



Benicia Urban Waterfront Enhancement and Master Plan



in association with
Environmental Collaborative
Balance Hydrologics
TranSystems Corporation

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CHAPTER 1: INTRODUCTION

A. PURPOSE

Located in Solano County along the Carquinez Strait in the northwest part of the San Francisco Bay Area, the City of Benicia lies east of Vallejo and across the Strait from Martinez (see map). The City is approximately 15 square miles and supports a residential community of about 27,000 as well as a thriving downtown. The project area is located on the southern edge of historic Downtown Benicia, encompassing the First Street Green and bounded by B Street to the north, First Street to the west, the Marina channel to the east, and the Carquinez Strait to the south.

The City acquired the property in 1975, as part of a land transfer that included waterfront property from the Peninsula Pier at First Street on the west to Fifth Street on the east. Most of this waterfront property was subsequently developed, with the exception of the project area. Though most of the site was zoned for commercial uses until 2004, several plans have included a waterfront pathway and a park on the eastern edge of the site.

City Council adopted the Waterfront Park Initiative in 2004, changing the zoning of the project area to ‘Open Space’ and creating the need for a park master plan that would produce a unified design for the site. A concerned group of citizens later formed an ad hoc Waterfront Committee that developed a concept plan for the park in 2008.

The City of Benicia initiated the Urban Waterfront Enhancement and Master Plan (Master Plan) in November 2012, with the assistance of a planning grant awarded by the Coastal Conservancy and additional funding from the City. The design for the Master Plan includes three plazas, a Bay Trail segment, an interior pathway, the First Street



Regional context map.



The existing First Street Green.



The First Street Promenade looking toward Downtown Benicia.

Promenade on the east edge of First Street, improved access to the water, public art, improved parking and circulation, enhanced and expanded coastal salt marsh, rain gardens to manage stormwater, and an expanded, elevated, and reconfigured green.

B. GOALS

The City of Benicia identified the following goals to guide plan development:

- Improve public access to and along the shoreline.
- Improve amenities for visitors, such as interpretive and educational displays.
- Increase passive recreation and non-motorized boat use of the area.
- Explore the potential for developing a launch site for the San Francisco Bay Area Water Trail.
- Protect and restore existing tidal wetlands, and other fish and wildlife habitat.
- Improve stormwater management and integrate it with other project objectives.
- Plan for adaptation of all Project elements to rising sea level.
- Ensure that the Plan is cost-effective and affordable.
- Achieve other objectives that may be identified during consultation with stakeholders.

C. DOCUMENT ORGANIZATION

This document is organized in the following chapters:

Chapter 1 – Introduction gives an overview of the Project Area, the purpose of the Master Plan, and the Project goals.

Chapter 2 – Existing Conditions identifies the biological and aesthetic conditions of the Project Area, such as native vegetation, wind patterns, wetland habitat, views, trails/roadways, and existing structures.

Chapter 3 – Community Outreach and Process describes the stakeholder engagement process, including the Community Advisory Committee, Parks Recreation and Cemetery Commission, City leaders, and the community.

Chapter 4 – Conceptual Plan specifies the purpose, vision, and design of the future Benicia Urban Waterfront Park.

Chapter 5 – Resource Management Plan describes the approach to natural resource protection and management as part of implementation of the preferred conceptual plan, including the protection and enhancement of wetlands, the creation of mitigation areas, and the management of stormwater. It also describes the approach to sea-level rise adaptation.

Chapter 6 – Phasing and Implementation specifies operations and maintenance, costs of the project and potential funding sources.



Views across the existing marsh and pilings.

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CHAPTER 2: EXISTING CONDITIONS

The 16-acre Project Area is owned by the City of Benicia and includes a variety of elements that make it popular among local residents, such as tidal wetlands, a small, sandy beach, historic remnants of the shoreline railroad, and a large lawn or community green, referred to as the First Street Green. The following sections describe recent planning efforts that have affected the Project Area, as well as the current conditions of the site.

A. RELEVANT PLANNING POLICIES/DOCUMENTS

The Project Area has undergone a number of planning efforts in recent years. Those that have resulted in policy changes are summarized on the following pages. In addition, a number of waterfront planning initiatives have been completed for the area and provide context for this project. These initiatives include the 1991 Urban Waterfront Restoration Plan, the 1991 Benicia Waterfront Marsh Restoration Project, the 1997 Mayor’s Waterfront Task Force Report, the 1997 Parks Trails and Open Space Master Plan, the 2004 Benicia Waterfront Park Initiative, the 2009 Historic Depot Site Plan, BCDC’s 2011 Sea-Level Policies, the San Francisco Bay Area Water Trail Plan, and the San Francisco Bay Trail Plan.

1. General Plan, 1999

The Project Area is primarily designated as Open Space - Parks in the Benicia General Plan, as illustrated in Figure 2-1. The areas surrounding the Project Area are designated as Commercial and Residential.

The General Plan includes Parks and Recreation goals, policies, and programs, which outline the City’s vision for improving and maintaining the City’s park and recreation network. A number of policies influence the design of the Project Area, including resource conservation, protection of biologically important resources, and community access. Of particular relevance to this Plan are the following General Plan policies and goals:

- Policy 2.12.4: Create a social, recreational, and economic anchor at the waterfront end of First Street by establishing a waterfront park which provides a site for community festivals, preserves open space, and allows commercial and civic uses at the Depot site.
- Policy 2.32.2: Continue to develop and enhance recreational benefits of the shoreline and seek public access along the Waterfront.
- Goal 3.13: Improve urban design qualities of the waterfront and public access to the shoreline.



Northern corner of the existing Green, looking north.



The existing wetland edge.

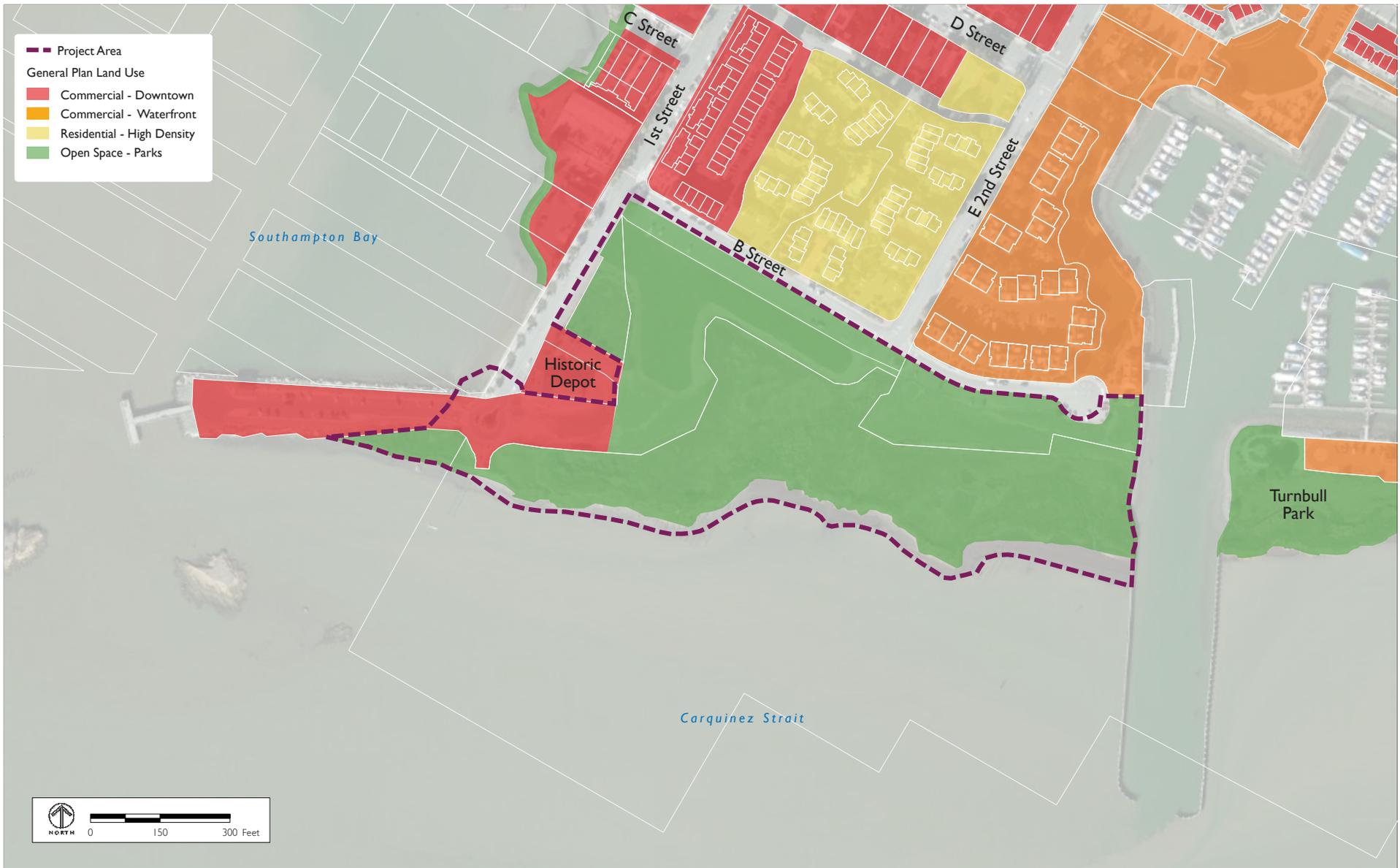


Figure 2-1: General Plan Land Use

The General Plan also identifies the Project Area as having important biotic resources, including Marshland, Northern Coastal Salt Marsh, and Coastal Brackish Marsh. These resources are further discussed in the Natural Environment section, later in this chapter. The General Plan includes goals, policies, and programs to preserve, protect, and enhance special-status plants, animals, and native vegetation, and to protect and enhance wetlands to ensure that no net loss of wetlands occurs. Implementing these goals and policies will entail protecting and enhancing special vegetation, habitats, and wetlands that exist in the Project Area, which is discussed in detail in Chapter 5: Resource Management.

2. Downtown Mixed Use Master Plan and Zoning, 2007

As illustrated in Figure 2-2: Existing Zoning, the Project Area is primarily zoned Open Space with a small portion that includes the historic Southern Pacific Depot zoned Town Core. The First Street Peninsula, B Street parcels between First Street and Marina Village Way, and First Street parcels adjacent to the Project Area are also zoned Town Core, which allows a variety of commercial uses. These areas are subject to the land use regulations and development standards of the Downtown Mixed Use Master Plan, 2007 (DMUMP) which focuses on achieving a “mix of compatible uses adjacent to the Downtown, upgrading of existing buildings, preservation, and adaptive reuse of historic buildings, and introduction of new, compatible mixed-use buildings.” The purpose of the Town Core zoning designation is to “enhance the vibrant, pedestrian-oriented character of First Street...[and] mixed use within this zone primarily refers to vertical mixed use where retail or commercial are on the ground floor and residential or commercial are above.” The Pointe Benicia condominiums at B Street west of East Second Street and east of Marina Village Way are zoned Medium Density Residential, which allows 8–14 dwelling units per acre. The Marina Condominiums east of East Second Street and the Harbormaster’s office are zoned Waterfront Commercial.

The Circulation and Transportation Element strategies of the DMUMP identify the Historic Pier as the best location for a new ferry terminal, if ferry service to Benicia is restored. The DMUMP also recommends that the City continue its Shoreline Trail around the Marina and west side of Downtown Benicia for a more complete bicycle connection, and it proposes new bus routes to provide access to the waterfront.

3. San Francisco Bay Conservation and Development Commission (BCDC) Resolution No. 46 (adopted May 19, 1977)

Resolution No. 46 was adopted by the SF Bay Conservation and Development Commission (BCDC) to rectify inconsistencies between the adopted San Francisco Bay Plan of 1969, and the later adopted Benicia Waterfront Plan of 1976 (Comprehensive Plan Amendment and amendment to the Open Space Plan). The City undertook a special area planning process with the BCDC, forming the Special Area Plan No. 3: Benicia Waterfront for the



The Historic Depot and the remnant A Street right-of-way.



Coastal salt marsh areas.

