PUBLIC REVIEW DRAFT

# EASTSHORE PARK PROJECT GENERAL PLAN

## ENVIRONMENTAL IMPACT REPORT


STATE CLEARINGHOUSE # 2002022051

July 2002

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July 2002

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# I. INTRODUCTION AND PROJECT SUMMARY

## A. PURPOSE OF THE EIR

In compliance with the California Environmental Quality Act (CEQA), this Draft Environmental Impact Report (EIR) describes the environmental consequences of the proposed *Eastshore Park Project General Plan* (*Draft General Plan*).

This EIR is designed to fully inform decision-makers of the California Department of Parks and Recreation (State Parks); East Bay Regional Park District (EBRPD); California State Coastal Conservancy; other responsible agencies; and the general public of the proposed *Draft General Plan* and the potential environmental consequences of its approval and implementation. This EIR also examines various alternatives to the *Draft General Plan* as proposed, and recommends a set of mitigation measures to reduce or avoid potentially significant impacts. State Parks is the lead agency for this environmental review. This EIR will be used by State Parks, EBRPD, and California State Coastal Conservancy staff in their review of the proposed *Draft General Plan* and the various approvals required as described in Chapter II of this document.

A "tiered" approach will be used to meet the requirements of CEQA for this project. This EIR is a Program EIR. Section 15168 of the *CEQA Guidelines* states the following:

> *A Program EIR is an EIR that may be prepared on a series of actions, can be characterized as one large project, and are related either geographically or as logical parts in a chain of contemplated actions. The use of a Program EIR can (1) provide an occasion for more exhaustive consideration of effects and alternatives than would be practical in an EIR on an individual action, (2) ensure consideration of cumulative impacts that might be slighted in a case-by-case analysis, (3) avoid duplicative reconsideration of basic policy considerations, and (4) allow the consideration of broad policy alternatives and program-wide mitigation measures at an early time when the agency has greater flexibility to deal with basic problems or cumulative impacts. Subsequent activities in the program must be examined in the light of the Program EIR to determine whether an additional environmental document must be prepared.*

General plans, the primary management document for a unit of the State Park System, are required by law prior to the development of a park unit.[1] This Program EIR identifies general effects of the development set forth in the *Draft General Plan*. Subsequent individual development projects, management plans, area development plans, and specific project plans implementing the *Draft General Plan* will be subject to additional environmental review under CEQA. The degree of specificity in this EIR reflects the level of detail in the *Draft General Plan*.

[1] Public Resources Code, Division 5, Chapter 1, Article 1, Section 5002.2 requires that a general plan be prepared prior to the development of permanent facilities.

## B. PROPOSED PROJECT

The *Draft General Plan*, the proposed project, is a long-range master plan for a new park along the eastern shore of San Francisco Bay. The *Draft General Plan* defines the broadest management framework for Eastshore Park's development, ongoing management, and public use by providing a defined purpose and vision, long-term goals, and guidelines. This framework will guide day-to-day decision-making and serve as the basis for developing focused management plans, specific project plans, and other management actions necessary to implement the goals of the *Draft General Plan*.

Eastshore Park's regional location is shown in Figure I-1. The project includes approximately 8½ miles of shoreline, extending north from the Oakland Bay Bridge to the Marina Bay neighborhood in Richmond. The site consists of approximately 2,262 acres along the waterfronts of Oakland, Emeryville, Berkeley, Albany, and Richmond. Of this area, approximately 260 acres are uplands, and the remainder (2,002 acres) are tidelands.

