped open space land within or bordering an urban area. An Open Space Preserve may be used for agriculture or for passive recreational activities that do not require substantial facilities or improvements.

Discussion. Miller/Knox is classified as a Regional Shoreline, therefore, Master Plan policies PRPT 3, PRPT 4, PRPT 5, and PRPT 6 do not apply.

Regional Recreation Area

PRPT 7: A Regional Recreation Area will be at least 40 acres in size, including both land and water area. The area must have established regional recreation facilities or the potential to provide the opportunities for regional facilities such as picnicking, swimming, fishing, camping, and boating. The area must lend itself to development for a variety of uses that meet recreational needs and it must be able to withstand intensive public use. The Recreation/Staging Unit providing for public access and services may comprise no more than 90 percent of a Regional Recreation Area.

Discussion. Miller/Knox is classified as a Regional Shoreline, therefore Master Plan policy PRPT 7, does not apply.

Regional Shoreline

PRPT 8: A Regional Shoreline (one area or a group of smaller shoreline areas that are connected by a trail or water access) must contain a variety of natural environments and manageable units of tidal, near shore wetland, and upland areas that can be used for scientific, interpretive, or environmental purposes; and/or contain sufficient land and water to

provide a variety of recreational activities, such as swimming, fishing, boating, or viewing. The Recreation/Staging Unit providing for public access and services may comprise no more than 30 percent of a Regional Shoreline.

Discussion. Miller/Knox is classified as a Regional Shoreline, consistent with Master Plan policy PRPT 8. A discussion of the LUPA's consistency with land use policies included in the District's Master Plan is in the *Consistency with Land Use Policies* section.

Regional Trails

PRPT 9: Regional Trails will connect regional parks or trails to each other, to parks and trails of other agencies, or to areas of unusual scenic beauty, vista points, San Francisco Bay, Delta or lake shoreline, natural or historic resources, or similar areas of regional significance. Regional Trails may also connect regional parks and trails to important destinations such as transit centers, schools, colleges, civic centers, other major institutions, employment centers, large commercial complexes, or residential areas. A regional water trail may provide a water connection with launching and landing sites for small watercraft to points along the San Francisco Bay shoreline and/or the Sacramento/San Joaquin River and Delta.

PRPT 10: The District encourages the creation of local trail networks that provide additional access points to the regional parklands and trails in order to provide loop trail experiences and to connect the regional system to the community. The District will support other agencies in completing local trail networks that complement the Regional Trail system and will coordinate with local agencies to incorporate local trail connections into District brochures.

PRPT 11: Regional Trails may be part of a national, state, or Bay Area regional trail system. The District will cooperate with other agencies and organizations to implement these multi-jurisdictional efforts.

Discussion. Miller/Knox is classified as a Regional Shoreline, therefore, Master Plan policies PRPT 9, PRPT 10, and PRPT 11 do not apply.

Resource Management and Planning

PRPT 12: To protect park resources while providing for regional recreational use and access, the District will prepare plans (Land Use Plans or System-wide Plans) that describe:

- The various levels of resource protection and recreational intensity in the parks
- Development projects and land management strategies for trails and parks
- Planning efforts will include consideration of proposals from the public

The District will strive to create and maintain up-to-date information about each of its parks. Significant changes or amendments to adopted plans will require further public comment and Board action.

Discussion. The LUPA designates natural units and recreation/staging units; development projects and land management strategies; and considered proposals from the public, consistent with Master Plan policy PRPT 12.

Land Use Plans (LUP) and Land Use Plan Amendments (LUPA)

PRPT 13: Land Use Plans will identify future resource management strategies and recreational use for entire parks and establish appropriate Land Use Designations. The District will continue to prepare Land Use Plans for new parks and will amend existing Land Use Plans as needed to accommodate growth and change.

Discussion. The LUPA identifies land management strategies, particularly the LUPA recommendations to repair trails damaged by erosion and decommission trails too damaged for repair; Implement the District's Wildfire Hazard Reduction and Resource Management Plan recommendations, the Integrated Pest Management recommendations, and the grazing recommendations, consistent with Master Plan policy PRPT 13.

Interim Land Use Plans (ILUP)

PRPT 14: Interim Land Use Plans will identify the minimum requirements for protecting resources and making a site safe and accessible for public use.

Discussion. The LUPA is not an Interim Land Use Plan, therefore, Master Plan policy PRPT 14 does not apply.

System-wide Plans

PRPT 15: The District will prepare system-wide plans, as needed, to create strategies for land use, facilities, services, recreation, and interpretive programs and resource management projects that improve service to the region. The system-wide plans will be consistent with resource protection policies and District standards and may establish Land Use Designations for parklands. System-wide plans will be flexible enough to accommodate existing LUPs, which will take precedence unless amended.

Discussion. The LUPA is not a System-wide Plan, therefore, Master Plan policy PRPT 15 does not apply.

Other Agency Plans

PRPT 16: The District will coordinate with other agencies and organizations involved in planning for jointly managed facilities that extend beyond its jurisdiction. When applicable, the District will use planning documents and California Environmental Quality Act (CEQA) documents produced by, or in cooperation with, other agencies for its park and trail planning and development.

Discussion. The LUPA is not plan from another agency, however, the District continues to coordinate with the City of Richmond regarding residential developments adjacent to and in the vicinity of Miller/Knox, consistent with Master Plan policy PRPT 16.

Trail Plans

PRPT 17: Where a trail alignment is not predetermined by a relationship to established corridors such as roads, railroad rights-of-way, canals, utility corridors, or similar facilities, the District will prepare a study or a plan for the trail, taking into account any factors it deems relevant to alignment and feasibility. After determining a feasible trail alignment, the District will seek to acquire the necessary land tenure and develop the trail for public use. The District may acquire a wider corridor for a proposed trail to provide an enhanced environment for the trail before determining the final alignment for the trail.

PRPT 18: The District will coordinate with other agencies and organizations involved in planning for jointly managed regional trails or trails that extend beyond the District's jurisdiction. When applicable, the District will use planning and environmental studies done by or in cooperation with other agencies for trail planning and development.

Discussion. The LUPA includes a recommendation in the ridgeland planning area to repair trails damaged by erosion and decommission trails too damaged for repair. These recommendations considered all factors relevant to alignment and feasibility, consistent with Master Plan policy PRPT 17. The LUPA also includes recommendations to establish a new trail on the east side of the lagoon; develop a promenade connecting the Ferry Point Pier to the Lagoon Planning Area through the Bray Property Planning Area; formalize access between the Bayshore and the Lagoon Planning Areas, and to remove the abandoned railroad tracks within District jurisdiction and develop a section of the San Francisco Bay Trail between Keller Beach and Ferry Point. The details associated with these recommendations will be determined when the specific recommendation is being implemented and will be consistent with Master Plan policy PRPT 17. The District continues to coordinate with the City of Richmond regarding residential developments adjacent to Miller/Knox, including new trails connecting the residential development with Miller/Knox, consistent with Master Plan policy PRPT 18.

Land Use Designations

PRPT 19: The District will establish unit designations (Natural Units, Recreation/Staging Units) and Special Features (Special Protection Features and Special Management Features) in a LUP or a System-wide Plan and will identify these units in appropriate planning documents.

Discussion. The LUPA designates natural units and recreation/staging units; continues the existing Special Protection Features for Ferry Point Pier and Terminal; and designates the island within the lagoon as a new Special Management Feature, consistent with Master Plan policy PRPT 19. A discussion of the LUPA's consistency with land use policies included in the District's Master Plan is in the *Consistency with Land Use Policies* section.

Natural Units

PRPT 20: Natural, open space, or wildland areas with lower intensity recreational uses and facilities (primarily trails) will be designated as Natural Units. Natural Units will generally comprise the majority of parkland acreage, except in Regional Recreation Areas. Parklands will be designated as Natural Units to maintain open space and significant features in a cohesive area. A Natural Unity may contain Special Protection Features and Special Management Features.

Discussion. The LUPA designates the 163-acre ridgeland area as a natural unit, consistent with Master Plan policy PRPT 20. A discussion of the LUPA's consistency with land use policies included in the District's Master Plan is in the *Consistency with Land Use Policies* section.

Recreation/Staging Units

PRPT 21: Areas of higher level recreational use and concentrations of service facilities will be designated as Recreation/Staging Units. Where possible, these areas will be clustered and located on the edges of the park.

Discussion. The LUPA designates the remaining parkland as a recreation/staging unit, consistent with Master Plan policy PRPT 21. A discussion of the LUPA's consistency with land use policies included in the District's Master Plan is in the *Consistency with Land Use Policies* section.

Special Protection Features

Special Protection Features identify areas with unique or fragile natural, cultural, aesthetic, or educational features such as biologic, hydrologic, archaeological, historic, or geologic resources. This designation provides the greatest amount of protection for resources that require specialized types of management to preserve and enhance them. The District provides for this specialized management through "prescriptions" to guide operations and maintenance staff.