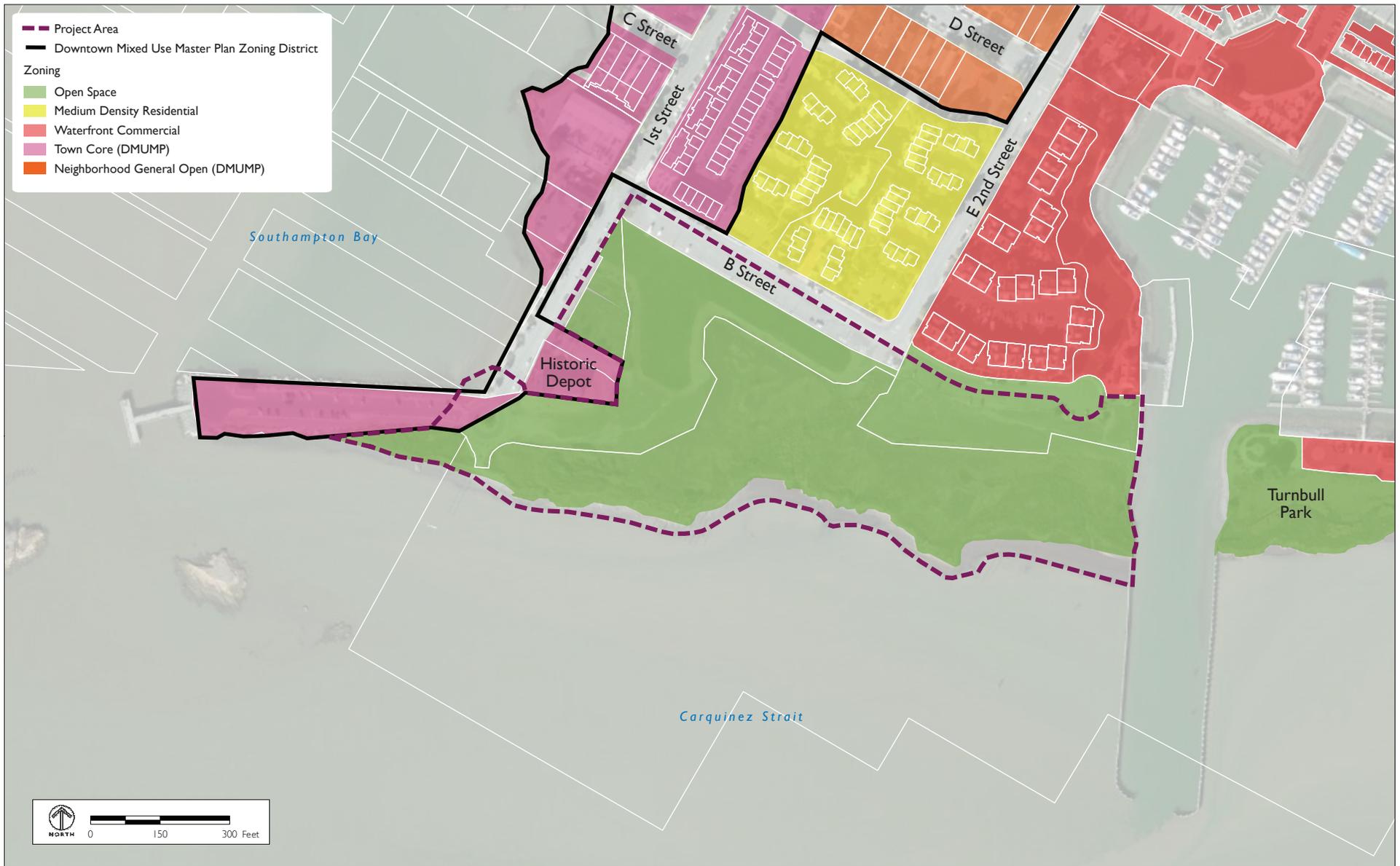
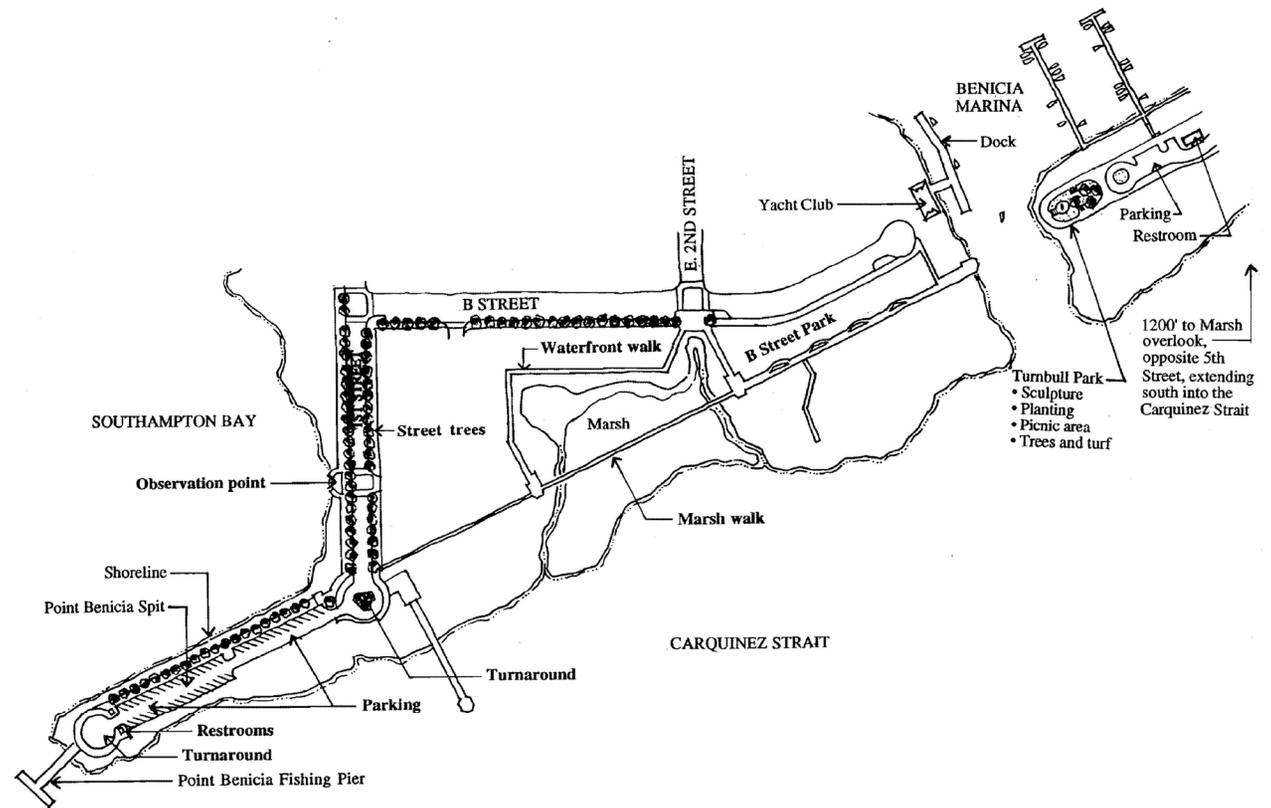


Figure 2-2: Existing Zoning

waterfront from East Fifth Street through the First Street Peninsula Pier. The City proposed to improve and protect the wetland marsh as a wildlife preserve, while the 45-acre area located immediately east of the wetland was to be developed “as a public marina with some 309 berths and related commercial uses.” When the Resolution was adopted, it became part of both the Comprehensive Plan of Development for Benicia and the Bay Plan. The City later adopted the supplemental zoning measures and land use controls that the Resolution recommended.

4. BCDC Permit 5-77

BCDC jurisdiction in the Project Area includes: 1) the open water, marshes, and mudflats of greater San Francisco Bay, including the Carquinez Strait, 2) the 100-foot shoreline, which includes the first 100 feet inland from the mean high-tide shoreline around San Francisco Bay, including the Carquinez Strait and 3) The Benicia Waterfront Area Special Area Plan No. 3.



Site Plan from Benicia Parks, Trails, and Open Space Master Plan.

In June 1977, the City received approval from BCDC to proceed with a number of projects in Special Area Plan #3, which includes the Project Area, including construction of a marina, riprap, fishing pier, public boardwalks, tidal marsh, commercial and residential uses, public walkways and bikeways, parking areas, and overlooks. The permit has been amended 34 times since it was issued in 1977, and the majority of permitted projects have been completed. However, the current Project Area remains unfinished.

Any proposed changes to the Project Area will require approval by BCDC, and either amendment of Permit 5-77 or the issuance of a new permit.

5. Benicia Parks, Trails, and Open Space Master Plan, 1997

This plan is the City’s guiding document for parks, open space, and trails. It incorporates the 1991 Urban Waterfront Restoration Plan proposals for the portion of the Benicia Waterfront located between First Street Peninsula (also



The Historic Depot and existing parking area.

referred to as Point Benicia Peninsula) and Turnbull Park. The recommended waterfront improvements included three marsh overlooks, a neighborhood park, improvements to First Street Peninsula, and an extension of the Benicia Waterfront Path. Phase One included marsh improvements and the creation of the Marsh overlook Train Walk. Phase Two envisioned a pier marsh overlook, First Street Peninsula improvements, a waterfront trail, and the Turnbull Park marsh overlook.

In 2004, the City of Benicia constructed the First Street Peninsula improvements, which built upon the previously built First Street Promenade project. This project included paved parking areas, street lights, an ADA-accessible restroom, storm drain improvements, a turnaround, interpretive signage, curbs, and lane striping.

6. Phase II Small Municipal Separate Storm Sewer System (MS4) Program, 2013

The City of Benicia intends to manage its stormwater in compliance with the provisions of its most recent MS4 Phase II Permit (currently 2013), regulated by the State Water Resources Control Board, San Francisco Bay Region

2. The permit consists of the following elements:

- Program Management Element
- Education and Outreach Program
- Public Involvement and Participation Program
- Illicit Discharge Detection and Elimination
- Construction Site Stormwater Runoff Control Program
- Post-Construction Stormwater Management Program
- Pollution Prevention/Good Housekeeping for Permittee Operations Program
- Water Quality Monitoring
- Program Effectiveness Assessment and Improvement
- Total Maximum Daily Loads and Compliance Requirements
- Annual Reporting Program

Subsequent to this plan, the City implemented the National Pollution Discharge Elimination System Phase II, which regulates construction activity for the purposes of protecting water quality. All improvements made as part of implementation of the Master Plan will need to comply with this permit.

7. Benicia Waterfront Park Initiative (“Measure C”), 2004

The Benicia Waterfront Park Initiative amended the City of Benicia General Plan Zoning for the section of the Benicia waterfront included in the Project Area. The General Plan and Zoning previously allowed for a variety of commercial uses on the waterfront; however, when the City Council adopted the measure with Resolution No. 04-178, the land was re-zoned from Waterfront Commercial and Downtown Commercial to Open Space. The purpose of the measure was to “establish a Waterfront park on the City-owned land south of B Street, between First Street and the Harbormaster’s Office, and extending to the water’s edge, but excluding the site upon which the Depot sits.” It also calls for the preservation of marshlands within the Waterfront Park. The measure included provisions that the area only be allowed to provide park uses and serve as a community gathering space for local festivities and other low-impact recreational uses. The Initiative prohibits permanent sports fields, courts, or equipment. It also prohibits permanent buildings, except for a public restroom or similar amenities. However, the Initiative does permit walkways, benches, drinking fountains, and trash receptacles.

The 2008 Waterfront Park Plan was prepared (see drawing, right) by a Waterfront Park Committee of volunteers who worked to develop a vision for the 2004 initiative. The purpose of this plan was to implement the 2004 Benicia Waterfront Park Initiative “to preserve and enhance the marsh and its transition into an urban Waterfront park,” and to “envision a multi-purpose asset for all citizens that addresses sustainability, tourism, downtown revitalization, habitat restoration, Benicia history, the Arts, and public recreation.” The 2008 Waterfront Park Plan envisioned “an inviting entrance, drawing people down from First Street into the park.” This concept plan was a precursor to the Urban Waterfront Enhancement and Master Plan.

B. EXISTING CONDITIONS

1. Natural Environment

a. Views

The Benicia Waterfront provides sweeping views of the Carquinez Strait. On most days, Mt. Diablo and Martinez are visible to the southeast; the rolling hills of Port Costa and Crockett are visible to the south; and the Carquinez Bridge and San Pablo Bay are visible to the west. These extraordinary views are one of the reasons visitors are drawn to the waterfront; future planning for the waterfront should enhance and preserve them.

b. Climate

The climate in Benicia is temperate with warm summers and mild winters. The mean annual temperature is 63–69 degrees Fahrenheit with an average annual rainfall of 18–19 inches; rainfall primarily occurs December through April.¹ Benicia’s waterfront location results in ocean breezes year-round with prevailing winds from west to southeast.