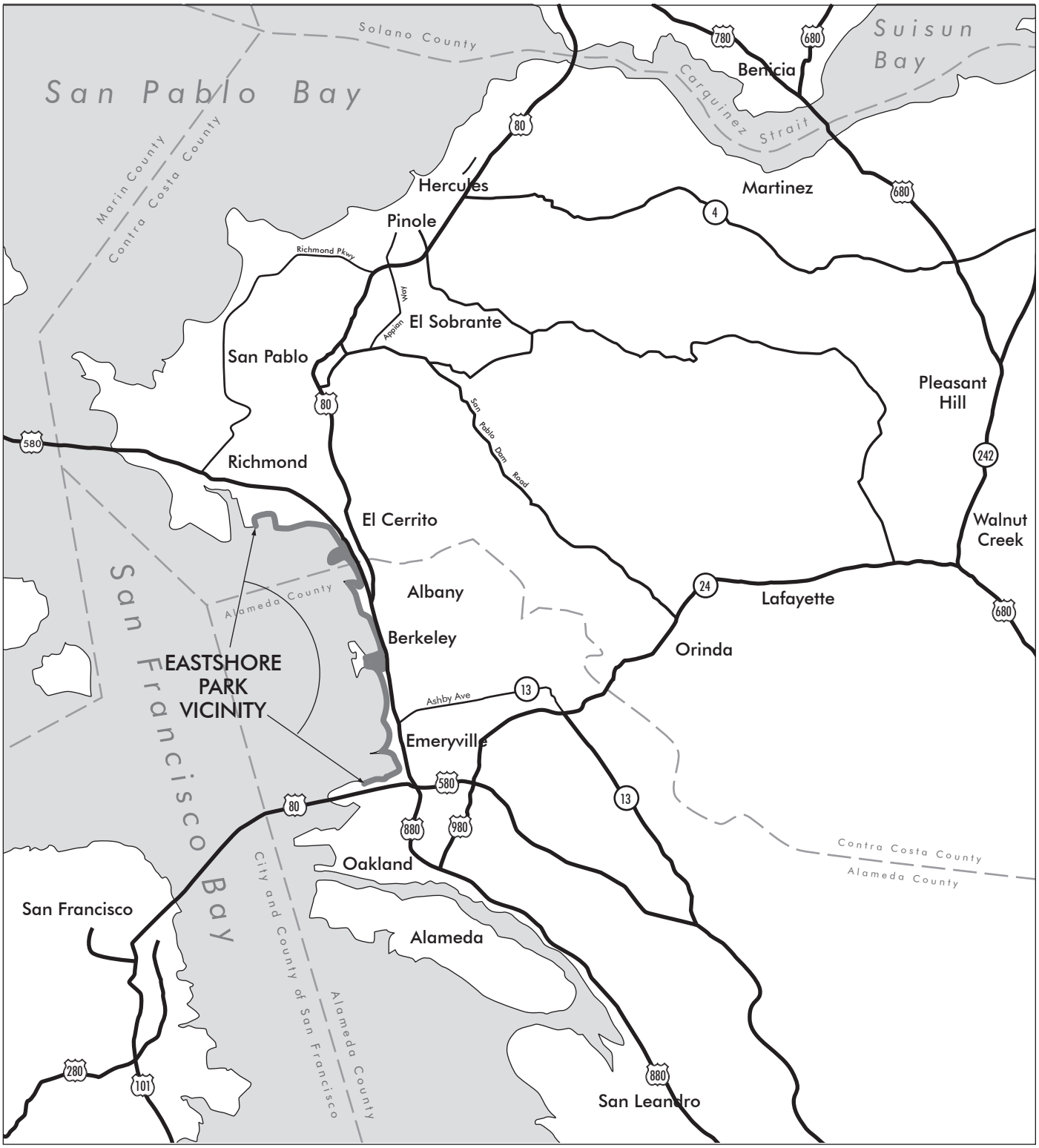
The *Draft General Plan* proposes to protect and enhance the area's natural values while improving public access to the shoreline and creating new opportunities for public recreation. The *Draft General Plan* proposes three general land use designations: Preservation, Conservation, and Recreation.

Preservation areas are those areas with unique or fragile habitat values that need to be protected and preserved. Public access in these areas will be restricted to safety, scientific, and maintenance activities.