PRPT 22: Areas with unique or fragile features will be designated as Special Protection Features to preserve and enhance them through specialized management. Special Protection Features may be closed seasonally or permanently to public access, if public access will endanger them.

Discussion. The LUPA continues the existing Special Protection Features for Ferry Point Pier and Terminal, consistent with Master Plan policy PRPT 22. A discussion of the LUPA's consistency with land use policies included in the District's Master Plan is in the *Consistency with Land Use Policies* section.

Special Management Features

Special Management Features primarily identify constructed or modified features such as wildland vegetation management areas, plantations of exotic trees, such as olive groves, farm fields and dams that require specialized types of management. The District provides direction for managing each type of SMF through written "prescriptions" that are used by operations and maintenance staff.

PRPT 23: Areas and facilities that have special requirements, such as fields and dams, will be designated as Special Management Features.

Discussion. The LUPA designates the island within the lagoon as a new Special Management Feature, consistent with Master Plan policy PRPT 23. A discussion of the LUPA's consistency with land use policies included in the District's Master Plan is in the *Consistency with Land Use Policies* section.

Planning and Management Guidelines for Natural Units

Facility Development

PRPT 24: The District will seek to locate facilities in a manner that preserves open space whenever possible. The District will design proposed facilities so that their color, scale, style, and materials will blend with the natural environment. Park improvements will be designed to avoid or minimize impacts on wildlife habitats, plant populations, and other resources.

Discussion. The LUPA includes a recommendation to develop a recreational programs and storage building for District use in outdoor education, interpretive programs, and volunteer activities within the Bray Planning Area. This new facility has been conceptually located for purposes of this LUPA in a manner that preserves open space; makes best use of location relative to parking; and minimizes impacts on wildlife habitats, plant populations, and other resources, consistent with Master Plan policy PRPT 24.

PRPT 25: The District will prepare a five-year Capital Improvement Plan as part of its annual budget, listing construction projects to be built over a five-year period. The Capital Improvement Plan will be based upon available funds. The District will fully consider approved park plans in preparing the Capital Improvement Plan.

Discussion. The LUPA includes a recommendation to develop a recreational programs and storage building for District use in outdoor education, interpretive programs, and volunteer activities within the Bray Planning Area. The LUPA Implementation Schedule indicates this new facility would be developed during "Phase Two," 5 – 10 years after the LUPA is approved. This new facility will be included in the District's five-year Capital Improvement Plan, consistent with Master Plan policy PRPT 25, when the District prioritizes implementation of this LUPA recommendation.

PRPT 26: The District will follow established procedures and guidelines consistent with the Master Plan in considering proposals from individuals and groups who wish to develop or use facilities within the parks. It may be necessary to prepare an amended or focused planning or project document before the project can be approved. Fees may be charged to the individual or group proposing the project to cover permit, environmental, and planning costs.

Discussion. The LUPA does not include recommendations to implement proposals from individuals or groups who wish to develop facilities at Miller/Knox, therefore, Master Plan policy PRPT 26 does not apply. Proposals from individuals or groups who wish to use facilities at Miller/Knox would continue to be processed through existing District procedures, consistent with Master Plan policy PRPT 26.

PRPT 27: The District will fully comply with the requirements of the California Environmental Quality Act (CEQA) for the development of new facilities. Evidence of CEQA compliance will be provided in the planning document or separately in a project-specific CEQA document. The District will also comply, when appropriate, with the National Environmental Policy Act (NEPA).

PRPT 28: New utility lines will be placed underground on land owned, operated, or managed by the District to retain the optimal visual qualities of the area. Rights of way and easements for utilities will not be granted without under-grounding. The District will work in cooperation with the utility companies to place existing overhead utilities underground

(unless so doing conflicts with applicable codes) as soon as practical and will work with other agencies and neighbors to reduce visual impacts on adjacent lands. The District will seek to avoid the construction of high voltage power lines within the parklands, particularly in areas of sensitive or aesthetically important resources and in preserve areas.

Discussion. The LUPA includes a recommendation to develop a recreational programs and storage building for District use in outdoor education, interpretive programs, and volunteer activities within the Bray Planning Area. This new facility has been conceptually located and described for purposes of this LUPA and the environmental impacts have been programmatically analyzed in the Program EIR. As such, when the District prioritizes implementation of this LUPA recommendation, the building is designed, and utilities are identified, District staff will evaluate the Program EIR to determine if it adequately analyzed the environmental impacts and the adequacy of mitigation measures included in the Program EIR. If needed, the District will prepare a focused environmental compliance document pursuant to CEQA, consistent with Master Plan policy PRPT 27 and PRPT 28.

PRPT 29: The District will keep its lands, including all ridges and peaks, free of additional communication facilities in order to maintain open viewshed, natural conditions, and public use as well as to limit vehicular and service activities. Communication sites will be regulated by the provisions of the Communication Site Policy which states that no new licenses will be granted beyond December 31, 1999, except for efforts that will consolidate sites or improve visual quality. The District will work to reduce the detrimental visual impact of buildings, towers, and access roads at existing sites and will work with other agencies and neighbors to reduce this impact on adjacent lands.

Discussion. The LUPA does not include recommendations to place communication facilities at Miller/Knox, including within the ridgeland area, consistent with Master Plan policy PRPT 29.

PUBLIC SERVICE (PS)

Public Outreach

PS 1: The District will continue to adapt its services and programs in response to changes in the East Bay's resident population, recognizing that the cultural diversity of the District is expected to increase.

PS 2: The District will develop programs and activities, consistent with the District's mission, that respond to the recreational preferences of its culturally diverse population and that recognize the heritage of District residents. The District will also focus on developing programs to involve youth in District activities. These programs will be coordinated, whenever possible, with other organizations in the East Bay, emphasizing partnerships with school districts, recreation and conservation agencies, and community groups.

PS 3: The District will broaden its outreach efforts, multilingual media programs, and signage to inform the public about its mission, its programs and facilities, and its hiring practices and opportunities in an effort to encourage public involvement throughout. The District will communicate to its various audiences with sensitivity to their needs and will seek to ensure that its purposes and services are well understood. The District will solicit

community input on an ongoing basis regarding how to engage its constituency and meet its needs.

PS 4: The District will include members of its increasingly diverse population in all aspects of its operations; from hiring staff and engaging consultants, contractors and concessionaires to appointing docents, interns, and others. The District will be sensitive to the diversity of its population in the design and operation of District facilities and the prioritization of District acquisitions. An emphasis will be placed on developing the multilingual capabilities of the District.

Discussion. Master Plan policies PS 1, PS 2, PS 3, and 4 pertain to District operations and are not applicable to the LUPA.

Public Participation

PS 5: All meetings of the Board of Directors and its committees will be open to the public and conducted in full compliance of the Ralph M. Brown Act. The District will use the public meeting process to receive and evaluate public comment and will properly notify newspapers of general circulation in the area of its meetings. The District will communicate with neighbors and community groups and will conduct informational meetings with interested groups as needed to clarify District programs and activities. Where appropriate, the District will mail notices of its meetings to interested park users and adjacent landowners.

PS 6: The District will provide information services to encourage public use of the parklands and to communicate about the purposes of the District, the environmental value of parklands, program offerings, and meeting schedules.

PS 7: The District will use its best efforts to respond to the needs of its residents for Regional Park and recreational activities that will add to their enjoyment and quality of life. The District will establish programs to assist individuals and groups who require special help, including people who are elderly, physically disabled, or economically disadvantaged.

PS 8: As necessary, the Board will establish special advisory committees, task forces, joint study committees, and joint powers agencies that will gather information, solve problems, and provide recommendations for complex parkland issues. These committees will report their recommendations to the Board.

Discussion. District staff has provided public notice of all public meetings pertaining to the LUPA, in compliance with Master Plan policy PS 5, including two public scoping meetings. Meetings of the District's Board of Directors, Board Executive Committee, and Park Advisory Committee during which the LUPA was included on the respective agenda were publicly noticed through the existing procedures for those meetings. A discussion of the LUPA's consistency with public participation policies included in the District's Master Plan is in the *Consistency with Public Participation Policies* section. Master Plan policies PS 6, PS 7, and 8 pertain to operations of the District's Board of Directors and other District operations and are not applicable to the LUPA.

HUMAN RESOURCES (HR)

Employees

HR 1: Before opening a park to the public, the District will provide funds, equipment, and staffing for a proper level of parkland maintenance. The District will review this level periodically for the entire District and as it adds new facilities or lands. The District will provide administrative and service facilities throughout the two-county area for efficient operations of the parks. These facilities may or may or may not be located in park sites.

HR 2: The District will maintain a highly motivated and trained workforce to manage, supervise, coordinate, and work on the District's activities; including park operation, acquisition, development, program services, and administration. The District will also preserver and expand project opportunities for interns that are both academic and operational in focus.