1

Source: City of Benicia Website; January 10, 2014. http://www.ci.benicia.ca.us/index.asp?Type=B_



2008 Waterfront Park Plan.



Views of the hills of Martinez and Mt. Diablo from the Project Area.



Existing conditions along A Street right-of-way.



Wildlife tracks found along the wetland edge.

c. Vegetation

Coastal salt marsh, brackish water marsh, and open water habitat of the Strait occupy the southern, lower elevations of the Project Area. The southern portion of the Project Area was restored to wetlands by the City in the 1970s. As part of past development in the area over the past 150 years, fills were placed over the northern portion of the Project Area to improve access and reduce potential flooding. Upland areas are now covered with graveled or barren surfaces, or support irrigated turf and areas of ruderal (weedy) grassland.

d. Wildlife

Located at the interface of upland and aquatic habitat along the shoreline of the Carquinez Strait, the Project Area supports a wide diversity of wildlife. The shoreline and open water of the Carquinez Strait provides foraging opportunities for many species of birds, and aquatic habitat for fish, mollusks, and invertebrates. The mudflats support a diverse assemblage of benthic macro-invertebrates, which in turn attract large numbers of migrating and wintering shorebirds. Upland areas of turf and landscaping have only limited habitat value, but the irrigated turf areas are frequently grazed by Canada geese and provide occasional foraging opportunities for birds found in urban habitat.

e. Special-Status Species

Special-status species are plants and animals that are legally protected under the State and/or federal Endangered Species Acts or other regulations, as well as other species that are considered rare enough by the scientific community and trustee agencies to warrant special consideration, particularly with regard to protection of isolated populations, nesting or denning locations, communal roosts, and other essential habitat (see Appendix: Biological Assessment and Environmental Baseline Memo prepared by Environmental Collaborative for a full description and regulatory framework). Special-status species receive varying degrees of legal protection under both the federal and California Endangered Species Acts, and the California Environmental Quality Act (CEQA). The U.S. Fish and Wildlife Service (USFWS), the National Marine Fisheries Service (NOAA Fisheries), and the California Department of Fish and Wildlife (CDFW) share responsibility for protection and management of natural resources. If a listed species may be affected by proposed development, the lead agency must initiate a consultation with the USFWS, NOAA Fisheries, and/or CDFW, as required by state or federal law. Without adequate mitigation, habitat modification could result in a “take” of a listed species.

Figure 2-3 shows the distribution of special-status plant and animal species monitored by the California Natural

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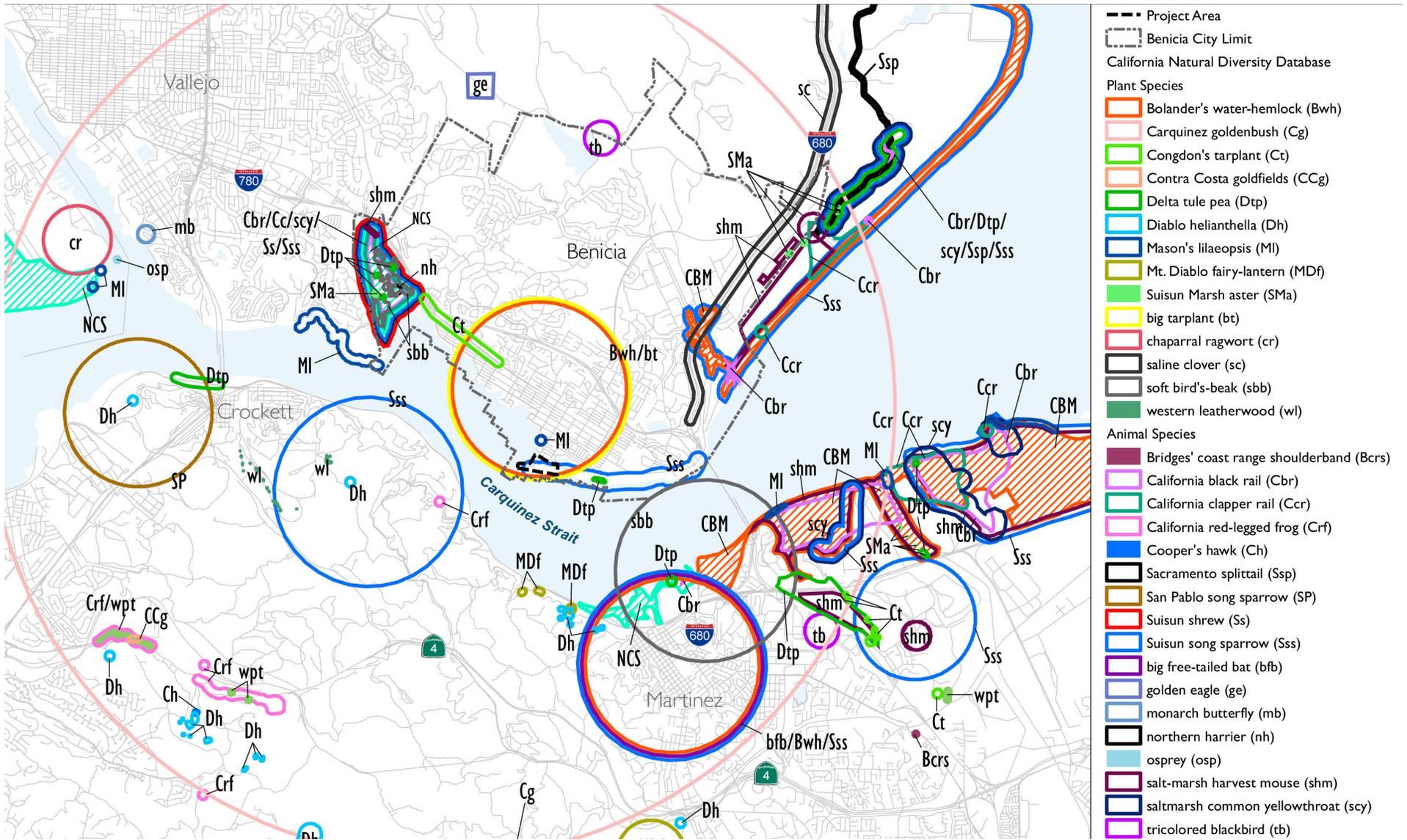


Figure 2-3: CNDDDB Occurrences of Special-Status Species and Sensitive Natural Communities



Remnants of pilings along the shoreline.



The shoreline along First Street and Southampton Bay.

Diversity Data Base (CNDDDB) within approximately five miles of the site. Past development has eliminated suitable habitat for special-status species in upland areas on the site. However, areas of coastal salt marsh and open water habitat support a number of special-status species with varying protective status. These include special-status bird species, such as the Suisun song sparrow and saltmarsh common yellowthroat, numerous special-status fish species that migrate and forage through the open waters of the Strait, and possibly other special-status species as well. Suitable habitat for a number of special-status plant species also occurs in the marshland and exposed shoreline of the site, such as Mason's lilaeopsis, Delta tule pea, and soft bird's-beak. However, no special-status plant species have been encountered during systematic surveys of the site.

A number of special-status bird species are known to forage in the marshlands on the site, including northern harrier, white-tailed kite, and possibly the California black rail and California clapper rail along the shoreline of the Strait. Similarly, there is a remote possibility that the salt marsh harvest mouse and Suisun shrew could disperse along the shoreline of the Strait and utilize the protective cover of the marshlands in the Project Area. Nevertheless, it is unlikely that sustainable populations of special-status mammals would be present, given the relatively small extent of suitable habitat and lack of protective upland refuge areas. Even so, the marshland and open water habitats on the site are an important resource for special-status species and must be accommodated in future planning and enhancement plans.

f. Sensitive Natural Communities

In addition to species-oriented management, protecting habitat on an ecosystem-level is increasingly recognized as vital to the protection of natural diversity in the state. The CNDDDB also monitors the locations of natural communities that are considered rare or threatened, known as sensitive natural communities. The CNDDDB has compiled a list of sensitive natural communities that are given a high inventory priority for mapping and protection.² Although these natural communities have no legal protective status under the State or federal Endangered Species Acts, they are provided some level of protection under the CEQA Guidelines.

The coastal salt marsh and brackish water marsh on the site are considered sensitive natural community types. Seasonal wetlands and upland areas of turf and ruderal grasslands are dominated by non-native species and are not considered a sensitive natural community type. However, the seasonal wetlands are regulated by the US Army Corps of Engineers (USACE) and any modifications subject to agency authorization, as discussed below.

² California Department of Fish and Game, 2010.



Field Surveys conducted on March 1, June 27, and August 15, 2013 by Dianne Lake and James Martin, Environmental Collaborative.
 Field verification conducted by Katerina Galacatos of the U.S. Army Corps of Engineers on December 20, 2013 with Jim Martin of Environmental Collaborative and Rick Knight of the City of Benicia.

Figure 2-4: Potential Jurisdictional Wetlands

NOTE: The Historic Depot site is included in the preliminary wetland study, but is not part of the Plan Area. The limits of the wetland delineation limits encompass areas outside of the actual Plan Area.



The Bay Trail makes Benicia a popular biking destination for cycling enthusiasts.



Paved path on the Peninsula Pier.

g. Jurisdictional Waters

Although definitions vary to some degree, wetlands are generally considered to be areas that are periodically or permanently inundated by surface or ground water, and that support vegetation adapted to life in saturated soil. Wetlands are recognized as important features on a regional and national level due to their high inherent value to fish and wildlife, use as storage areas for storm and flood waters, and water recharge, filtration, and purification functions. Technical standards for delineating wetlands have been developed by USACE and the USFWS, which generally define wetlands through consideration of three criteria: hydrology, soils, and vegetation.

Based on the results of the wetland delineation of the Project Area prepared by Environmental Collaborative, jurisdictional waters consist of areas of coastal salt marsh and scattered areas of seasonal wetlands in filled uplands, as well as navigable waters along the Carquinez Strait. Figure 2-4 shows the extent of jurisdictional waters on the site, which have been preliminarily confirmed by USACE during a field verification conducted on December 20, 2013. These consist of an estimated 6.45 acres of coastal salt marsh and 0.46 acre of scattered seasonal wetlands regulated under Section 404 of the Clean Water Act. Most of the coastal salt marsh occurs along the fringe of the open waters of the Carquinez Strait, but an area of approximately 0.41 acre to the north of the Historic Depot is physically isolated by upland fills, and appears to have only a partial hydrologic connection to extreme high tides through a partially functioning culvert. Figure 2-4 also shows the Mean High Water elevation, which is typically used by USACE in determining the limits of their jurisdiction under Section 10 of the Rivers and Harbors Act. On the site, the Mean High Water Elevation generally occurs at the edge of the marshlands and open waters of the Carquinez Straits.

2. Circulation Patterns and Accessibility

a. Public Access and Connectivity

The First Street Promenade includes a formal 15-foot wide sidewalk and an elongated plaza area along the western portion of First Street. There are 4-foot sidewalks on the east side of First Street, adjacent to the First Street Green. There is also a 4-foot wide asphalt path that is located around the entire edge of the First Street Peninsula (also referred to as the Pier). There are 4-foot formal sidewalks along the north side of East B Street; however, there are no sidewalks on the south side of the street, adjacent to the First Street Green.

There are no formal paths within the First Street Green. However there is an unpaved service road used for special event access. Ranging in width from 10 to 20 feet, the service road also serves as an informal walking path along the edge of the coastal salt marsh.



Figure 2-5: Existing Open Space, Bicycle Facilities, and Trails



Existing gravel parking lot and parallel parking along B Street.



The Benicia Marina harbors boats of various sizes and is situated adjacent to the Project Area.

b. Vehicular Circulation

The Project Area is located east of First Street and south of East B Street. First Street terminates at the water's edge with a roundabout that allows cars to either drive into the First Street Peninsula parking area or turn around and head north back onto First Street. B Street's entire length borders the First Street Green and waterfront. To the east, B Street terminates at the water near the Marina inlet. To the west, B Street terminates at First Street. The only through-traffic in the area is on B Street between First and East Second streets.

c. Trails and Bicycle Access

The Project Area includes a gap in the regional shoreline San Francisco Bay Trail, and the Bay Ridge Trail alignment is currently just outside the Project Area on B Street. East of the Project Area, the Bay Trail is implemented as a shared-use, off-street path along the waterfront at the Benicia Marina. Both the Bay Trail Plan and the City of Benicia General Plan conceptually identify a multi-use path (Class I Bikeway) through the First Street Green. However, the path does not currently exist within the Project Area.