Conservation areas are areas whose natural habitat values will be protected and enhanced while accommodating lower intensity recreation that is compatible with and dependent on those values. Proposed environmental enhancements to the conservation areas will include activities such as creek daylighting, wetlands enhancement, uplands revegetation, removal of exotic species, and debris removal.

Recreation areas are those areas of the project site designated for more intensive recreation. These areas are characterized as having limited habitat value, and sufficient size to support the necessary parking, utilities, and infrastructure needed to allow recreational uses. Recreation facilities proposed for these areas include interpretive facilities, visitor-serving and operations facilities, enhanced water access points, turf areas, picnic facilities, off-leash dog areas, sports fields, public art, parking lots, restrooms, and commercial recreation-oriented concessions.

Access to the shoreline will be provided via several modes of travel, including vehicular, pedestrian, bikes, transit, and boat. The main spine of the San Francisco Bay Trail, which runs parallel to the shoreline, and Bay Trail spurs will provide the primary means of shoreline access for bicyclists and pedestrians. Interstate 80 (I-80) and Interstate 580 (I-580) will provide the primary regional access to the project area with six interchanges serving the site. Additionally, as of June 2002, AC Transit routes 43, 51, L, LC, and Y provides bus service to the area. Amtrak stations in Emeryville and Berkeley are near enough to portions of the park site to allow pedestrian access.




LSA

FIGURE I-1

*Eastshore Park Project General Plan*
Regional Location Map

N

0 1.5 3
MILES

SOURCE: LSA ASSOCIATES, INC., 2002

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## C. PLANNING PROCESS

The Eastshore Park Project grew out of the efforts of Bay Area citizens and environmental organizations to stop the filling of San Francisco Bay and to protect the waterfront as an open space resource in public ownership. Since World War II, citizens of Oakland, Emeryville, Berkeley, Albany, and Richmond have worked alongside the Sierra Club and Save The Bay to promote the creation of a park along the East Bay shoreline in response to various development proposals.

In 1982, State Parks undertook a Feasibility Study[2] for the formerly named East Bay Shoreline Park and the State Coastal Conservancy initiated a citizen planning process that reflected public support for a new shoreline park. In 1985, a group of citizens and organizations joined together to create "Citizens for the Eastshore State Park" (CESP), an umbrella organization whose mission is to work to acquire and plan for the Eastshore Park Project. In 1988, voters passed the California Parks and Wildlife Act (CalPAW), a State bond measure that allocated $25 million for the Eastshore Park Project; these funds were used to acquire the lands for the project. After much negotiation with private waterfront landowners, State Parks and EBRPD bought the site creating the Eastshore Park Project.

Currently the Albany Bulb and portions of the Albany Neck are owned by the City of Albany. The State, through State Parks, and the City of Albany have an agreement under which the City leases the Albany Bulb and access road right-of-way in the Albany Neck to the State for 66 years (from 1985 to 2051) for use as part of the Eastshore Park. Under the terms of agreement, the State would help fund necessary design and construction relative to the closing and sealing of the landfill site. The City would be responsible for the care, maintenance, operation, and control of the land during the term of the lease, until the State assumes responsibility for operation of the park.[3,4]

The Eastshore Park planning process has incorporated extensive citizen and local government participation in the development of the proposed project. Formal planning for the park began in January 2001. Stakeholder meetings were held in February 2001 to review the *Eastshore Park Project Resource Inventory* (*Resource Inventory*). The *Resource Inventory* provides a comprehensive body of information on the natural, cultural, aesthetic and recreational resources of the project site and identifies, records, and evaluates these resources. The *Resource Inventory* provides resource data for classification of the park and establishment of a basis for the decision-making related to acquisition, facility development, recreation, interpretation, and resource management objectives of the park. The *Resource Inventory* is a public document, and is available on the Eastshore Park website (www.eastshorestatepark.org).