Discussion. Master Plan policies HR 1 and HR 2 pertain to existing District Human Resources practices and are not applicable to the LUPA.

Volunteers

HR 3: The District will actively seek volunteers – individuals and organizations – to support its activities and programs. Volunteer service will be coordinated with and integrated into the District's operations in a manner that complements the services provided by staff, concessionaires, contractors, and others. The District will commit resources to support volunteer services and will offer formal recognition to acknowledge the value of volunteers.

Discussion. Master Plan policies HR 3 pertains to existing District Human Resources practices and is not applicable to the LUPA.

Concessionaires

HR 4: The District will use concessionaires that are economically viable as independent entities to augment services to the public, in keeping with the Concession and Special Use Policy. Concessions may be used to operate special recreational facilities at District sites such as equestrian centers, food service, or retail sales services consistent with the District's mission. Concessionaires will be required to provide high quality service, maintain the condition of the facility and provide some share of revenue to the District in return for the use of the District's assets. Concessionaires who provide services in District facilities, or for District activities, will be required to uphold environmental standards and park values consistent with the District's mission.

Discussion. Master Plan policies HR 4 pertains to existing District operations practices and is not applicable to the LUPA.

FINANCIAL RESOURCES (FR)

Fiscal Management

FR 1: The District's fiscal planning and management decisions will be accomplished through a proactive process which supports a transparent system of procedures. The delivery of long-term financial sustainability, solvency, and resiliency will be the objectives of this process.

Discussion. Master Plan policies FR 1 pertains to existing District budgeting processes and is not applicable to the LUPA.

FR 1b: The District will not open new parkland for public use unless it has adequate resources for planning and meeting the operational needs for public safety, fire protection, resource stewardship, interpretation, and recreation services.

Discussion. The LUPA is for an existing park, although new recreational amenities are included in the LUPA recommendations. Consideration of resources to meet the operational needs for public safety, fore protection, resource stewardship, interpretation, and recreation services will be considered to determine when to implement specific LUPA recommendations, consistent with Master Plan policy FR 2.

FR 2: The District will implement a practice of strategic fiscal management that incorporates annual performance goals that are linked to the District's long-term planning goals. Goals will be transparent, outcomes will be measured, and results will be communicated to stakeholders.

Discussion. Master Plan policies FR 3 pertains to existing District budgeting processes and is not applicable to the LUPA.

FR 3: The District is committed to the responsible stewardship of taxpayer funds and will operate in accordance with the best practices in the field of accounting and budgeting. The annual external unqualified audit opinion of the district's financial records will be used to verify its fulfillment of this commitment.

Discussion. Master Plan policies FR 3 pertains to existing District budgeting processes and is not applicable to the LUPA.

Sources of Funding

FR 4: The District will continue the acquisition and development program and will issue bonds as advantageous or necessary within the intent and authority of the District's programs. Where economically advantageous, the District may borrow to make major capital equipment or fixed asset purchases. The District may borrow funds on a short-term basis against anticipated revenue to fund annual operations.

Discussion. Master Plan policies FR 3 pertains to existing District budgeting processes and is not applicable to the LUPA.

FR 5: Leases will be negotiated to enhance park activities or value and to maximize revenue to the District. Revenues generated from leases will, at minimum, offset the direct and indirect administration costs of the lease and are expected to provide additional revenue to the General fund.

Discussion. The only lease agreement at Miller/Knox is between the District and the State Lands Commission (SLC). The District leases Ferry Point pier and the associated sub-tidal areas from the SLC. This lease is not revenue-generating for either party. Revenue-generating leases are part of the District's existing operations processes; therefore, Master Plan policy FR 5 is not applicable to the LUPA.

FR 6: The District will continue administering the current benefit assessment districts and related zones of benefit which support local open space and trail improvements. The District will consider establishing additional special assessment districts in support of local open space or recreational facilities when these areas are congruent with Master Plan objectives.

Discussion. Master Plan policies FR 6 pertains to the administration of benefit assessment districts and related zones of benefit, which do not exist at Miller/Knox at this time and is not applicable to the LUPA.

FR 7: The District will coordinate with and/or provide services to other agencies when the activities are related to the District's mission. Service agreements will include provision for payments to the District sufficient to support the direct and indirect cost of providing such services.

Discussion. Master Plan policies FR 7 pertains to the administration of service agreements with other agencies and is not applicable to the LUPA.

FR 8: The District will seek opportunities to augment, and act to protect any and all diversified, equitable, long-term funding sources that support the strategic goals described in this Master Plan.

Discussion. Master Plan policies FR 8 pertains to the administration of funding sources and is not applicable to the LUPA.

Donations, Grants, and Endowments

FR 9: The District will aggressively seek grants, donations of funds, assets, and services that support Master Plan goals. Funds will be disbursed through the annual budget process.

Discussion. The District will seek grant funding and other sources of donations and endowments if applicable, to implement LUPA recommendations consistent with Master Plan policy FR 9.

THE ANNUAL BUDGET (AB)

AB 1: The District will continue to use the annual budget process as the primary means for achieving the goals of the Master Plan and will manage the growth of the regional park system within available budget revenues. New revenue will be sought and adjustments to basic services will be considered during the budget process in order to provide new, modified, or expanded services.

Discussion. When the District prioritizes implementation of LUPA recommendations, the District will use the annual budget and five-year Capital Improvement Plan processes consistent with Master Plan policy AB 1.

IV. IMPLEMENTATION OF LUPA RECOMMENDATIONS

Implementation Priorities. After the LUPA and accompanying environmental compliance document are approved by the District's Board of Directors, the District will identify funding to implement specific LUPA recommendations, including capital projects. Recommendations for implementation of specific LUPA recommendations is provided below, however, actual implementation may be different as priorities are subject to change based on a number of factors. The LUPA recommendations should not be construed as a promise to implement as implementation, particularly for the conceptual recommendations, depends on a variety of factors including the criteria listed below:

- Urgency due to public safety or resource protection
- Available funding
- District-wide priorities
- Recreational needs
- Staffing

Relationship to the Environmental Impact Report. A program Environmental Report (EIR)[1] has been prepared to support the LUPA. The EIR includes an evaluation of the significant or potentially significant adverse effects on the physical environment that could result from implementation of the LUPA recommendations; describes mitigation measures, to mitigate any significant or potentially significant adverse effects; and considers alternatives that may lessen one or more of the significant or potentially significant adverse effects. It examines the reasonably foreseeable and potentially significant adverse environmental impacts of implementing the proposed LUPA recommendations.

A program EIR was the selected format for the required California Environmental Quality Act (CEQA) compliance document because it is the type of EIR that may be prepared on a series of actions characterized as one large project and are geographically related or are connected with the issuance of a plan.[2] The Miller/Knox LUPA meets these criteria as the LUPA consists of recommendations that can be characterized as one large project, all of the LUPA recommendations are geographically related to Miller/Knox, and the LUPA amends the previously adopted Land Use Development Plan[3].

As the LUPA is a long-range planning document, several of the recommendations are conceptual in their description with the understanding that specific details will be determined when specific LUPA recommendations are being implemented. The analysis of potentially significant environmental impacts and the mitigation measures included in the EIR is based on available information at the time of preparation. As is the nature of the program EIR, "later activities," defined as the individual LUPA recommendations, need to be evaluated to determine if they are within the scope of the EIR. If no new significant environmental impacts would occur and no new mitigation measures would be required, then the District can determine that the "later activity" is within the scope of the EIR and no additional CEQA compliance would be required.[4] If the "later

[1] CEQA Guidelines Section 15168
[2] CEQA Guidelines Section 15168[a][1] and [3]
[3] East Bay Regional Park District. 1983(September)
[4] CEQA Guidelines Section 15168(c)(2)

activity" could result in potentially significant environmental impacts that were not addressed in the EIR, or if new mitigation measures would be required to minimize the effect of newly identified impacts, then the District would be required to prepare an additional CEQA compliance document to analyze the newly identified impacts and new mitigation measures.[5]

Funding. There is approximately $20,950,000 available from current funding sources for implementation of the LUPA recommendations. These funding sources include the District's existing capital projects fund, Measure CC, Measure WW - San Francisco Bay Trail, Measure WW n- San Francisco Water Trail, Proposition 68 grant, Urban Greening grant, and the Land and Water Conservation Fund grant. The District's Measure FF ballot measure approved by voters in November 2018, provides an additional $24,340,000 for implementation of LUPA recommendations. This would include funding specifically ear-marked for Miller/Knox as well as funding from the Green Transportation, Safe and Healthy Forests, and Water Resources categories of Measure FF. These funding sources, their amounts, and notes are included in Table 21.