The Benicia Waterfront Trail continues to be developed in segments along the waterfront west of First Street, as development and redevelopment projects necessitate Waterfront Trail development. An existing segment along the lower downtown waterfront ends at the north end of the First Street Promenade, across First Street from the Project Area.

d. Parking

There is on-street parking within and surrounding the Project Area. The Peninsula Pier includes 64 parking spaces, which includes three ADA accessible spaces. Adjacent to the First Street Green, there are a total of 46 parallel parking spaces on both sides of First Street.

There are two gravel parking areas along the south side of East B Street. The western parking area is approximately 40 feet wide by 540 feet long. It is separated from the street by a curb, and is used for perpendicular parking. In this portion of the road, parallel parking is also permitted on East B Street. The eastern parking area is less formal; it has a gravel surface, and is approximately 40 feet wide by 400 feet long. At its terminus near the Benicia Marina, a roundabout includes 10 formal, paved parking spaces, one of which is ADA accessible.

e. Boat Access

Within the Project Area, water access for boaters exists on the small public beach at the southern terminus of First Street and in the cove north of the pier. The adjacent marina also provides water access. The small beach is gen-

tly sloping and sandy, without major vegetation. The beach provides water access for non-motorized small boats (NMSB), but its utility is limited by high winds, strong currents and extensive mudflats at low tide. The cove north of the Peninsula Pier is more protected from wind and currents and is currently used to launch some NMSB such as stand-up paddleboards and kayaks. The cove has a small, sandy beach, but extensive mudflats and very shallow water can impede use by NMSBs at low tide. The Benicia Marina, located directly east of the Project Area, provides long-term harboring and transient access for power and sailboats. In addition, a public boat launch on the east side of the marina provides access for both motorized boats and NMSBs.

3. Hydrology

The following section addressing the hydrology and sea-level rise is based on the Hydrologic Site Assessment and Environmental Baseline for the Urban Waterfront Enhancement and Master Plan completed by Balance Hydrologics, and included as Appendix B of this document.

a. Flooding and Drainage

The Project Area is located on a relatively flat, low-lying area adjacent to the Carquinez Strait, with elevations ranging from zero to 11 feet above sea level. The pervious portions of the Project Area include the lawn and wetland areas; they slope toward the Carquinez Strait and drain by gravity through overland flow. The impervious portions of the Project Area are generally drained by engineered storm drain lines. The B Street storm drain system is subject to localized street flooding during significant storm events that occur during high tide.

For planning purposes, cities look to the Federal Emergency Management Agency (FEMA) to predict the extent of flooding in especially strong storms known as the “1 percent flood event” – the size of flood that, based upon past records, has a 1 percent chance of happening in any given year³. FEMA designates base flood elevations (BFE) for the Carquinez Strait and surrounding areas at 9 feet North American Vertical Datum (NAVD), according to the Flood Insurance Rate Map. As shown in Figure 2-6, the majority of the Project Area would be inundated by the 1-percent chance flood event (flood that has a 1 percent chance of happening in any given year). In this type of event, flooding would be expected to cover the entire central and southeastern portions of the site, including most of the lawn area, several hundred feet of B Street, and the lowermost part of East Second Street. The highest observed water surface elevation at the Port Chicago tide station was 9.02 feet on December 3, 1983, approximately equivalent to the predicted base flood elevation.

3 FEMA uses the terms “1 percent chance flood event,” “100-year event,” and “base flood” interchangeably.



View across the Carquinez Strait of adjacent islands and the Carquinez Strait Regional Shoreline.



The waterfront edge of Southhampton Bay and First Street.



Figure 2-6: FEMA-Based Flood Elevation with and without Projected Sea-Level Rise

b. Sea-Level Rise

Located directly adjacent to the Carquinez Strait, the Benicia waterfront is susceptible to sea-level rise over the next 100 years and beyond. As part of the project grant requirements, the Urban Waterfront Enhancement and Master Plan must consider potential sea-level rise affecting the Project Area. The City recognizes the importance of addressing increasing vulnerability of the waterfront and low-lying areas due to sea-level rise. This will be crucial in order to avoid costs of inundation and resulting damage to commercial and residential areas, as well as public infrastructure.

The need to appropriately prepare for rising sea levels has led the State of California to set standards to frame adaptive planning activities in coastal areas. The San Francisco Bay Conservation and Development Commission has identified scenarios of sea-level rise for various time horizons, using values of 16 inches of sea-level rise by 2050 and 55 inches by 2100.

Figure 2-6 illustrates potential future base flood scenarios using both the value of 16 inches for 2050 (areas that are likely to flood are shown in green), as well as the longer-term scenario of 55 inches of sea-level rise at 2100 (areas that are likely to flood are shown in yellow).⁴ As shown, the higher base flood conditions would inundate progressively more areas. With 16 inches of sea-level rise (BFE = 10.3 feet), the entire Urban Waterfront would be subject to flooding during a 1-percent chance event, the only exceptions being First Street upslope of the Depot and the northwest portion of B Street. With 55 inches of sea-level rise, all of B Street and all areas to the south would be susceptible to inundation during a 1-percent chance event.

⁴ This is equivalent to a BFE of 13.6 feet (e.g. 9 feet current BFE + 4.6 feet sea-level rise).

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CHAPTER 3: COMMUNITY OUTREACH AND PROCESS

A. COMMUNITY PROCESS SUMMARY

Community involvement and participation was a major component in establishing a successful design for the Urban Waterfront Enhancement and Master Plan throughout the 18-month planning process. Outreach for the project included print ads placed in Benicia Magazine and the Benicia Herald to generate awareness in advance of the first public workshop. Flyers for each workshop were distributed by email and posted at various locations in the City, including City Hall, Benicia Community Center, in waterfront kiosks, and local coffee shops. In addition, all workshop and meeting announcements were posted at City Hall and Benicia Community Center, and were made available on the City's website along with key project documents.

The project team held three Community Advisory Committee Meetings and two Community Workshops to review the project goals, understand the community's priorities, develop design alternatives, and determine the community's preferred alternative. Comments and questions were encouraged throughout the design phases, recorded for future design consideration, and integrated into the final conceptual plan.

The project team then met with the Parks, Recreation and Cemetery Commission and the City Council to review the community's priorities and get the Commission and Council's approval of the preferred alternative. The preferred alternative then became what is referred to as the conceptual plan in this document, described in detail in Chapter 4: Conceptual Plan. This chapter describes each of the community meetings and the individual steps of the planning process.

1. Community Advisory Committee (CAC) Meetings

The CAC was formed to provide guidance on the project. Members of the CAC included representatives from the following:

- Parks, Recreation and Cemetery Commission
- Historic Preservation Review Commission
- Arts and Culture Commission

URBAN WATERFRONT ENHANCEMENT AND MASTER PLAN

Help explore the opportunities and challenges for this park. We need your ideas and input!

Site Walk: Meet at the Depot for a tour of the project area from 5:00 - 6:00 on June 5

Community Meeting: Mark your calendars for the upcoming community meeting. We will meet at 6:30pm on Wednesday, June 5 for a formal presentation and discussion of the community's vision for the site.

Meeting Location: Benicia Community Center
370 East L Street
Multi-Purpose Room (gym)

If you have questions please contact:
Benicia Parks & Community Services
(707) 746-4285, vrandall@ci.benicia.ca.us

The City of Benicia is envisioning improvements for the waterfront between First Street and the marina. The goal of this park project is to enhance the current First Street Green with improved public access and amenities, new passive recreation opportunities, and restoration of the adjacent marsh area.

Community Workshop #1 Flyer.



Participants worked in groups to discuss their ideas for the Benicia Urban Waterfront Park at Community Workshop #1.



Speakers report back to all participants and summarize each group's ideas and concerns.

- Economic Development Board
- Planning Commission
- Community Sustainability Commission
- Benicia Main Street
- Benicia Yacht Club
- California Native Plant Society
- Solano Transportation Authority Bicycle Advisory Committee
- Solano Transportation Authority Pedestrian Advisory Committee

a. CAC Meeting #1

The CAC, City staff, members of the public, and the consultants met on April 18, 2013 to introduce the Urban Waterfront Enhancement and Master Plan and discuss the site's existing conditions and initial design ideas. A slide show illustrated the goals for the Project Area, such as improving public access, providing amenities for visitors, adding a non-motorized boat launch and a launch site for the SF Bay Area Water Trail, and protecting existing wetland and wildlife habitat. The Committee provided input regarding project goals, and the public was also invited to provide feedback and comments.

b. CAC Meeting #2:

A second meeting of the CAC was conducted on July 25, 2013 to review the three design alternatives and determine whether or not they aligned with the ideas members of the public and City leaders had envisioned. The consultants began the meeting by first reviewing the existing conditions analysis, the CAC Meeting #1 Summary, and the Community Workshop #1 summary. The consultants then presented the three draft site alternatives and discussed how each alternative incorporated the desired design features from CAC Meeting #1. The meeting was later opened up for discussion so participants could share their ideas and concerns about the alternatives.

c. CAC Meeting #3

The third CAC Meeting was held on September 26, 2013. It began by first recapping the project goals, opportunities and constraints, as well as the three alternative site plans. After a short discussion with CAC members, the consultants introduced the draft preferred alternative that garnered the most support at Community Workshop #2. Several elements of the draft preferred alternative drew inconclusive community support and required discussion from the CAC. These elements included a new restroom, palm trees on the east side of First Street, and the location of a non-motorized boat launch.

The CAC made the following requests:

- Identify locations for special event auto access.
- Do not include a restroom, since there is one at the end of the First Street Peninsula.
- Include palm trees on the east side of First Street to mirror the promenade streetscape on the west side of First Street.
- Include boardwalks in alignment with the historic railroad, with viewing platforms.
- Include a “Train Walk Boardwalk” through the tidal marsh.
- Do not include a non-motorized boat launch into the marina channel at the end of B Street.

2. Community Workshops

a. Community Workshop #1

Approximately 50 people participated in a walking tour of the Benicia Urban Waterfront Park on June 5, 2013 to better understand the Project Area’s existing conditions, constraints, and areas of opportunity. A more formal meeting that was later held at the Benicia Community Center consisted of approximately 85 community leaders and members of the public. The consultants gave a brief summary regarding the goals and schedule of the project and then presented a summary of the history and existing conditions of the Project Area.

Community members were given an opportunity to ask questions regarding the project before working in nine small groups. Participants discussed the types of uses and improvements they would like to see incorporated throughout the Project Area and identified any concerns they had. Speakers from each group then shared their group’s thoughts and recommendations with the rest of the participants.

Many of the common design ideas incorporated the creation of an entrance to the park, such as a gateway or plaza at the corner of First Street and B Street. In addition, the majority of the participants talked about the need for formalized parking along B Street and expanding the size of the lawn to better accommodate the City’s special events. Other common elements discussed among the groups included the integration of public art throughout the Project Area, walkways/boardwalks, boat launches for kayaks and other small watercraft, restrooms, and wetland restoration.



City staff and residents worked with PlaceWorks staff to determine their preferred alternative.



Community members present their group’s preferred alternatives to all workshop participants.



Local residents, City staff, and PlaceWorks team members touring the Project Area.



This historic aerial shows the alignment of the railroad.

b. Community Workshop #2

A second community workshop meeting was held on September 18, 2013 to review three design alternatives and solicit input regarding a preferred alternative. Approximately 25 community members attended the workshop held at the Benicia Community Center. The consultants recapped the project goals, existing conditions, constraints, and opportunities, and presented an updated schedule. The meeting progressed with a presentation of the three conceptual alternatives for the park design, which incorporated the ideas from the first community workshop and direction received at the second CAC meeting. The consultants explained how each alternative adhered to Project Area constraints and specified site improvements, but differed in various design configurations, such as the expanded Green and parking layout.

Following the presentation, community members worked in four small groups to determine their preferred alternative among the three presented, and discuss how that alternative could be improved or modified to reflect their vision. Common elements desired by all groups included a larger Green, a new entry plaza at the corner of First Street and B Street, a secondary plaza at the eastern edge of the Project Area, boardwalks in alignment with the historic rail corridor, a restroom closer to First Street, a formalized non-motorized boat launch, and diagonal parking along B Street. One of the few issues where there was not complete consensus was whether the First Street Promenade improvements (wide sidewalk with palm trees) on the west side of First Street should be mirrored on the east side of First Street, adjacent to the waterfront park. A draft preferred alternative was developed based on the results of the second Community Workshop, the third CAC Meeting, and input from City staff.