Subsequent regional workshops were held in April 2001 to discuss issues and opportunities and September 2001 to explore alternative development scenarios for the park. In March 2002, a workshop was held to take comments on the Preferred Concept Plan. Local community briefing

[2] California Department of Parks and Recreation, 1982. *East Bay Shoreline Park Feasibility Study.*

[3] Tong, Larry, 2002. Interagency Planning Manager, EBRPD. Personal communication with LSA Associates, Inc., April.

[4] California Department of Parks and Recreation and City of Albany, 1985. *The Lease and Agreement for Operation and Development of a Portion of the East Bay Shoreline Project in the City of Albany*. June.

meetings in each of the five cities were held after each of the regional workshops in May 2001, October 2001, and April 2002 to update community residents of the park planning process. This EIR analyzes the potential impacts of the *Draft General Plan*. It is expected that the Final General Plan will incorporate the findings and mitigation measures identified in this EIR for approval and certification by State Parks in November 2002.

## D. EIR SCOPE

On February 15, 2002, State Parks circulated a Notice of Preparation (NOP) and Initial Study (IS) to help identify the types of impacts that could result from the proposed *Draft General Plan*, as well as potential areas of controversy. The NOP and IS were mailed to public agencies and made available on the Eastshore Park website (www.eastshorestatepark.org). Copies of the NOP and IS were also available free of charge from Kinko's in Emeryville. Additionally, a scoping meeting was held on February 27, 2002 to receive comments on the EIR process and to identify concerns about the project from agencies, organizations, and community residents. The meeting date and time were identified in the NOP. Comments received by State Parks on the NOP, the IS, and at the scoping meeting have been taken into account during the preparation of this Draft EIR. The NOP, the IS, and the written comments are provided in Appendix A.

This Draft EIR focuses on the areas of concern identified in the NOP and the IS, comments submitted on the NOP and the IS, and comments received at the public scoping session. The following environmental topics are addressed in this EIR:

A. Aesthetics
B. Air Quality
C. Biological Resources
D. Cultural Resources
E. Geology and Soils
F. Hazards
G. Hydrology and Water Quality
H. Land Use and Public Policy
I. Noise
J. Public Services
K. Transportation and Circulation
L. Utilities

As a result of the NOP and IS process, the lead agency has found the following topical issues to be not significant: agricultural resources; energy and mineral resources; population, employment, and housing; and schools and libraries. The Effects Found Not To Be Significant section in Chapter IV of this EIR provides a brief discussion on why these topical issues are not included in this environmental analysis.

## E. SUMMARY

This summary provides an overview of the analysis contained in Chapter III, Setting, Impacts and Mitigation Measures of this EIR. CEQA Guidelines Section 15123 requires an EIR summary to

include discussion of: 1) significant adverse impacts of the proposed project, and mitigation measures and alternatives that would reduce any significant effects; 2) areas of controversy known to the lead agency, including issues raised by agencies and the public; and 3) issues to be resolved, including the choice among alternatives and whether or how to mitigate significant effects.

## 1. Significant Impacts

Under CEQA, a significant impact on the environment is defined as "...a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance."[5] The evaluation in this EIR of each topical issue found that the *Draft General Plan* incorporates specific guidelines that mitigate to a less-than-significant level all adverse potential impacts. Less-than-significant adverse impacts and mitigating *Draft General Plan* guidelines are discussed in Chapter III of this EIR.

## 2. Significant Unavoidable Impacts

As discussed in Chapter III of this EIR, implementation of the *Draft General Plan* would not result in any significant unavoidable impacts.