TABLE 21 – FUNDING SOURCES

Source	Amount	Notes
Existing Capital Projects	$600,000	Improve shoreline access; add four additional restrooms in main area of Miller/Knox; renovate public access; renovate picnic sites; remove silt and vegetation from the lagoon
Measure CC (Remove Railroad Tracks)	$750,000	Existing Measure CC
Measure WW SF Bay Trail	$6,800,000	
Measure WW SF Bay Water Trail	$4,800,000	
Grants, Prop 68	$4,000,000	Grants from various agencies including: State Parks, Coastal Conservancy, San Francisco Bay Trail, and the Natural Resources Agency
Grants, Urban Greening	$2,000,000	Cap & Trade Funds
Grants, Land & Water Conservation Fund	$2,000,000	Grants from State Parks or National Program
Subtotal Existing:	**$20,950,000**	
Measure FF (Miller/Knox)	$1,040,000	Provide for shoreline protection and sea level rise adaptation using natural systems; increase park staffing and upgrade Keller Beach visitor experience; enhance drought-tolerant

[5] CEQA Guidelines Section 15168[c][1]

TABLE 21 – FUNDING SOURCES		
Source	**Amount**	**Notes**
		landscape through stewardship improvements such as removal of French broom and other invasive plants
Measure FF (Green Transportation)	$4,300,000	Funding for San Francisco Bay Trail and enforcement of trail ordinances
Measure FF (Safe and Healthy Forests)	$14,200,000	Funding for wildfire reduction and resource management
Measure FF (Water Resources)	$4,800,000	Funding to improve water quality for improved visitor and wildlife health
Subtotal Measure FF:	**$24,340,000**	
Plus Subtotal Existing:	$20,950,000	
Total Available Funding:	**$45,290,000**	

Implementation Schedule

On-going throughout life of the LUPA

1. Develop trailheads and new vista points, repair trails damaged by erosion, and decommission trails too damaged for repair *(Ridgeland Planning Area)*
2. Continue to implement the District's Wildfire Hazard Reduction and Resource Management Plan recommendations and implement Integrated Pest Management and grazing recommendations to enhance habitat and site conditions in this planning area *(Ridgeland Planning Area)*

Phase One: 0 – 5 Years

1. Designate the island as a Special Management Feature *(Lagoon Planning Area)*
2. Implement the Lagoon Enhancement Project *(Lagoon Planning Area)*
3. Establish a new trail on the east side of the lagoon *(Lagoon Planning Area)*
4. Refurbish existing amenities, including picnic areas and barbeques *(Lagoon Planning Area)*
5. Provide an area for disposal of dredging spoils from the lagoon *(Bray Property Planning Area)*
6. Provide a green-waste area for operations and public education *(Bray Property Planning Area)*
7. Provide drought-tolerant, climate-smart turf in the open areas *(Ferry Point Planning Area)*
8. Provide additional picnic areas and benches *(Ferry Point Planning Area)*

9. Remove the abandoned railroad tracks within District jurisdiction and develop a section of the San Francisco Bay Trail between Keller Beach and Ferry Point *(Bayshore Planning Area)*
10. Formalize access between the Bayshore and the Lagoon Planning Areas *(Bayshore Planning Area)*
11. Upgrade landscaping at Keller Beach *(Bayshore Planning Area)*
12. Upgrade amenities including the restroom, drinking fountain, outdoor shower, picnic tables and benches at Keller Beach *(Bayshore Planning Area)*
13. Conduct engineering study along the Bayshore and implement recommendations to improve resiliency and climate change adaptation *(Bayshore Planning Area)*

Phase Two: 5 – 10 Years

1. Develop a promenade connecting the Ferry Point Pier to the Lagoon Planning Area through the Bray Property Planning Area *(Bray Property and Ferry Point Planning Areas)*
2. Establish native plant communities as demonstration gardens with connecting paths *(Bray Property Planning Area)*
3. Develop a Recreational Programs and Storage Building for District *(Bray Property Planning Area)*
4. Expand parking adjacent to the existing staging area *(Ferry Point Planning Area)*
5. Develop new staging areas off Dornan Drive and off Canal Boulevard *(Ridgeland Planning Area)*

Phase Three: 10 Years Plus

1. Rehabilitate the historic pumphouse building for passive interpretive use *(Ferry Point Planning Area)*
2. Replace the historic warehouse building with day-use and scenic vista point area *(Ferry Point Planning Area)*
3. Implement shoreline features recommended in the engineering design development study to improve resiliency and climate change adaptation *(Bayshore Planning Area)*
4. Upgrade landscaping at Keller Beach *(Bayshore Planning Area)*
5. Upgrade amenities including the restroom, drinking fountain, outdoor shower, picnic tables and benches at Keller Beach *(Bayshore Planning Area)*

Environmental Protection Features. The following environmental protection features have been identified to avoid and minimize impacts to sensitive resources and the environment. District project managers and park operations staff are expected to incorporate these measures as LUPA recommendations are implemented. These environmental protection features are included in the EIR in section 3.9.

Biological Resources. The LUPA includes a recommendation to conduct an engineering design development study along the Bayshore and implement shoreline features to improve resiliency and climate change adaptation *(Bayshore Planning Area)*. Incorporation of the following Environmental Protection Feature would avoid or minimize impacts associated with water quality and special status species:

All future shoreline work (such as reinforcement of riprap from land-based equipment) would be accomplished through construction techniques entirely on dry land and no in-water work or disturbance of Bay tidal flats would occur, to the degree feasible. If avoiding disturbance

to Bay muds proves infeasible as project-level design is refined, applicable permits would be obtained and future CEQA evaluations would be conducted as required.

Cultural Resources. The LUPA includes a recommendation to replace historic warehouse building with day-use and scenic vista point area *(Ferry Point Planning Area)*. Incorporation of the following Environmental Protection Feature would avoid or minimize impacts associated with historic resources:

An exhibit/display of the history of the warehouse building would be incorporated into the Ferry Point Planning Area to include information such as historic and current photographs, interpretive text, drawings, videos, interactive media, and oral histories. The exhibit/display would be developed in consultation with Contra Costa County, local historical organizations, and those with an interest in the history of Miller/Knox. Additionally, the exhibit/display would be displayed in a location within Miller/Knox that is accessible to the public and may be incorporated into the interpretive exhibit.

Hydrology and Water Quality. The LUPA includes a recommendation to implement the District's Integrated Pest Management recommendations *(Ridgeland Planning Area).* Incorporation of the following Environmental Protection Feature would avoid or minimize impacts associated with water quality:

A comprehensive suite of Best Management Practices (BMPs) would protect water quality during vegetation management at Miller/Knox. The following BMPs would be applied as applicable:

Hand Treatment BMPs

- Treatment actions shall not be conducted during storms.
- Treatment actions shall avoid, when feasible, excessive foot traffic on steep slopes which could cause compaction and/or erosion to occur.
- Hand labor personnel shall avoid driving support and haul trucks off established roads. If such traffic is determined by the District and hand labor personnel to be necessary, inspections will be conducted to ensure that the ground is not saturated before traveling off-road, and that the ground can fully support the vehicles without excessive rutting of surface soils. Any ruts created as a result of off-road activities will be repaired and covered with mulch and/or wood chips to reduce potential runoff from these areas and reduce their potential for erosion.
- Hand labor personnel shall take care to handle fuels and lubricants such that spilling and runoff of these substances does not occur.

Mechanical Treatment BMPs

- Use caution when conducting any mechanical treatment actions during the area's rainy season. Treatment actions shall be stopped temporarily if rainfall or other inclement weather makes access inadvisable, or if continued vehicular travel or mechanical action is determined to cause unacceptable damage to roads, trails, or other lands.
- Surveys shall be conducted that identify and delineate on-site soil and hydrological conditions before initiation of any mechanical treatment techniques. Any planned mechanical treatment actions shall include all necessary measures to minimize activity in sensitive areas that could be wetter than normal, or in areas near hydrological resources. Wet areas will be clearly marked for high visibility and avoided by treatment operations

until such time as they are determined to be sufficiently capable of supporting any mechanical treatment activities without causing excess rutting, erosion, or sedimentation to occur.