B. PARKS, RECREATION AND CEMETERY COMMISSION

The Parks, Recreation and Cemetery Commission reviewed the draft preferred alternative at its October 9, 2013 meeting. The consultants presented the draft preferred alternative that resulted from Community Workshop #2 and the Commission provided their feedback and recommendations for refining the draft preferred alternative.

C. BENICIA CITY COUNCIL

The draft preferred alternative was presented to the City Council on November 19, 2013. The City Council passed a resolution approving the draft preferred alternative (now referred to as the Conceptual Plan, Figure 4-1) and directed staff to proceed with the development of the Draft Master Plan and concurrent environmental review. The Council will review the Master Plan at its September 16, 2014 hearing and will consider adoption of the Master Plan and associated environmental review documents.

CHAPTER 4: CONCEPTUAL PLAN

The conceptual plan for the City of Benicia’s Urban Waterfront Enhancement and Master Plan was developed with input from the public and Community Advisory Committee. Two principal design alternatives were developed and refined throughout the planning process to reflect the community’s priorities for an open green space, environmentally sensitive design, and improved access for all users. This chapter describes the design components included in the preferred conceptual plan and provides a brief overview of each of its proposed elements.

A. COMMUNITY PRIORITIES

Through the planning process, the community identified priorities for achieving the goals of the Urban Waterfront Enhancement and Master Plan to create a waterfront that provides a multi-benefit open space for the community while protecting and enhancing natural resources. These priorities include:

- Expand the Green for recreation and community activities.
- Improve Access to the shoreline and visual access to wetland habitat.
- Improve Circulation to and through the park for vehicles, pedestrians, and bicyclists.
- Create Plazas that serve as everyday gathering spaces and focal points for special events.
- Protect and Restore tidal wetland habitat.

The design elements of the Benicia Urban Waterfront Park have been developed to achieve these priorities.

B. KEY DESIGN COMPONENTS

This section summarizes the proposed components and how they influence the overall design of the Project. The design elements are illustrated on the Conceptual Plan and Expanded Green and Wetland Section in Figures 4-1 and 4-2, respectively.

Expanded Green: The existing Green and usable area will be expanded by almost 100,000 square feet of functional park space, consisting of irrigated lawn and other landscaped areas to better accommodate daily recreational activities; some of this space will only be used during special events, such as the farmers’ market and annual car show.



The tidal wetland habitat is in need of restoration for the health of the habitat and to improve flood control.



Figure 4-1: Conceptual Plan

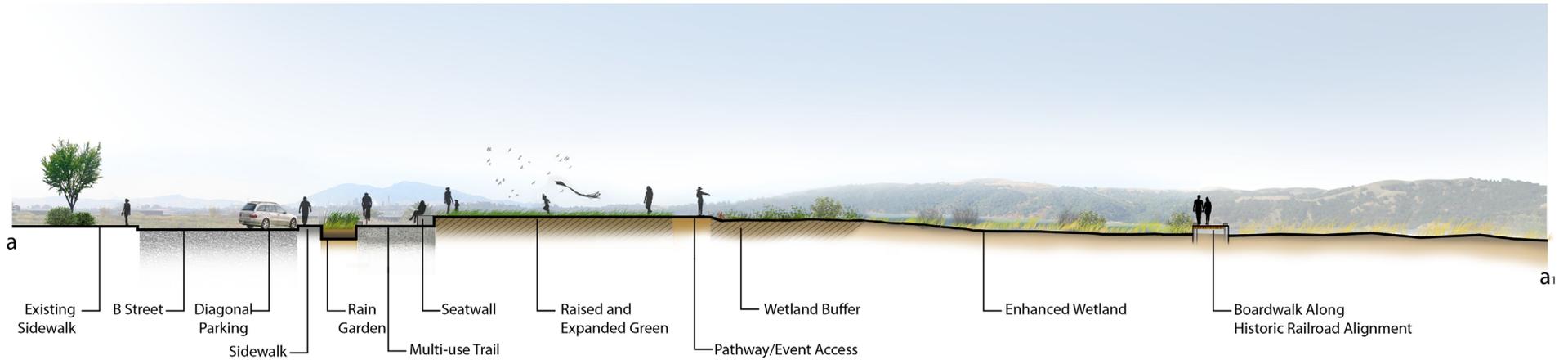


Figure 4-2: Expanded Green and Wetland Section

Expansion of the Green will be possible in part through the filling of the isolated coastal salt marsh to the north and east of the Depot. New wetland will be created in the eastern part of the Project Area, contiguous with existing marsh. The Green will be raised between 18 inches and as much as three feet to protect the Green from flooding that is expected as the sea-level rises. A curvilinear trail of decomposed granite will border the Green and provide a path of travel, as well as a needed separation between the enhanced wetland area and reconfigured Green. This trail will also provide for vehicle access for special event set up. A seat wall will span the northern edge of the Green, stepping down gradually along the eastern edge of the Green.

Entry Plaza: The entry plaza will be located at the corner of First Street and B Street and will function as the gateway to the waterfront park from downtown Benicia, providing opportunities for additional civic activity on First Street. The plaza will contain seat walls, signage, site furnishings, lighting, and public art.

Eastern Plaza: The eastern plaza is located at the terminus of B Street near the Benicia Marina, and will incorporate seat walls, signage, site furnishings, and minimal lighting. This plaza will provide exceptional views of the Benicia Marina, Mt. Diablo, and the Martinez hills.

Depot Plaza: The Depot Plaza will be improved as was proposed in the 2009 Depot Site Plan. This includes the development of a plaza/parking area that features permeable paving and stormwater treatment.



Existing lighting and palm trees on the west side of First Street Promenade.



Figure 4-3: Visual Simulation of Rain Gardens along the Parking Area

Rain Gardens: A series of rain gardens will be located along the park's edge along B Street. These gardens will be planted with native plants and grasses, and will create a landscaped edge along the parking area (see Figure 4-3). Rain gardens are shallow depressions filled with porous soils and deep-rooted native plants and grasses that capture and filter many of the pollutants found in stormwater runoff, such as heavy metals, pollutants, and oils. These gardens are most effective when located near impermeable surfaces, such as asphalt driveways and paved streets. See Chapter 5: Resource Management for more specifics.



Figure 4-4: Visual Simulation of a Viewing Platform and Boardwalk in the Enhanced Wetlands



The existing pilings at the beach at the end of First Street.

Parking: The existing gravel parking lot will be replaced by diagonal parking along the south side of B Street, which will provide roughly 60 parking spots for park visitors. A sidewalk between the parking spaces and the rain gardens will provide a transition from the parking area to the multi-use path, as well as the expanded Green (See Figures 4-3 and 4-5). The parking area along the east end of B Street will also be formalized with curbs, lighting that complements existing nearby lighting, and lane and parking space striping. Approximately 45 parallel spaces will continue to be accommodated on the north side of the street.

Boardwalks: A boardwalk will be situated along the historic railroad alignment, offering views of Mt. Diablo, the Carquinez Strait, and the marsh and wetlands. A segment of the boardwalk will traverse an area of coastal salt marsh. Due to the sensitivity of the area, this segment will be narrower than the other segments. The two platforms along the boardwalk will contain seating, viewing telescopes, and interpretive signage (see Figure 4-4).

Enhanced/Expanded Wetland Areas: Wetlands in the Project Area, which consist of northern coastal salt marsh and coastal brackish marsh, as well as seasonal wetlands, will be protected and enhanced as part of the Master Plan. The loss of the isolated coastal salt marsh feature north and east of the Depot will be mitigated through the creation of new coastal salt marsh habitat that is contiguous and hydrologically connected to the existing 5.71 acre marsh, as shown in Figure 4-1. The completion of the Bay Trail on the eastern end of the site will result in the loss of a very small area of seasonal wetland. This loss will be mitigated through replacement of seasonal wetlands and enhancement of the remaining wetland features. Chapter 5: Resource Management describes the resource management plan and approach for the expansion and creation of wetlands as part of the Master Plan.

First Street Promenade: Palm trees will be planted and street lights installed to mirror the existing streetscape along the west side of First Street, formalizing the entrance to the Waterfront Park and balancing the improvements made along First Street. The palm trees and lighting will help create a stronger connection to the First Street Peninsula and waterfront, as well as the First Street business district.

Public Art: Public art will be included throughout the Project Area, especially in the plaza and along the pathways adjacent to the Green; it will showcase the work of local artists and celebrate the character of Benicia. Art has played a major role in Benicia's culture for decades; the city is a popular destination for sculptors, painters, and photographers. Art should be integrated into the circulation, landscaping, and wayfinding design early in the site design process.

Bay Trail/Ridge Trail: The Bay Trail connection will run parallel to B Street, located between the Green and the rain gardens (see Figure 4-5). Pedestrians and cyclists will be able to share this Class I multi-use trail, and will be buffered from vehicular traffic by the rain gardens. This route provides a direct link to the Bay Trail segment to the

east at the marina and to the west along the waterfront west of First Street, and will improve circulation within and through the Project Area.

Beach Access: One goal of the Master Plan is to maintain beach access and allow for better water access for non-motorized boating. The existing beach at the terminus of First Street will be improved by removing the existing pilings and several of the large rocks and boulders along the beach, improving access for non-motorized boating. Additional beach access will be located on the corner of the First Street Promenade and the Peninsula Pier, just north of the First Street roundabout. A new ramp will make this small beach area more accessible for non-motorized small boat users, as well as pedestrians.

Based on the project components described above, circulation in and around the Project Area will be significantly enhanced as shown in Figure 4-5.

C. INTERPRETATION PLAN

This section lists the historic, cultural, and environmental themes such as Benicia's early history and natural systems, which could be explained throughout the Waterfront Park using interpretive signs and public art.

1. History

Benicia's rich history and role in culture and art have greatly influenced the Bay Area. As referenced in the City of Benicia Historic Context Statement, Benicia's time as the State Capital, role in the Gold Rush and Pony Express, and influence on famous author Jack London, have made Benicia a California landmark. This history could be incorporated into the waterfront park in a number of ways, including interpretive signage at various locations. These signs would tell the story of Benicia's early history through historic photos, artifacts, maps, and descriptive narratives. Specific historic themes could include:

- Benicia as the State Capital
- Benicia's role in the Gold Rush
- Benicia's role in the Pony Express
- 19th and Early 20th Century Waterfront Industry
- Rail Ferries and the Transcontinental Railroad
- Jack London
- Archaeology
- Significant Architecture



The former Western Creameries Company.

Source: Benicia Historical Museum



The Benicia Depot in 1904.

Source: Benicia Historical Museum



Benicia Ferry.