## 3. Potential Areas of Controversy

Following is a list of specific areas of controversy that were identified as part of the EIR scoping and NOP process:

- Soil and hazardous materials remediation
- Water pollution resulting from former landfill uses of the project site
- Contaminated storm water resulting from park uses and park visitation
- Underground storage tanks
- Water conservation
- Extension of utility infrastructure
- Impacts to wetlands, sub- and inter-tidal habitat, and protected natural communities
- Rare, threatened, and endangered species within the project site
- Creek daylighting
- Shoreline erosion
- Dredging and dredge materials disposal
- Removal of exotic species
- Public shoreline access
- Bay fill
- Views of the Bay and features associated with the Bay
- Placement and provision of recreational fields and facilities
- Off- and on-leash dog walking
- Bike, pedestrian, bus, and rail access to the project site
- Traffic and air pollution resulting from vehicle trips
- Art at the Albany Bulb

[5] Remy, Thomas, Moose, and Manley, *Guide to the California Environmental Quality Act,* 1996, p. 94; Public Resources Code 15382; Public Resources Code 21068.

### 4. Alternatives to the Project

The three alternatives to the proposed project analyzed in Chapter IV of this Draft EIR are:

- The CEQA-required **No Project alternative**, which assumes that the *Draft General Plan* would not be adopted or implemented and that existing conditions would remain.
- The **Conservation alternative**, which assumes that natural resource protection and enhancement activities would be the primary focus of the *Draft General Plan*.
- The **Recreation alternative**, which assumes that providing recreational opportunities would be the primary focus of the *Draft General Plan*.

## F. REPORT ORGANIZATION

This EIR is organized into the following chapters:

- *Chapter I – Introduction and Project Summary* provides a summary of the proposed action and environmental review process; and discusses the overall purpose, use, and organization of the EIR and provides a summary of the significant impacts that would result from implementation of the proposed *Draft General Plan*.
- *Chapter II – Project Description* provides a description of the *Draft General Plan* in terms that are relevant to this environmental review.
- *Chapter III – Setting, Impacts and Mitigation Measures* describes for each environmental topic: existing conditions (setting); potential environmental impacts and their level of significance; and mitigation measures recommended to mitigate identified impacts, as necessary. Potential impacts are identified by levels of significance, as follows:

  SU: Significant and Unavoidable;
  S: Significant; and
  LTS: Less than Significant.

  Each impact is categorized *before* and *after* implementation of any recommended mitigation measure(s).
- *Chapter IV – Alternatives* provides an evaluation of alternative development scenarios to the proposed *Draft General Plan*, and describes alternatives that have been considered but rejected from further evaluation. In addition to the CEQA-Required No Project alternative, two alternatives were considered: 1) the Conservation alternative; and 2) the Recreation alternative.
- *Chapter V – CEQA-Required Assessment Conclusions* provides the required analysis of the overall impacts of the proposed project, including: growth-inducing impacts; significant irreversible changes; cumulative impacts for the environmental issues found to have significant cumulative effects; effects found not to be significant; unavoidable significant impacts; and the relationship between short-term and long-term uses of the environment.
- *Chapter VI – Report Preparation* provides a list of the reference documents, publications, and literature reviewed and cited; identifies the persons and agencies contacted during report preparation; and provides a summary of the authors and consultants involved in report preparation.

# II. PROJECT DESCRIPTION

## A. INTRODUCTION

This chapter describes the *Eastshore Park Project General Plan* (*Draft General Plan*), which is the project being evaluated in this Environmental Impact Report (EIR). This chapter provides an overview of the project's regional location and setting, a detailed description of the proposed *Draft General Plan*, a brief discussion on the *Draft General Plan*'s anticipated adoption and implementation, and an explanation of the intended uses of this Program EIR.

## B. REGIONAL LOCATION AND SETTING

The Eastshore Park Project, located within Alameda and Contra Costa counties of the San Francisco Bay Area, is situated along the central eastern shore of the San Francisco Bay and offers expansive views of the Bay, the City of San Francisco, and Marin County (see Figure I-1). The approximately 2,262-acre project site is located within five different municipalities: Oakland, Emeryville, Berkeley, Albany, and Richmond. Generally bounded by the Marina Bay neighborhood in Richmond to the north, I-80 to the east, the Bay Bridge to the south, and the San Francisco Bay to the west, the project site stretches approximately 8½ miles along the East Bay shore.