- All mechanical treatment actions shall use equipment, methods, and/or techniques that minimize ground disturbance and alterations to the existing soil structure.
- Mechanical treatment actions shall be temporarily stopped and alternative treatment or removal methods considered if a single pass of equipment produces ruts deeper than 6 inches across a significant area of the site.
- Materials shall not be dragged across park roads and drainage areas unless specifically allowed by the District, and only then along routes recommended by equipment operators and approved by the District.
- Personnel will avoid driving support and haul trucks off of established roads. Where this is necessary, personnel shall ensure that the ground is not saturated before traveling off road and that the ground can support the vehicles without excessive rutting. Any ruts created shall be repaired and covered with mulch and/or wood chips.
- Personnel will install and use brush barriers, vehicle turnouts, straw bales, wattle, or other methods as needed to control and capture potential runoff resulting from mechanical treatment actions. Other methods for controlling and capturing potential runoff could include broad-based dips, creating ditchlines inside of current drainage patterns (i.e., closer to treatment actions to capture runoff before reaching the drainage area), crossdrains, filter areas, sediment traps or pits, silt fences, hay bales, check dams or the in/outsloping and crowning of roads.
- Maintain all roads in a desirable condition to prevent problems that may result from their use, such as washouts, slumping, clogging or bending culverts, and drainage erosion. Any damages that occur to roads as a direct result of treatment actions shall be repaired upon completion of the treatment action.
- Refueling areas will be designated for larger projects requiring mechanical treatment actions. Fuel tanks and refueling areas will be provided with secondary containment, where feasible. Materials and supplies needed to promptly clean up spills will be adequately maintained and located on-site, and personnel will be familiar with proper cleanup and disposal techniques. Examples of containment and cleanup methods and materials include using drip pans and absorbent pads for all vehicle and equipment fueling; equipping all fuel nozzles with automatic shut-off capability to contain fuel dripping and leakage; ensuring all vehicle fueling operations are not left unattended; inspecting vehicles and equipment each day to identify any fuel, oil, or hydraulic leaks; and repairing any identified leaks immediately before further use or storage of the leaking equipment to minimize further impact to the site. Vehicles with persistent or recurring leaks will be removed from the site until such leaks are properly repaired. On-site fueling of vehicles and equipment will only be performed when off-site fueling is determined by the District to be impractical.

Chemical Treatment BMPs

- The District and its contractors will ensure that any pesticide or other chemical applications are performed only by licensed or certified pest control operators registered to perform such services in the County where the treatment is to take place, and only under a prescription prepared by a licensed pesticide advisor. The pest control operator

must record and provide written accounts of the total amount of pesticides and other chemicals applied each month, as well as type(s) of pesticides or chemicals used and total areas treated with each pesticide or other chemical. These data must be reported to the County Agricultural Commissioner as well as to the District's Integrated Pest Management (IPM) Program. Operators must maintain accurate and calibrated application equipment to ensure correct amounts of pesticides and other chemicals are applied.

- Any chemical treatment actions must be performed according to the District IPM policies and practices; pest control operators selected by the District or its contractors shall consult and use the advice and recommendations of the District's IPM specialists and adhere to District pest management guidelines. For example, species-specific (instead of broad-spectrum) herbicides shall be used wherever possible to avoid injury to non-target plants.
- IPM specialists will oversee chemical application practices to ensure compliance with state and federal regulations and District IPM policies. Pesticide application prescriptions will include suitable distances from wetlands and water bodies, in compliance with the California Department of Food and Agriculture Regulations and state-approved product labeling. District IPM specialists will review application data to ensure the minimum amount of suitable chemicals are used during treatment actions to achieve the desired results.

The LUPA includes a recommendation to implement the District's Wildfire Hazard Reduction and Resource Management Plan recommendations *(Ridgeland Planning Area).* Incorporation of the following Environmental Protection Feature would avoid or minimize impacts associated with water quality:

> The potential for vegetation management activities in Miller/Knox to increase landside activity or slope instability was previously addressed in the 2009 Wildfire Hazard Reduction and Resource Management Plan (WHRRMP) EIR prepared by the District. The District will implement the following measures before any vegetation removal activity in areas of slope instability or with high landslide potential. These measures are included in the approved WHRRMP EIR.[6]
>
> District staff shall refer to:
>
> - the most currently available landslide mapping from the U.S. Geologic Survey or the California Geological Survey for Miller/Knox (for example, the USGS 1997, Summary Distribution of Slides and Earth Flows in the San Francisco Bay Region, California. OFR 97-745c); or
> - GIS slope steepness mapping for Miller/Knox.
>
> If all of the following criteria are satisfied then no further action to address potential landslide activation would be required:
>
> - the area to be treated within the recommended treatment area is located in an area listed as "stable," "few landslides," or equivalent;
> - the average slope steepness of the recommended treatment area is less than 10 degrees (about 18 percent);

[6] East Bay Regional Park District. 2009 (April). Op cit.

- there is no visible evidence of landslide activity (e.g., scarps, crooked trees, landslide-generated debris piles) within the recommended treatment area, as documented by a field reconnaissance; and
- there are no habitable structures within 100 feet of the toe of the slope downgradient of the recommended treatment area.

District staff shall determine on a case-by-case basis whether to retain a qualified professional (e.g., engineering geologist or geotechnical engineer) to conduct a geotechnical reconnaissance to evaluate the potential impacts of vegetation reduction activities or vegetation type conversion on future landslide potential if:

- habitable structure(s) are located within 100 feet of the toe of the slope downhill of the treatment area; and
- the prescribed treatment would include the use of heavy equipment or machinery and significant ground disturbing activities (i.e., this requirement would not apply to methods such as hand treatment, weed-eating, or chemical treatment), and one or more of the following conditions is identified:
  - the treatment area is listed as "unstable," "many landslides" on applicable slope stability mapping;
  - the average slope steepness of the treatment area is greater than 10 degrees (about 18 percent);
  - there is visible evidence of landslide activity (e.g., scarps, crooked trees, landslide-generated debris piles) within the treatment area, as documented by a field reconnaissance; or
  - all recommendations of the qualified professional (which may include avoidance of the proposed activity) shall be documented in writing, provided to the District, and implemented.

Applicability of the following Environmental Protection Feature should be reviewed prior to implementation of any LUPA recommendation to avoid or minimize impacts associated with water quality:

Standard stormwater runoff and erosion controls to avoid inadvertent discharges to the Bay include the following:

- Runoff control BMPs: These measures include grading surfaces to control sheet flow, barriers or berms that force sheet flows around protected areas, and stormwater conveyances such as channels, drains, and swales. These practices and features collect runoff and redirect it to prevent contamination to surface waters. Calculations will be made for anticipated runoff, and the stormwater conveyances would be constructed, designed, and located to accommodate these flows.
- Erosion control blankets/mats, geotextiles, plastic covers: These erosion control methods will be used on flat or sloped surfaces to keep soil in place and can be used to cover disturbed soil to prevent runoff.
- Gravel/sandbag barrier: A temporary sediment barrier will be constructed using gravel or sand filled bags to prevent sediment from disturbed areas from reaching existing drainages by reducing the volume of sheet flows.
- Hydraulic, straw, and wood mulch: The use of these various mulches will temporarily stabilize soil on surfaces with little or no slope.

- Preservation of existing vegetation: Preserving the existing vegetation to the maximum extent possible will provide protection of exposed surfaces from erosion and can keep sediment in place.
- Scheduling and planning: Appropriate scheduling and planning provide ways to minimize disturbed areas, which reduces the amount of activity in the project area that requires protection and minimizes the duration of exposure of disturbed soils to erosion.
- Stabilized construction entrance/exit: A graveled area or pad can be built at points where vehicles enter and leave a construction site. This BMP provides a buffer area where vehicles can drop their mud and sediment to avoid transporting it onto public roads, to control erosion from surface runoff and to help control dust.
- Storm drain inlet protection: Protection consists of devices and procedures that detain or filter sediment from runoff, thereby preventing them from reaching drainage systems that will be used following construction, as well as surface waters.

Applicability of the following Environmental Protection Feature should be reviewed prior to implementation of any LUPA recommendation to avoid or minimize impacts associated with spill prevention and control:

> Any spills or releases of materials will be cleaned up immediately and comprehensively. Appropriate and easily accessible cleanup equipment, including spill kits containing absorbents, will be located in several areas around the site. Used cleanup materials will be disposed of properly and in accordance with applicable regulations. Hazardous or toxic material spills must be treated as hazardous waste and be treated and disposed of accordingly

Public Services and Utilities. The LUPA includes a recommendation to implement the District's Integrated Pest Management recommendations *(Ridgeland Planning Area).* Incorporation of the following Environmental Protection Feature would avoid or minimize impacts associated with solid waste and construction debris:

> All demolition debris would be disposed in accordance with California Code of Regulations Title 24, Part 11. Section 5.408 of this code establishes mandatory requirements for construction waste reduction, disposal, and recycling for nonresidential building structures. In particular, Section 5.408.1 requires recycling and/or salvaging for reuse of a minimum of 50 percent of the nonhazardous construction and demolition waste. In addition, Section 5.408 requires preparation of a construction waste management plan, selection of a waste management company that can provide verifiable documentation, alternatives for waste stream reduction, and requirements for managing excavated soils and land clearing debris.

Mitigation Measures Included in the Environmental Impact Report. The following mitigation measures have been identified to avoid and minimize impacts to sensitive resources and the environment. District project managers and park operations staff are expected to incorporate these measures as LUPA recommendations are implemented. These Mitigation Measures are included in the EIR, summarized in Table 2-1 and included in each of the applicable technical subject areas Sections 4.2 through 4.12.