Source: Benicia Historical Museum

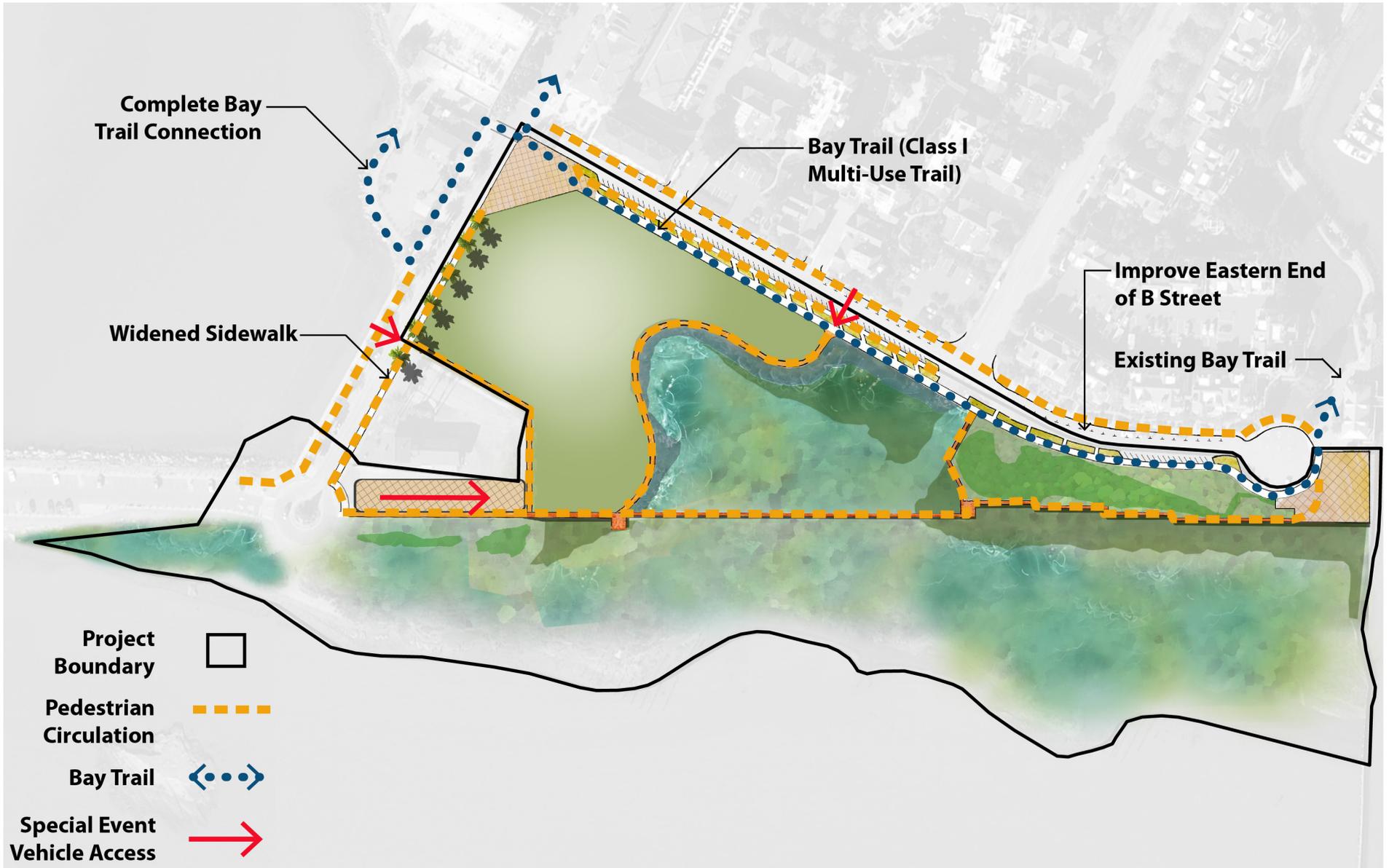


Figure 4-5: Circulation Improvements

2. Natural Systems

The waterfront park's natural systems, including wildlife, wetland habitat, stormwater, and flood management could be included as interpretive themes. The purpose of some of the park's new features could be explained, such as how the permeable surfaces of the rain gardens and lawn allow filtration to occur on site. The signage could depict ecological functions and responsible wetland management practices. For example, trampling by humans can damage the wetlands' marsh vegetation, particularly clumps of relatively brittle pickleweed shrubs. Access into the marsh by humans and dogs tramples and destroys the marsh vegetation, and compromises the habitat value of these areas to wildlife. Possible natural systems themes include:

- Treating Stormwater and Preventing Runoff
- Wetland Habitat and Wildlife
- Flood Control Benefits of Wetland Ecosystems
- The Bay/Delta System
- Sea-Level Rise

D. WAYFINDING PLAN

Wayfinding and directional signage should also be included to provide residents and visitors the information they need to access Benicia's Waterfront and amenities. Wayfinding signage might include some of the following elements:

- Downtown and First Street Businesses
- San Francisco Bay Trail/Ridge Trail
- Carquinez Scenic Loop Trail
- San Francisco Bay Area Water Trail
- Benicia's Waterfront/Shoreline Path of History
- Fishing Pier
- Marina
- Benicia Parks Map



Interpretive signage can help educate residents about the importance of natural resources, habitat preservation, flood management, stormwater practices, and the potential harmful impacts people and their pets can have on sensitive wetland habitat.

E. DESIGN GUIDANCE

The character, history, and natural environment will greatly determine the Project Area design features and therefore should be carefully considered during the design process. The design components should enhance the existing character of the Project Area and not conflict with the existing natural environment. They should be consistent with site elements found in other Benicia parks, open spaces, and streets. Where possible, park features should be constructed with natural and durable materials that will provide long-term use and minimal maintenance. Recommendations for ensuring durable and sustainable use for key components of the Project Area are provided below.

1. Lighting

New lighting in the three plazas and along the First Street Promenade, the Bay Trail, and the B Street parking lot should be consistent with other park and open space light fixtures in Benicia. LED (light-emitting diode) lighting is a sustainable form of lighting that uses less energy than conventional lighting and provides adequate light. Pedestrian-scaled lighting should be used in areas where key design features will be highlighted, such as community art pieces and popular gathering spaces including plazas.



Lighting in the Benicia Marina.



Street lights and benches along the waterfront in Benicia.

2. Furnishings

New furnishings, such as benches, bicycle racks, seat walls, and trash cans should complement existing furniture. Site furnishings should be made of durable materials, such as metal, concrete, wood, or locally sourced stone, and should have a durable finish.

3. Sustainable Materials

Sustainable materials should be used wherever possible. Sustainable materials, such as pervious paving, will help manage stormwater and better protect the adjacent wetland area. Other sustainable materials could include reclaimed wood for the boardwalk area and decomposed granite surrounding the expanded Green.



Park benches should match existing in wood or Trex with a durable finish.



Existing railing along First Street.



Existing bike rack at the end of First Street.



Example of a seat wall adjacent to the lawn.



Signage should be durable and consistent with the character of the Benicia Waterfront.



Typical bicycle and Bay Area Ridge Trail wayfinding signage in Benicia.



Public art should be integrated throughout the park.



Public art should relate to the surroundings and be functional.

4. Signage

Signage should be limited to necessary usage to avoid clutter along roadways and should be unobtrusive in placement within the park. Framing/support structures should be made of natural, durable materials, where possible. Text and graphics displayed on signage should be specific to the character of the Benicia Waterfront and should include the City of Benicia logo. Additional discussion of interpretive and way-finding signage is included in the previous section.

5. Public Art

Public art should relate to the natural, cultural, and historical site features. It should be interactive, durable, and integrated into the Park design to enrich the user experience. Public art should not obstruct scenic views of the Strait, Mt. Diablo, the Carquinez Strait Regional Shoreline and Hills, or the Carquinez Bridge. A public art plan and program should be developed as part of implementation of the Master Plan. The program should be developed in conjunction with representatives from the Benicia Arts Community and should emphasize the work of local artists.

CHAPTER 5: RESOURCE MANAGEMENT

The following chapter describes how the proposed Master Plan addresses natural resource management, including stormwater control, adaptation to sea-level rise, and protection of sensitive biological resources.

A. STORMWATER MANAGEMENT

The proximity of the site to the Carquinez Strait results in limited opportunities to treat stormwater before it is released to adjacent on-site wetlands. However, the proposed Project includes a more sustainable stormwater management approach that is integral to and compatible with the site plan, as explained below.

The Master Plan proposes to incorporate rain gardens along B Street between the sidewalk and Bay Trail/Ridge Trail alignment. The rain gardens are constructed below-grade such that they will capture stormwater runoff from curb cuts along B Street, from parking areas along B Street, and from sidewalks. Rain gardens provide what is generally considered the most effective and cost efficient physical and chemical treatment of stormwater. They provide the initial treatment of stormwater runoff from impervious surfaces, such as parking lots and sidewalks, through retention, detention, and filtering of stormwater prior to entering the City's stormwater system. Appropriate native plant species, including rushes and grasses, act as physical filters and bio-retention treatment soil provides biochemical filtration. This multi-stage filtering is part of a sustainable stormwater management plan and will help the City meet Total Maximum Daily Load (TMDL) target values established by the Regional Water Quality Control Board, which regulates and monitors water quality constituents such as pH, temperature, sediment, organics, and more.

Parking and paving improvements associated with the Master Plan are part of a sustainable stormwater management plan that will improve the overall water quality of stormwater and reduce the amount of runoff generated from the Project Area. While the stormwater features associated with the proposed Project are not specifically designed to improve existing stormwater backup at the B street storm drain, the rain gardens will be able to capture not only the additional runoff created due to the parking area, but also some of the existing runoff along B Street. Both the existing runoff from B Street and the expected additional runoff from any new impervious surfaces would be treated before it continues to the storm drain. Currently, stormwater along B Street flows untreated directly into the City's stormwater system, which discharges into the adjacent marsh and seasonal wetlands in the Project Area. Additionally, parking improvements throughout the Project Area (along B Street and adjacent to the Depot) will



Rain gardens will help mitigate flooding and stormwater related issues around impermeable surfaces.

incorporate design criteria specified by the City of Benicia, which include guidelines for grading and the use of ground cover plants and pervious areas. City guidelines dictate that all parking areas and road improvements be graded for proper stormwater drainage. Pervious areas within the proposed Project allow water to filter through the surface and infiltrate underlying soils. The movement of stormwater into underlying soils provides biochemical filtering of stormwater.

B. ADAPTATION TO SEA-LEVEL RISE

The Master Plan accommodates projected sea-level rise at the Benicia Waterfront Project Area. Elevation of the Green by a minimum of 18 inches will address the 16-inch rise in sea-level that is anticipated to occur by 2050 and which was described in Chapter 2. Consolidating and raising the First Street Green will reduce the likelihood and duration of flooding impacts to the Green and associated improvements. Expanding the Project Area's principal coastal salt marsh will reduce tidally-induced flooding by attenuating (slowing down) wave runup.

The location of site improvements also demonstrates how the plan accommodates anticipated sea-level rise. The development of the majority of boardwalks and viewing platforms in areas currently not considered wetlands minimizes impacts to existing sensitive biological resources, and recognizes the anticipated rise in water levels, particularly at high tides and during storm events. This demonstrates an adaptive approach to developing public access facilities. Over time, these facilities will provide additional habitat viewing and educational opportunities for users due to the anticipated transition from uplands to wetlands.

The installation of tide gates on stormwater outfalls within the Project Area is also recommended to help alleviate local flooding due to rising tides during the dry season. As the tide levels increase, local flooding along B Street will increase due to the inability of the water to gravity-drain against the higher tide. Increases in local flooding along B Street will also need to be addressed through improvement to the existing stormwater system, and eventual inclusion of a lift station to pump water from the low point at the foot of B Street.

C. BIOLOGICAL RESOURCES

This section includes information on habitat protection and management of sensitive biological resources on the site, focusing on the creation and enhancement of jurisdictional wetlands, phasing and basic procedures for implementation, and ongoing invasive species eradication and control. The Master Plan includes limited filling of existing jurisdictional wetlands and creation of new wetlands to serve as compensatory mitigation and to enhance existing habitat. Modifications to jurisdictional waters would require further review and authorization from regulatory agencies, including USACE and the Regional Water Quality Control Board.

The newly created wetlands will be located along the perimeter of the larger areas of existing coastal salt marsh and seasonal wetlands, to complement their habitat functions and values. The created wetlands will be bordered by upland buffer areas that provide important refugia (i.e., retreat areas) for native wildlife during high tide events, and will serve as future marsh habitat as sea levels rise and eventually inundate the existing marsh terrace, transforming it into mudflats and open water of the Carquinez Strait.

The following sub-sections provide information on wetland habitat creation, protection, and management, including recommendations for site grading and re-contouring associated with creation of new wetland habitat, recommendations on new native habitat plantings and landscape improvement features, and maintenance and monitoring methods to ensure successful establishment and management of jurisdictional wetlands and the adjacent upland areas that serve as important buffer zones. Guidance and detailed measures provided in Appendix A: Biological Assessment and Environmental Baseline Memo should be followed during project implementation.

1. Wetland Habitat Creation and Protection

Implementation of the Master Plan will include the creation of new and enhanced areas of coastal salt marsh, seasonal wetlands, and associated transitional areas that will provide important buffer habitat and will separate natural habitat from the First Street Green. Existing signage along the perimeter of the coastal salt marsh habitat is intended to prevent entry into the wetlands, but is ignored by some park visitors. Numerous foot trails currently cut through the marshlands, trampling native vegetation and disturbing wildlife in this sensitive habitat area along the shoreline of the Carquinez Strait. By consolidating existing wetlands, providing an upland buffer with restrictive fencing and signage, and creating a controlled boardwalk experience where visitors can enjoy the wetlands without direct impacts, existing habitat values of the marshland will be greatly improved. This requires maintenance of access controls by the City to effectively protect the marshlands from disturbance.

The Master Plan assumes that just under half an acre of existing jurisdictional coastal salt marsh and seasonal wetlands would be filled or modified to accommodate an expanded Green along the east side of First Street, improved parking and plaza area on the eastern edge of the park, and a linear boardwalk that spans the largest stand of coastal salt marsh. The approximately 0.41 acre of coastal salt marsh habitat to be filled as part of the expanded Green is physically isolated from other marsh habitat and the open water of the Carquinez Strait, which greatly limits its existing habitat value. Invasive perennial pepperweed currently forms a continuous canopy over the pickleweed marsh in this area, and the abrupt transition to managed uplands further limits its usefulness to native wildlife. By consolidating the created coastal salt marsh habitat adjacent to the larger intact stands, providing an expanded buffer and restricting human access, there is an opportunity to greatly improve the overall habitat values of the existing marshlands.



The existing coastal salt marsh.

A preliminary assessment performed during preparation of the Master Plan confirmed that adequate land area is available on-site to provide replacement and enhanced wetlands. The assessment assumed that a minimum 2:1 ratio of replacement wetlands would be provided for wetlands filled or modified as part of Master Plan implementation. As directed by resource agency representatives, that wetland replacement must be in-kind, meaning that the replacement wetlands have to be the same type as those lost or modified. Figure 4-1 in the Master Plan shows the conceptual approach to achieving required compensatory mitigation, with in-kind replacement coastal salt marsh and seasonal wetland provided on-site along the periphery of the largest stands of these habitat types. Additional buffer zones would be established along the edge of the existing marshlands to improve upland refugia (retreat areas) for native wildlife during high-tide events and to complement the existing habitat value of the marshlands. Restrictive fencing and interpretive signage would be provided at the interface between active use areas in the park, and the enhanced upland buffer zone to control human access and disturbance in the areas of coastal salt marsh. The cross-section in Figure 4-2 shows how the new and existing wetland areas, buffer area, active use areas, and proposed boardwalk would occupy different zones in the park.

A detailed wetland habitat creation plan and authorization from regulatory agencies will be required to successfully implement the proposed fills, new wetland habitat to be created, and other modifications to jurisdictional habitat, such as the linear boardwalk. Ideally, newly created wetlands would be completed in advance of fills to the relatively isolated 0.41 acre of coastal salt marsh, to avoid the short-term reduction in salt marsh habitat as vegetation becomes established in the newly created wetlands. The detailed wetland habitat creation plan will include a maintenance and monitoring program to ensure successful implementation. Major components and important tasks to be accomplished as part of the wetland modifications include the following:

- Created wetlands will be designed to be installed at appropriate elevations to allow for natural expansion of existing mid- and upper-terrace coastal salt marsh and seasonal wetlands. Native plant species will be established through a combination of seeding, plug plantings, and natural dispersal, and native vegetation will dominate created and enhanced habitat areas, including marshlands, seasonal wetlands, and adjacent upland areas. Table 5-1 provides a list of suitable plant species to be utilized as part of revegetation, along with typical installation methods and rates of application.
- Provide for short-term establishment of native plant cover in mid- and upper-terrace coastal salt marsh through seeding with an appropriate native mix (see application rates in Table 5-1), while allowing for natural establishment and dominance by native pickleweed. When appropriate conditions are created in the coastal salt marsh expansion area, pickleweed will rapidly colonize and eventually spread through appropriate elevation zones.

- Ensure that problematic invasive species, such as perennial pepperweed, Canary Island fan palm, sweet fennel, star thistle, and arundo are properly controlled and prevented from taking over the created wetlands and enhanced upland buffer areas. Install restrictive fencing, barriers of dense vegetation, and interpretive signage to more effectively limit human access into sensitive wetlands and adjacent buffer habitat. Any restrictive fencing will be of relatively low height to avoid visual impacts, and could be accomplished using a split rail or other low-fencing type barrier system in combination with appropriate signage. Interpretive signage will clearly indicate the sensitivity of the marshlands and need to control public access.

2. Wetland Management

Wetland management will include the following:

- The initial phases of the project should involve a concerted effort to remove invasive species, focusing on Canary Island fan palm, perennial pepperweed, sweet fennel, arundo, wild radish, and yellow star-thistle. Table 5-1 provides information on target invasive species, typical treatment methods, and other details on effective controls.
- Expansion of coastal salt marsh and seasonal wetlands will involve excavation of areas adjacent to the existing coastal salt marsh and seasonal wetlands and revegetation with native wetland, grassland, and upland species. Table 5-1 provides information on suitable native species to be installed in each created habitat type, including installation rates and other details, heavy reseeding with a native seed mix, native plug and shrub plantings, and follow-up monitoring and management, as detailed further in Section 4 below. This expansion could be combined with enhancement of the existing seasonal wetland to increase native plant species diversity and improve habitat values.
- For each phase of treatment, areas disturbed by grading, grubbing, and invasive species removal will be stabilized to prevent erosion and sedimentation onto nearby sensitive habitat areas, and ensure successful establishment of native cover. Graded and disturbed slopes will be seeded with a native seed mix in advance of the fall rains. Installation of silt fencing, straw wattle, and other appropriate erosion control measures will be used in addition to hydroseeding and rice hull mulch to prevent erosion of areas disturbed during initial grading and removal of invasive species.
- Enhancement upland plantings to improve species diversity and protective cover with low-growing native shrubs can either be accomplished at the same time as wetland or transitional species are planted, or in subsequent years.
- On-going monitoring and adaptive management will be provided to ensure successful establishment of native plantings and effective control of invasive species. Any herbicide application must be carefully controlled to protect desired native vegetation, and protect the aquatic habitat of the wetlands and the Carquinez Strait, as detailed further in Section 5 below.



Existing invasive species.

Table 5-1: Suitable Native Plant Species

Species	Rate/Size	Treatment Details
Grassland/Buffer Zone Seed Mix:		
Creeping wildrye <i>(Leymus triticoides)</i>	15 lbs per acre	Seed shall be applied over all graded surfaces (except in areas of new turf, trails, and other developed improvements, or areas to be enhanced as seasonal wetlands or coastal salt marsh, specified below) before onset of fall rains, prior to October 15. Seeding will supplement plug plantings, described below, to ensure effective grassland cover is established to minimize opportunities for invasive species. Seed source shall be as local as possible, supplied on a basis of Pure Live Seed (PLS), and not contain an excess of one percent (1%) of weed seed. Seed shall preferably be applied by hydroseeding to improve erosion control function with tackifier, rather than by hand broadcast. Hydroseed may include seed, dye, fertilizer, lime, mulch, and synthetic binder.
California brome <i>(Bromus carinatus)</i>	15 lbs per acre	
California poppy (Eschscholzia californica)	2 lbs per acre	
Lupine <i>(Lupinus nanus)</i>	2 lbs per acre	
Seasonal Wetland Zone Seed Mix:		
Creeping wildrye <i>(Leymus triticoides)</i>	10 lbs per acre	Expansion of seasonal wetlands shall be accomplished through creation of shallow topographic depression adjacent to existing seasonal wetland and heavy seeding with suitable plant cover. Seed shall be applied by hydroseeding or broadcast seeding. Seed shall be applied over entire seasonal wetland area following final grading of expanded wetlands in the early fall before onset of fall rains, prior to October 15. Seed source shall be as local as possible, supplied on a basis of Pure Live Seed (PLS), and not contain an excess of one percent (1%) of weed seed. Tackifier used in hydroseeding tends to hold seed in place and is therefore preferable to broadcast application, although the small treatment area may be impractical. If hydroseeding technique is used, it may include seed, dye, mulch, and synthetic binder.
Meadow barley <i>(Hordeum brachyantherum)</i>	15 lbs per acre	
Coastal Salt Marsh Zone Seed Mix:		
Salt grass <i>(Distichlis spicata)</i>	10 lbs per acre	Expansion of coastal salt marsh shall be accomplished by grading to appropriate elevations to allow for suitable conditions for recruitment by pickleweed, salt grass, and other mid-terrace marsh species. Grassland seeding will facilitate more rapid establishment of marshland cover. Seed shall be applied over entire coastal salt marsh area following final grading of expanded wetlands in the early fall before onset of fall rains, prior to October 15. Seed source shall be as local as possible, supplied on a basis of Pure Live Seed (PLS), and not contain an excess of one percent (1%) of weed seed. Tackifier used in hydroseeding tends to hold seed in place and is therefore preferable to broadcast application. If hydroseeding technique is used, it may include seed, dye, mulch, and synthetic binder.
Meadow barley <i>(Hordeum brachyantherum)</i>	10 lbs per acre	

Table 5-1: Suitable Native Plant Species (cont.)

Grassland/Buffer Zone Plantings:		
Prostrate coyote brush <i>(Baccharis pilularis)</i>	Buffer Zone to create barrier and protective cover – grouped mosaics from one gallon plants on 5-foot centers.	<p>Grass plugs provide an effective method of dense cover establishment, important to minimize potential spread of invasive species. Plugs and plantings should be installed prior to hydroseeding to prevent disturbance to hydroseeded slopes. Temporary spray irrigation should preferably be provided for grassland/buffer zone treatment areas during the dry season for one or two years to facilitate establishment, and irrigation lines should be installed before hydroseeding is applied. Shrub plantings should preferably have drip irrigation lines that provide dry season irrigation for 3 or more years.</p>
Baltic rush <i>(Juncus Balticus)</i>	Buffer Zone to create barrier and protective cover – grouped mosaics from one gallon plants on 3-foot centers.	
California rose <i>(Rosa californica)</i>	Buffer Zone to create barrier and protective cover - grouped mosaics from one gallon plants on 5-foot centers.	
Creeping wildrye <i>(Leymus triticoides)</i>	Grassland/Buffer Zone to establish dense cover to limit potential for invasive establishment – plugs installed on 1-foot centers.	
Seasonal Wetland Zone Plantings:		
Creeping wildrye <i>(Leymus triticoides)</i>	Upper edge of Seasonal Wetland Zone to provide protective cover and establish a visual barrier around wetland habitat - plugs installed on 1-foot centers.	<p>Grass plugs provide an effective method of dense cover establishment, important to minimize potential spread of invasive species. Plugs and plantings should be installed prior to hydroseeding to prevent disturbance to hydroseeded slopes. Temporary spray irrigation should preferably be provided for Seasonal Wetland Zone treatment areas during the dry season for one or two years to facilitate establishment, and irrigation lines should be installed before hydroseeding is applied.</p>
Baltic rush <i>(Juncus Balticus)</i>	Upper and middle edge of Seasonal Wetland Zone to provide protective cover and establish a visual barrier around wetland habitat - grouped mosaics from one gallon plants on 3-foot centers.	

Table 5-1: Suitable Native Plant Species (cont.)

Coastal Salt Marsh Zone Plantings:		
Salt grass <i>(Distichlis spicata)</i>	Upper edge of mid-terrace Coastal Salt Marsh Zone to provide protective cover and vegetative plant source - plugs installed on 1-foot centers.	Grass plugs provide an effective method of dense cover establishment, important to minimize potential spread of invasive species. Plugs and plantings should be installed prior to hydroseeding to prevent disturbance to hydroseeded slopes. Temporary spray irrigation should preferably be upper edge of Coastal Salt Marsh Zone during the dry season for one or two years to facilitate establishment.
Gum plant <i>(Grindelia stricta)</i>	Upper edge of Coastal Salt Marsh Zone to provide species diversity – grouped mosaics from dee posts or one gallon plants on 3-foot centers.	
Marsh lavender <i>(Limonium californicum)</i>	Upper edge of Coastal Salt Marsh Zone to provide species diversity – grouped mosaics from dee pot or one gallon plants on 3-foot centers	

3. Labor and Consultation

The following recommendations address labor and consultation for successful implementation of the Master Plan:

- Hire professional consultants and contractors to coordinate or perform the initial wetland creation and fills, major invasive species removal, and native seeding and planting efforts. A qualified biologist will be required to oversee construction activities in sensitive habitat areas, train all workers, and provide preconstruction surveys, construction inspections, and monitoring and post-construction monitoring to confirm successful establishment of newly created jurisdictional wetlands.
- Possible chemical treatment of the invasive species must be carefully controlled according to the California Department of Pesticide Regulations and the Solano County Agricultural Commissioner using Best Management Practices to prevent exposure to park users, avoid sensitive aquatic habitat, and utilize the most effective and appropriate products available at the time field work is performed.
- Hire public groups such as California Conservation Corps (CCC) to assist with initial and ongoing removal and planting under direction of selected contractor.
- Use park volunteers, directed and coordinated by experienced restoration specialists, to participate in the initial invasive species removal and provide the bulk of ongoing removal, planting, and management efforts.