Biological Resources

Mitigation 4.1-1a: Nesting raptor preconstruction survey and establishment of protective buffers. The District would implement the following measures to reduce impacts on nesting raptors:

- To minimize the potential for loss of nesting raptors, tree removal activities would only occur during the nonbreeding season (September 1-January 31). If all suitable nesting habitat is removed during the nonbreeding season, no further mitigation would be required.
- Before removal of any trees or other vegetation, or ground disturbing activities between February 1 and August 31, a qualified biologist would conduct preconstruction surveys for nesting raptors and would identify active nests within 500 feet of the site. The surveys would be conducted before the beginning of any construction activities between February 1 and August 31.
- Impacts to nesting raptors would be avoided by establishing appropriate buffers around active nest sites identified during preconstruction raptor surveys. Activity would not commence within the buffer areas until a qualified biologist has determined, in coordination with CDFW, that the young have fledged, the nest is no longer active, or reducing the buffer would not likely result in nest abandonment. CDFW guidelines require implementation of a 500-foot buffer for raptors, but the size of the buffer may be adjusted if a qualified biologist and the District, in consultation with CDFW, determine that such an adjustment would not be likely to adversely affect the nest. Monitoring of the nest by a qualified biologist during and after construction activities would be required if the activity has potential to adversely affect the nest
- Trees would not be removed during the breeding season for nesting raptors unless a survey by a qualified biologist verifies that there is not an active nest in the tree.

Mitigation 4.1-1b: Avoid and minimize impacts to burrowing owl. The District would implement the following measures to reduce impacts on burrowing owl:

- The District would retain a qualified biologist to conduct focused preconstruction surveys for burrowing owls in areas of suitable habitat within 500 feet of areas that would be disturbed by implementation of LUPA recommendations. Surveys would be conducted before the start of construction activities and in accordance with Appendix D of CDFW's Staff Report on Burrowing Owl Mitigation (CDFW 2012)
- If no occupied burrows are found, a letter report documenting the survey methods and results would be submitted to CDFW and no further mitigation would be required.
- If a burrow occupied by a burrowing owl is found, the District would consult with CDFW regarding protection buffers to be established around the occupied burrow and maintained throughout construction. Required buffers range from 150 to 1,500 feet depending on the Miller/Knox conditions and burrowing owl use of the burrow. Exclusion of burrowing owls during the breeding season (February 1 through August 31) would be prohibited.

Mitigation 4.1-1c: Preconstruction special-status nesting and other bird surveys and establishment of protective buffers. The District would implement the following measures to reduce impacts on nesting special-status and other bird species:

- To minimize the potential for disturbance or loss of grasshopper sparrow, loggerhead shrike, saltmarsh common yellowthroat, or other bird nests, vegetation removal activities would only occur during the nonbreeding season (September 1-January 31). If all suitable nesting habitat is removed during the nonbreeding season, no further mitigation would be required.
- Before removal of any vegetation or any ground disturbance between February 1 and August 31, a qualified biologist would conduct preconstruction surveys for nests on any

structure or vegetation slated for removal. The surveys would be conducted no more than 14 days before construction commences. If no active nests are found during focused surveys, no further action under this measure would be required. If active nests are located during the preconstruction surveys, the biologist would notify CDFW. If necessary, modifications to design to avoid removal of occupied habitat while still achieving LUPA objectives may be required. If avoidance is not feasible or conflicts with LUPA objectives, construction would be prohibited within a minimum of 100 feet of the nest to avoid disturbance until the nest or colony is no longer active.

Mitigation 4.1-1d: Preconstruction bat survey and exclusion. The District would implement the following measures to reduce impacts on special-status bats:

- Before commencing any tree removal or building demolition activities, a qualified biologist would conduct surveys for roosting bats. If evidence of bat use is observed, the species and number of bats using the roost will be determined. Bat detectors may be used to supplement survey efforts. If no evidence of bat roosts is found, then no further study will be required.
- If pallid bats or Townsend's big-eared bats are found in the survey, bats would be excluded from the roosting site before the tree or building is removed. A mitigation program addressing compensation, exclusion methods, and roost removal procedures would be developed by a qualified biologist in consultation with CDFW. Exclusion efforts may be restricted during periods of sensitive activity (e.g., during hibernation or while females in maternity colonies are nursing young). Once it is confirmed that bats are not present in the original roost site, the tree or building may be removed.

Mitigation 4.1-1e: Preconstruction woodrat survey and nest relocation. The District would implement the following measures to reduce impacts on San Francisco dusky-footed woodrat:

- Within 30 days before implementation of LUPA recommendations involving vegetation removal, a qualified biologist would inspect the potential area of disturbance and adjacent areas for woodrat houses. If none are found, then no additional measures are necessary.
- If a woodrat house is identified within a work area, an exclusion zone would be erected around the existing woodrat houses using flagging or a temporary fence that does not inhibit the natural movements of wildlife (such as steel T-posts and a single strand of yellow rope or similar materials). The work area would be relocated as necessary to avoid removing woodrat houses, even if avoidance is by only a few feet. The orientation of the work area would allow for escape routes (i.e., the work area would not completely surround a protected woodrat house) to nearby suitable habitat. If woodrat houses cannot be avoided, CDFW would be contacted for approval to relocate individuals and dismantle the nest.

Mitigation 4.1-2: Preconstruction special-status plant surveys and compensatory mitigation. The District would implement the following measures to reduce impacts on special-status plants:

- Before construction-type activities and during the blooming period for the special-status plant species with potential to occur at Miller/Knox, a qualified botanist would conduct focused surveys for special-status plants in areas where potentially suitable habitat would be removed or disturbed by implementation of LUPA recommendations. Table 4.1-4

summarizes the normal blooming periods for special-status plant species with potential to occur at Miller/Knox, which generally indicates the optimal survey periods when the species are most identifiable.

- If no special-status plants are found, the botanist would document the findings in a letter report to the District and no further mitigation would be required.
- If special-status plant species are found, the plant will be avoided completely to avoid take, if possible. If special-status plant species are found that cannot be avoided during construction, the District would consult with CDFW and/or USFWS, as appropriate depending on species status, to determine the appropriate conservation measures to address direct and indirect impacts that could occur as a result of construction-type activities and would implement the agreed-upon conservation measures to achieve no net loss of occupied habitat or individuals. Conservation measures may include preserving and enhancing existing populations, creation of off-site populations on mitigation sites through seed collection or transplantation, and/or restoring or creating suitable habitat in sufficient quantities to achieve no net loss of occupied habitat and/or individuals. A conservation plan would be developed describing how unavoidable losses of special-status plants would be compensated.
- If relocation efforts are part of the conservation plan, the plan would include details on the methods to be used, including collection, storage, propagation, receptor site preparation, installation, long-term protection and management, monitoring and reporting requirements, success criteria, and remedial action responsibilities should the initial effort fail to meet long-term monitoring requirements.
- Success criteria for preserved and compensatory populations would include:
  - The extent of occupied area and plant density (number of plants per unit area) in compensatory populations would be equal to or greater than the affected occupied habitat.
  - Compensatory and preserved populations would be self-producing. Populations would be considered self-producing when:
    - plants reestablish annually for a minimum of five years with no human intervention such as supplemental seeding; and
    - reestablished and preserved habitats contain an occupied area and flower density comparable to existing occupied habitat areas in similar habitat types in the project vicinity.
    - If off-site conservation measures include dedication of conservation easements, purchase of mitigation credits, or other off-site conservation measures, the details of these measures would be included in the conservation plan, including information on responsible parties for long-term management, conservation easement holders, long-term management requirements, success criteria such as those listed above and other details, as appropriate to target the preservation of long term viable. Populations.

Mitigation Measure 4.1-3a: Conduct a wetland delineation and determine amount of fill or vegetation removal. Before ground disturbing activities or associated with implementing LUPA recommendations, particularly the Lagoon Enhancement Project, the District would determine if wetlands are potentially present in the affected work area. If wetlands are determined to be

present, the District would conduct a wetland delineation and/or a preliminary jurisdictional determination. Based on these assessments, the District will identify the exact acreage of jurisdictional wetlands, if any, that would be filled as a result of implementation of LUPA recommendations. If jurisdictional wetlands are not present within the affected work area, then no further mitigation would be required. If jurisdictional wetlands would be affected by ground disturbing LUPA activities, the District would implement the following mitigation measures.

Mitigation Measure 4.1-3b: Avoid effects to sensitive natural communities by fencing resources. Before any ground disturbing activities, all sensitive areas identified during the wetland delineation including wetlands, natural drainages, and riparian vegetation, would be flagged or fenced with brightly visible construction flagging and fencing under the direction of the qualified biologist prohibiting access and activities within these non-construction or enhancement areas. This demarcation would be consistent with and incorporate the preliminary jurisdictional determination. Foot traffic by construction personnel would also be limited in these areas to prevent the introduction of invasive or weedy species. Periodic inspections during construction would be conducted by the monitoring biologist to maintain the integrity of exclusion fencing/flagging throughout the period of construction involving ground disturbance. These measures are consistent with the District 2013 Master Plan guidelines for management of riparian and wetland environments (District 2013c).