4. New Plantings and Landscape Features

Native vegetation will be established in newly created wetland and upland habitat, and in areas where invasive species have completely eliminated existing native cover. Table 5-1 provides information on suitable native plant species, installation rates, and methods. Recommendations for hydroseeding, stock plantings, native revegetation monitoring and maintenance, and restrictions on access to marshland and buffer habitat areas are provided in Appendix A.

5. Invasive Species Eradication and Control

Invasive species control will require intensive initial removal and long-term, ongoing removal and monitoring to prevent reinfestations and establishment of new undesirable species. The abundance of perennial pepperweed in the physically isolated 0.41 acre of coastal salt marsh north of the Historic Depot limits the desirability of attempting to salvage and transplant plugs of native pickleweed, sea lavender, and gumplant to areas of restored marshlands, given the likelihood that the seeds and root systems of this invasive species would most likely be transported into the newly created habitat. Some native revegetation of areas currently occupied by dense cover of invasive fan palm and arundo will also be necessary to prevent invasive species from becoming established in these areas. Appendix A describes management guidelines addressing initial treatment, disposal, and follow-up requirements of dominant invasive plant species that are addressed as part of this Master Plan.



Invasive species have affected the health of existing wetlands.

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CHAPTER 6: PHASING AND IMPLEMENTATION

A. PHASING AND COSTS

Due to anticipated costs of implementation of the Master Plan, the City will likely implement the Plan in phases.

Table 6-1 identifies the proposed phasing for the project elements.

Table 6-1: Planning-Level Phasing and Cost Estimate

<i>Phase</i>	<i>Estimated Cost</i>
<i>Phase I (Years 0–2)</i>	
Design/Engineering	\$600,000
<i>Phase II (Years 2–7)</i>	
Improvements to Existing Beach Access (removal of piles and boulders)	\$125,000
New Beach Access (ramp)	\$50,000
Eastern Plaza (seat wall, sign, site furnishings, lighting)	\$306,000
Depot Plaza/Parking (gravel paving, signage, trail)	\$400,000
<i>Phase III (Years 7–12)</i>	
Entry Plaza at First and B Street (seat walls, sign, site furnishings, lighting)	\$340,000
Bay Trail Segment (paving, crosswalk striping, signage, curb/gutter)	\$350,000
B Street Parking (parking striping, grading, curb/gutter)	\$392,500
Rain Gardens (soil/mulch/plantings, irrigation, deepened curbs)	\$175,500
Seasonal Wetland Enhancement (grading, clearing, plantings, irrigation)	\$100,000
Raised and Reconfigured Green (grading, fill, irrigation, turf, stairs, lighting)	\$2,000,000
Mitigation Coastal Salt Marsh Restoration (grading, clearing, plantings, irrigation)	\$400,000
Interior Pathway (decomposed granite trail along marsh edge)	\$100,000
Marsh Overlook Platforms (platforms, railing, signage)	\$115,000
First Street Promenade (new sidewalk, palm trees, street lights)	\$200,000
<i>Phase IV (Years 12 –17)</i>	
Trainwalk Boardwalk (boardwalk, railing)	\$1,110,000
TOTAL	\$6,764,000
Total plus 25% Contingency	\$8,455,000
Annual Maintenance (0.25 PBMJ FTE@ \$83,000)	\$20,750

Cost Assumptions:

1. Cost estimate is preliminary and will require project refinement to further develop estimates.
2. Cost estimate is based on 2013 costs.
3. Boardwalk does not include lighting.
4. Expanded Green assumes 3 feet of fill average over the site.
5. Reuse excavated soil on-site for fill at expanded Green.
6. Costs do not include soft costs such as permitting and construction management.
7. Costs do not include development or installation of public art.
8. Cost estimate includes repaving the parking areas on B Street, not the entire right-of-way.

Table 6.1 includes a preliminary cost estimate of the preferred concept components, as well as estimates for maintenance and operations. These are planning-level cost estimates and will be refined in the site design and construction phases. Resource management costs will vary depending on the extent of resource management and mitigation determined to be necessary during the project permitting process, but are estimated to range between \$10,000 and \$30,000 annually, with higher costs the first three years following creation and enhancement of wetland areas.

B. OPERATIONS AND MAINTENANCE

The City of Benicia will be responsible for operating and maintaining the Park. However, it is anticipated that partners could assist in the operations and maintenance of several project elements, as described in section D of this chapter.

Maintenance and management of the Park will include the following:

- **Park landscape maintenance.** This would include maintenance of public spaces (plazas, pathways, and the Green), including landscaping, irrigation, signage, lighting, and furnishings. It is anticipated that maintenance of the Park when fully completed will require .25 FTEs (full-time equivalent employees).
- **Wetland area maintenance.** In addition to park landscape maintenance, the City will need to maintain new and enhanced wetland areas through removal of trash, control of trespass through fencing and signage, and resource management and monitoring.
- **Special Use Permits and Events Coordination.** The expanded Green will likely experience an increase in special events over current use. It is anticipated that the City Parks and Recreation Department will continue to grant special use permits for the Green.
- **Security.** Similar to the existing conditions, the City will be responsible for ongoing security at the Waterfront Park. Currently, the City's police department patrols the First Street Green Area.
- **Long-term monitoring.** This will be necessary to evaluate the condition of facility improvements such as paving, the Green, trails, furnishings, and landscape areas, and may result in replacement, repairs, and adjustments. Annual reports will be prepared which summarize major improvements, maintenance activities, facilities conditions, and recommended adjustments to maintenance activities. Natural resource monitoring will be consistent with the guidelines described in Chapter 5: Resource Management.

C. COORDINATION AND PARTNERSHIPS

The Benicia Parks and Community Services Department will work with the following commissions, committees, and organizations in Benicia to shepherd the Plan through site design and implementation.

1. City Boards and Commissions

Parks, Recreation, and Cemetery Commission. City Staff will continue working with the Parks, Recreation, and Cemetery Commission to finalize phasing and implementation strategies for the Park, and to seek input on the details and implementation of the various components included in the Plan.

Historic Preservation Review Commission. City Staff will work with the Historic Preservation Review Commission to address the historic railway boardwalk alignment, interpretive signage about the area's history, and the Historic Depot parking area.

Arts and Culture Commission. The Arts and Culture Commission can assist City Staff in preparing the Request for Proposals (RFP) to Bay Area artists for the three phases of public art design and installation for the Waterfront Park. The Commission could help identify the criteria for the art, including its functionality and relevance to the Project Area, and help in the selection of the art work.

Economic Development Board. The Economic Development Board can help identify funding sources for constructing and maintaining the Park's components.

Planning Commission. The Planning Commission will need to be informed and consulted regarding changes to the uses and circulation that result from the Waterfront Enhancement and Master Plan adoption.

Community Sustainability Commission. The Community Sustainability Commission can aid in the early stages of site planning to guide decisions and ensure the Waterfront Park and its various components uphold the most progressive, sustainable features and techniques.

2. Community Organizations

Benicia Main Street. Coordination with Benicia Main Street can help with the development of the arts program, as well as the wayfinding component of the Plan. Future coordination with Benicia Main Street will also be crucial to the success of events that draw people from the commercial corridor into the Waterfront Park.

Benicia Yacht Club. Coordination with the Benicia Yacht Club will be helpful in the planning of future B Street Improvements, as well as the eastern plaza features, and the non-motorized boat activity that will result from Plan components.

California Native Plant Society. During site planning and design, the California Native Plant Society could be instrumental in providing guidance of the appropriate plants to be used in the various Plan components, including the expanded Green and adjacent landscaping, rain gardens, and wetland enhancement areas.

3. County and State Agencies

Solano Transportation Authority (STA) Bicycle Advisory Committee. The STA Bicycle Advisory Committee and STA staff can help ensure that the Bay Trail improvements meet STA standards and optimize connectivity to the existing Bay Trail.

STA Pedestrian Advisory Committee. The STA Pedestrian Advisory Committee can help ensure that the Waterfront Park pedestrian components meet STA standards with regard to dimensions, materials, and wayfinding.

California Coastal Conservancy. The City will continue working with the California Coastal Conservancy, which funded the Master Plan, to ensure that the project is implemented in a manner that is consistent with the original grant goals.

San Francisco Bay Trail Project. The Benicia Urban Waterfront Enhancement and Master Plan includes a segment of the San Francisco Bay Trail. San Francisco Bay Trail Project staff will be important partners, and the Bay Trail Plan an important resource, in successfully implementing the Bay Trail component of the plan.

D. FUNDING SOURCES

This section summarizes funding sources for parks, open space, natural resource projects, and pedestrian and bicycle improvement projects in California. These programs and grants are potential sources of funding for the development of improvements proposed as part of the Benicia Urban Waterfront Enhancement and Master Plan.

California Active Transportation Program (Caltrans and Metropolitan Transportation Commission). The California Active Transportation Program (ATP) began in 2014 with the goal to increase the number of biking/walking trips, improve the safety and mobility of pedestrians/cyclists, reduce greenhouse gas emissions per Senate Bill 375, enhance public health, and ensure that disadvantaged communities fully benefit from these improvements. Funding is being distributed to cities and counties through an application program. Over three years, the ATP will distribute \$359 million. The minimum project size is \$250,000, but projects can be bundled together. A match is required at 11.47 percent.¹

California Coastal Conservancy. The California Coastal Conservancy, which funded the Benicia Waterfront Enhancement and Master Plan, may be a source of funding for implementation. Coastal Conservancy grant programs fund projects that are consistent with the Conservancy's goals to "protect, restore, and enhance coastal resources, and to provide access to the shore." Proposals for funding from the Conservancy are accepted on a continuous basis, and there are no established grant minimum or maximum amounts. Funds awarded through the Coastal Conservancy include those from bond measure Proposition 84.²

California Department of Water Resources, Division of Integrated Regional Water Management. This agency offers Stormwater Flood Management Grants funded by Proposition 1E, The Disaster Preparedness and Flood Protection Bond Act of 2006. Projects typically funded include implementation actions to reduce flooding and provide multiple benefits.³

Federal Land and Water Conservation Fund (LWCF). This fund can be used to reimburse development costs for outdoor recreation areas and facilities. The funds provide matching grants to cities and counties funds for up to 50 percent of project costs. Parks that are developed with LWCF funding must be retained as parkland in perpetuity.⁴

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- 1 <http://www.dot.ca.gov/hq/LocalPrograms/atp/>
 - 2 <http://scc.ca.gov/applying-for-grants-and-assistance/forms/>
 - 3 <http://bondaccountability.resources.ca.gov/plevel1.aspx?id=92&pid=5>
 - 4 www.parks.ca.gov/default.asp?Page_id=21360

San Francisco Bay Trail Project. The Benicia Urban Waterfront Enhancement and Master Plan includes a portion of the San Francisco Bay Trail. The Bay Trail project is currently funding design and construction of segments of the Bay Trail projects in other communities.⁵

San Francisco Bay Restoration Authority (Authority). Formed in 2008, this agency raises and will allocate funds for restoration and protection of wetlands in the San Francisco Bay and its shoreline. While the Authority is still in its early phases, the Benicia Waterfront would be a model candidate for funding due to its consistency with the Authority’s mandate to fund projects that enhance tidal wetlands in conjunction with flood management features and public access improvements.⁶

Strategic Growth Council Urban Greening and Sustainable Community Planning Grants. The Strategic Growth Council Urban Greening and Sustainable Community Planning Grants (funded through Proposition 84) allocated an additional \$40.2 million of funding in June 2014 to fund projects, such as urban forests, open spaces, wetlands, and climate action plans, similar to this Master Plan. There’s a possibility that a future bond measure will make similar funding available.⁷

Wildlife Conservation Board. The Wildlife Conservation Board (WCB) provides public access funding and can enter into cooperative project agreements with local agencies or nonprofit organizations for the development of facilities for “public access for hunting, fishing, or other wildlife-oriented recreation,” such as wildlife viewing and bird watching. The WCB may fund the construction of project elements, such as trails, boardwalks, and interpretive facilities. Applications are accepted on a continuous basis.⁸

5 <http://www.baytrail.org/grants.html>

6 <http://www.sfbayrestore.org/SFBRA-FAQ.pdf>

7 <http://sgc.ca.gov/>

8 <http://www.wcb.ca.gov/Access/examples.html>

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