Mitigation Measure 4.1-3c: Obtain required regulatory authorizations if LUPA activities would result in the fill of jurisdictional wetlands. If it is determined, following delineation of wetlands and other waters of the United States or state, that fill of these features cannot be avoided, then the following measures would be implemented:

- Before any ground disturbing activities that could have direct or indirect impacts to waters of the United States, the appropriate Section 404 permit would be obtained. Any waters of the United States that would be affected by implementation of the LUPA would be replaced or restored on a "no-net-loss" basis in accordance with USACE mitigation guidelines (or the applicable USACE guidelines in place at the time of construction-type activities). In association with the Section 404 permit, if applicable, and before the issuance of any grading permit, Section 401 Water Quality Certification from the Regional Water Quality Control Board and BCDC approval would be obtained.

Mitigation Measure 4.1-3d: Obtain all required regulatory authorizations if LUPA activities would result in impacts to aquatic or riparian habitats within CDFW jurisdiction. If it is determined that disturbance or fill of stream, lagoon, or riparian habitat cannot be avoided, then the following measures would be implemented to avoid or compensate for the loss or degradation of stream, lagoon, or riparian habitat, maintain consistency with Fish and Game Code Section 1602, and further reduce potential adverse effects on riparian habitats:

- The District would notify CDFW before commencing any activity within the bed, bank, or riparian corridor of any waterway. If activities trigger the need for a Streambed Alteration Agreement, the proponent District would obtain an agreement from CDFW before the activity commences. The District would conduct construction activities in accordance with the agreement, including implementing reasonable measures in the agreement necessary to protect the fish and wildlife resources, when working within the bed or bank of waterways that function as a fish or wildlife resource or in riparian habitats associated with those waterways.

- The District would compensate for permanent loss of riparian habitat at a minimum of a 1:1 ratio through contributions to a CDFW approved wetland mitigation bank or through the development and implementation of a Compensatory Stream and Riparian Mitigation and Monitoring Plan for creating or restoring in-kind habitat in the surrounding area. If mitigation credits are not available, stream and riparian habitat compensation would include establishment of riparian vegetation on currently unvegetated bank portions of lagoons or wetlands affected by the LUPA recommendations and enhancement of existing riparian habitat through removal of nonnative species, where appropriate, and planting additional native riparian plants to increase cover, continuity, and width of the existing riparian corridor along streams at Miller/Knox and surrounding areas. Construction activities and compensatory mitigation would be conducted in accordance with the terms of a streambed alteration agreement as required under Section 1602 of the Fish and Game Code.

The Compensatory Stream and Riparian Mitigation and Monitoring Plan would include the following:

- identification of compensatory mitigation sites and criteria for selecting these mitigation sites;
- in kind reference habitats for comparison with compensatory riparian habitats (using performance and success criteria) to document success;
- monitoring protocol, including schedule and annual report requirements (Compensatory habitat would be monitored for a minimum of 5 years from completion of mitigation, or human intervention (including recontouring and grading), or until the success criteria identified in the approved mitigation plan have been met, whichever is longer.);
- ecological performance standards, based on the best available science and including specifications for native riparian plant densities, species composition, amount of dead woody vegetation gaps and bare ground, and survivorship; at a minimum, compensatory mitigation planting sites must achieve 80 percent survival of planted riparian native trees and shrubs by the end of the five-year maintenance and monitoring period or dead and dying trees would be replaced and monitoring continued until 80 percent survivorship is achieved;
- corrective measures if performance standards are not met;
- responsible parties for monitoring and preparing reports; and
- responsible parties for receiving and reviewing reports and for verifying success or prescribing implementation or corrective actions.

Mitigation 4.1-4: Tree protection requirements. The District would implement the following measures to comply with local regulations regarding tree removal for implementation of LUPA recommendations on City property upon which the District does not have a lease agreement or easement:

- The District would prepare a preconstruction arborist report for the Richmond Planning Commission indicating “significant” trees planned for removal and demonstrating that diligent effort has been made to retain as many “significant” trees as possible. Removal of “significant” trees may be permitted at the discretion of the Richmond Planning

Commission depending on tree health, public safety issues, fire hazards, and native status of the tree.

- Trees designated for preservation would be protected by prohibiting fill, grading, trenching, or construction within the drip line of the tree.
- When a "significant" tree is removed, the tree would be replaced at a ratio of three new trees for every one tree removed. Replacement trees would be planted on the Miller/Knox, on adjacent private or public land, or within five miles of the site of removal.

Hydrology and Water Quality

Mitigation Measure 4.3-3a: Determine site-specific groundwater depth at dredged materials disposal site. The District shall determine the depth to groundwater within the upper three feet of the soil profile at all potential dredged material disposal sites before implementing the Lagoon Enhancement Project. No dredged materials shall be placed within a jurisdictional wetland or in any area where groundwater is found within 24 inches of the ground surface.

Mitigation Measure 4.3-3b: Sediment analysis plan and reporting. Before the start of dredging under the Lagoon Enhancement Project, the District shall coordinate with the San Francisco RWQCB and prepare a sediment analysis plan and complete sediment testing to determine the levels of pollutants of concern within the sediments. Samples shall be collected from undisturbed sediment cores which are representative of the entire depth and area of the sediments to be dredged. Sediment analysis reporting shall be included with the Water Quality Certification (Section 401) application to San Francisco RWQCB for this activity. The District shall consult with San Francisco RWQCB to determine whether sediments contain contaminants at levels that would threaten water quality when sediments are disposed in an upland area. If lagoon sediments are contaminated to a degree that upland disposal would threaten surface and ground water resources, dredged sediments would be disposed of at a location approved by San Francisco RWQCB such as a permitted landfill.

Hazards and Hazardous Materials

Mitigation Measure 4.4-2: Prepare and implement a management plan for accidental exposure to underground contamination. Before issuance of grading permits, a management plan for accidental exposure to underground contamination shall be prepared by the District or the District's contractor or construction manager. The plan shall be reviewed and approved by Contra Costa Health Services (CCHS) before any ground disturbing activities. The management plan shall include measures to reduce potential hazards to workers, the public, and the environment associated with exposure to contaminated soil or groundwater during construction-related activities. The management plan shall include provisions for halting work, agency notification, managing impacted materials, sampling and analytical requirements and disposal procedures. Specifically, the construction hazardous materials management plan shall:

- describe the necessary actions to be taken if evidence of contaminated soil or groundwater is encountered during any construction-type activities;
- describe the types of evidence that could indicate potential hazardous materials contamination, such as soil discoloration, petroleum or chemical odors, or buried building materials;
- include measures to protect worker safety if signs of contamination are encountered;

- identify sampling and analysis protocols for various substances that might be encountered;
- list required regulatory agency contacts if contamination is found;
- include recommendations on soil management in the event that aerially deposited lead is discovered in existing road right-of-way;
- identify legal and regulatory processes and thresholds for cleanup of contamination;
- include provisions for delineation, removal, and disposal of any contaminants identified as exceeding human health risk levels; and
- require that the project contractor follow all procedural direction given by CCHS to ensure that suspect soils are isolated, protected from runoff, and disposed of in accordance with the requirements of the licensed receiving facility.

Cultural and Tribal Cultural Resources

Mitigation Measure 4.5-1a: Document historic buildings before removal. The District shall complete documentation of the historic warehouse and pumphouse buildings before any demolition/construction work is conducted. Documentation shall consist of written history of the property, plans and drawings of the historic resources, and photographs, as described below:

- Written History. The report shall be reproduced on archival bond paper.
- Plans and Drawings. An architectural historian (or historical architect, as appropriate) shall conduct research into the availability of plans and drawings of the Historic Warehouse Building as the building currently exists. If such plans/drawings exist, their usefulness as documentation for the building shall be evaluated by the architectural historian. If deemed adequate, the plans/drawings shall be reproduced on archival mylar. If no plans/drawings are available, or if the existing plans/drawings are not found to be useful in documenting the historic resource, a historical architect shall prepare dimensioned plans and exterior elevations of the building. A combination of existing and new drawings is acceptable. All drawings shall be reproduced on archival mylar.

  The architectural historian shall conduct research into the existence of the original architectural plans and drawings of the building. If found, the plans shall be reproduced on archival mylar. Alternatively, the architectural plans can be scanned and saved as TIFF files. The scanning resolution shall be not less than 300 dpi.

  All digital files, including drawing files, shall be saved on media and labeled following the Secretary's Standards and Guidelines for Archeology and Historic Preservation Digital Photography Specifications.
- Photographs. Digital photographs shall be taken of the historic warehouse and pumphouse buildings following the Secretary's Standards and Guidelines for Archeology and Historic Preservation Digital Photography Standards.

The documentation shall be prepared by an architectural historian, or historical architect as appropriate, meeting the Secretary's Standards and Guidelines for Archeology and Historic Preservation, Professional Qualification Standards. The documentation shall be submitted to the Contra Costa County Library, Contra Costa County Museums, and the Richmond Historic Register

Mitigation Measure 4.5-1b. Ensure appropriate rehabilitation plans for the pumphouse building. To ensure the protection of the historic integrity of the NRHP-eligible pumphouse throughout the rehabilitation period, the District shall prepare a rehabilitation plan for the

pumphouse building that meets the Secretary's Standards to the greatest degree feasible. The SOI Guidelines contain flexibility for rehabilitation of historic structures to accommodate a wide range of adapted re-uses. Specific protection measures and recommendations shall be developed in conjunction with an architect and site design team experienced in historic preservation work. Protection measures for the rehabilitation plan shall include but are not limited to, the following:

- Historic finishes and materials shall be protected with appropriate methods.
- Infrastructure upgrades (e.g., conduit in walls) shall be installed where they will not affect significant historic fabric.
- Training on protection of historical features shall be provided for all construction workers before the beginning of work on-site.
- In addition to the protective measures, above, cleaning of historic finishes using "the gentlest means possible" as directed by the Standards for Rehabilitation shall be used.

Mitigation Measure 4.5-2: Protection of Discovered Archaeological Resources.

- Before any ground disturbing activities, the District shall retain a qualified archaeologist to conduct archaeological surveys. The District shall follow recommendations identified in the survey report, which may include activities such as subsurface testing, designing and implementing a Worker Environmental Awareness Program, monitoring of ground-disturbing activity by a qualified archaeologist, avoidance of sites, or preservation in place.
- In the event that evidence of any prehistoric or historic-era subsurface archaeological features or deposits are discovered during construction-related earth-moving activities (e.g., ceramic shard, trash scatters, lithic scatters), all ground-disturbing activity in the area of the discovery shall be halted until a qualified archaeologist can assess the significance of the find. If the find is a prehistoric archeological site, the appropriate Native American group shall be notified. If the archaeologist determines that the find does not meet the CRHR standards of significance for cultural resources, activity may proceed. If the archaeologist determines that further information is needed to evaluate significance, a data recovery plan shall be prepared. If the find is determined to be significant by the qualified archaeologist (i.e., because the find is determined to constitute either an historical resource or a unique archaeological resource), the archaeologist shall work with the District to avoid disturbance to the resources, and if complete avoidance is not feasible in light of project design, economics, logistics, and other factors, follow accepted professional standards in recording any find including submittal of the standard DPR Primary Record forms (Form DPR 523) and location information to Northwest Information Center.
- In addition to adhering to applicable District Master Plan policies and Article 23 of the District's General Conditions, the District shall comply with existing local regulations and policies that exceed or reasonably replace any of the above measures that protect archaeological resources.

Transportation and Circulation

Mitigation Measure 4.8-1: Construction Traffic Control Plan. Prior to the beginning of construction or issuance of building permits, the applicant or their construction contractor shall consult with the City of Richmond Department of Public Works to determine if a Construction

Traffic Control Plan would be required for the specific LUPA activity. If required, the applicant or their construction contractor shall prepare a Construction Traffic Control Plan to the satisfaction of the City of Richmond Department of Public Works, Police Department, and Fire Department. The plan will ensure that acceptable operating conditions, bicycle and pedestrian safety, and emergency access, are maintained. At a minimum, the plan shall include (but is not limited to) the following:

- Description of trucks including: number and size of trucks per day, expected arrival/departure times, truck circulation patterns, and approved truck routes.
- Description of staging area including: location, maximum number of trucks simultaneously permitted in staging area, use of traffic control personnel, specific signage.
- Description of street closures and/or bicycle and pedestrian facility closures including: duration, advance warning and posted signage, safe and efficient access routes for existing park users and emergency vehicles, and use of manual traffic control.
- Description of driveway access plan including: provisions for safe vehicular, pedestrian, and bicycle travel, minimum distance from any open trench, special signage, and private vehicle accesses.

Air Quality

Mitigation Measure 4.9-1: Incorporate BAAQMD's recommended BMPs for fugitive dust emissions. The East Bay Regional Park District (District) would require all its construction contractors to implement a dust control plan that shall include the following Basic Construction Mitigation Measures as recommended by BAAQMD:

- All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
- All haul trucks transporting soil, sand, or other loose material off site shall be covered.
- All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
- All vehicle speeds on unpaved roads shall be limited to 15 mph.
- All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
- Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.
- All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.
- Post a publicly visible sign with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

- Preservation of emergency vehicle access.

Noise

Mitigation Measure Mitigation Measure 4.11-1: Comply with the City of Richmond's Noise Ordinance during Keller Beach Facility and Amenity Upgrades. The noise generation of future construction projects proposed in the LUPA have been modeled based on conservative assumptions (i.e., to avoid the risk of understating impacts). Actual construction noise may vary from the assumptions used in this analysis. Thus, when design details for the facility and amenity upgrades at Keller Beach are developed, specific construction activities, equipment, and locations will be more precisely defined. Prior to construction, the District will remodel construction noise levels associated with the Keller Beach facility and amenity upgrades, based on the project design details. If the revised noise modeling finds that construction noise does not exceed the City's standard of 75 dB Lmax for single-family residences, then no further mitigation is required.

If the District finds that construction noise levels would exceed the City's standard of 75 dB Lmax for single-family residences near Keller Beach, or decides not to remodel the construction activities at Keller Beach, then the District will work with the City to obtain a variance from municipal code Chapter 9.52.110 – temporary construction activity. Chapter 9.52.110 specifies that the City's construction noise ordinance applies where it is technically and economically feasible to achieve. If a variance is granted by the City, then no additional mitigation is required.

If the City does not grant a variance or exemption, the District will require the contractor to implement noise reduction measures during the facility and amenity upgrades at Keller Beach such that noise levels will not exceed 75 dB Lmax at nearby single-family residences. Noise reduction measures would include the following:

- All construction equipment shall be properly maintained and equipped with noise-reduction intake and exhaust mufflers and engine shrouds, in accordance with manufacturers' recommendations. Equipment engine shrouds shall be closed during equipment operation.
- Individual equipment and techniques shall be replaced with quieter procedures, such as using an excavator for concrete pad removal instead of a concrete saw, and/or mixing concrete off-site instead of on-site, where feasible and consistent with building codes and other applicable laws and regulations.

Install a temporary sound barrier around the loudest construction activities, including demolition of the restrooms and concrete pad removal, to ensure that residences to the north of Keller Beach are sufficiently shielded. The District shall ensure that the temporary sound barrier is of sufficient length, height, and absorptive characteristics, such that construction noise levels are below the City's standard of 75 dB Lmax.

Permits and Approvals. Permits and approvals may be required to implement specific LUPA recommendations. As LUPA recommendations are prioritized for implementation, District project managers will review the specific project and determine which permits and approvals would be required, if any. The permits and approvals that could be required to implement a given LUPA recommendation are listed in Table 22.

TABLE 22 – PERMITS AND APPROVALS		
Agency	**Permit/Approval**	**Purpose**
U.S. Army Corps of Engineers	Section 404 Permit (Nationwide or Regional General Permit)	Minimize and mitigate impacts to wetlands, waters of the U.S. and aquatic resources.
San Francisco Bay Regional Water Quality Control Board	Section 401 Water Quality Certification	Minimize impacts to water quality in combination with the Section 404 permit and potentially related to other potential sources of sediment or pollutants entering waters of the state.
State Water Resources Control Board	Section 402 NPDES General Construction Stormwater Discharge Permit	Minimize impacts to water quality.
California Department of Fish and Wildlife	Section 1602 Fish and Game Code; Lake and Streambed Alteration Agreement	Minimize impacts to any river, stream, or lake and activities that may affect fish and wildlife resources.
State Lands Commission	Surface and Submerged Lands Lease	Continued lease covering the historic pier and the fishing pier located at Miller/Knox
San Francisco Bay Conservation and Development Commission	Administrative or Major Permit	It is necessary to obtain a BCDC permit before undertaking work in the Bay or within 100 feet of the shoreline. As proposed, Bay filling, Bay dredging, and dredged sediment disposal in the Bay are not planned; however, shoreline development within the 100-foot band would occur. There are different types of permits, depending on the type, size, location, and impacts of a project.
City of Richmond	Easement; Encroachment Permit Historic Preservation Commission	Easements on City properties would be required for new parking/staging areas and encroachment permits would be required for access from public roads within the City's jurisdiction. Approval of major alterations to historic and potentially historic resources.

V. LUPA PREPARERS AND CONTRIBUTORS

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Disclaimer: Boundary and property lines shown on maps and figures in this document do not represent a boundary or property line survey. The District makes no representation as to the accuracy of property lines, or any other lines, and no liability is assumed by reason of reliance thereon. Use of the maps and figures included in this document for reasons other than the intended purpose requires written consent from the District. Data sources for maps and graphics may include: District GIS/GPS mapping and digitizing; Digital data from USGS, Contra Costa County, City of Richmond, EBMUD, ABAG, and AirPhotoUSA, LLC.

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