Access to the project site is provided via several modes of travel, including vehicular, pedestrian, bikes, transit, and boat. The project is accessible from I-80 and I-580. As shown on Figure II-1a, I-80 and I-580 interchanges provide regional access; local roads provide access from communities to the east (primarily Powell Street, Ashby Avenue, University Avenue, Gilman Street, Marin Avenue/ Buchanan Street, and Central Avenue); and the Frontage Road provides north to south access to the central portions of the park. The San Francisco Bay Trail—the main spine of which runs parallel to the shoreline—will provide pedestrian and bicycle access to and through the park when the Berkeley portion of the Trail has been completed.[1] As of June 2002, AC Transit routes 43, 51, L, LC, and Y provide bus service to the area. Amtrak stations in Emeryville and Berkeley are close enough to allow pedestrian access to the project site.

## C. PROPOSED PROJECT

The Eastshore Park will be an 8½-mile-long series of parks, open space, habitat areas, and points of interest, connected by the Bay Trail within the cities of Oakland, Emeryville, Berkeley, Albany, and Richmond. The following section describes in detail the proposed project, the *Draft General Plan*. A discussion of the project's goals and objectives and a description of the *Draft General Plan* are provided in this section.

[1] The Bay Trail "spine" is the main thoroughfare of the trail which connects parks, open space, and communities encircling the Bay. Bay Trail spur trails provide access from the spine trail to points of interest along the shoreline. The Berkeley portion of the Bay Trail spine within the Eastshore Park is expected to be completed in 2002.

## 1. Goals and Guidelines

Public Resources Code, Section 5003.03(h) has proposed that the Eastshore Park Project shall be *"...a recreational facility harmonious with its natural setting."* The overarching vision of the Eastshore Park Project is to create a rare place where an urban area reconnects with its waterfront to allow for the enjoyment of magnificent vistas and healthful outdoor recreational activities.

**a. Declaration of Purpose.** The *Draft General Plan* contains the following Declaration of Purpose which is the broadest statement of management goals and objectives.

> "…the park project's resources will be managed by balancing its scenic and recreational resources with the protection and restoration of its natural resources. Opportunities to enjoy the on-shore breezes, the wildlife, as well as the world-renowned vistas of urban skylines and the Bay and Golden Gate Bridges shall be enhanced. Public access to the San Francisco Bay and its shoreline shall be provided, consistent with resource protection, to meet recreational needs through use of the Bay Trail and waterfront recreational areas."

**b. Goals.** The *Draft General Plan* includes goals and guidelines that are intended to implement the Declaration of Purpose and Vision for the Eastshore Park Project. A compendium of all *Draft General Plan* guidelines is contained in Appendix B of this EIR for reference. *Draft General Plan* goals are listed below.

*Manage the park project's resources by balancing access to its scenic and recreational resources with the protection and restoration of its natural resources for the enjoyment of the people of the San Francisco Bay region and the State of California.*

*Preserve and enhance habitat values at appropriate upland, creek, open water, and wetland areas so that the character of the park project's conservation and preservation areas more closely resemble the natural Bay shoreline.*

*The long-term preservation and enhancement of the native plant communities within the park project.*

*The long-term preservation and enhancement of the park project's diverse wetlands areas.*

*The long-term preservation and enhancement of native plant populations within the park project.*

*The long-term preservation and enhancement of the park project's wildlife habitat.*

*The long-term preservation and enhancement of the park project's marine habitat areas.*

*Creation, over time, of a safer and more stable shoreline that is both more attractive and better integrated with the Bay's hydrologic and biologic systems.*

*Appropriate protection, preservation, and interpretation of significant cultural resources identified within the park project.*

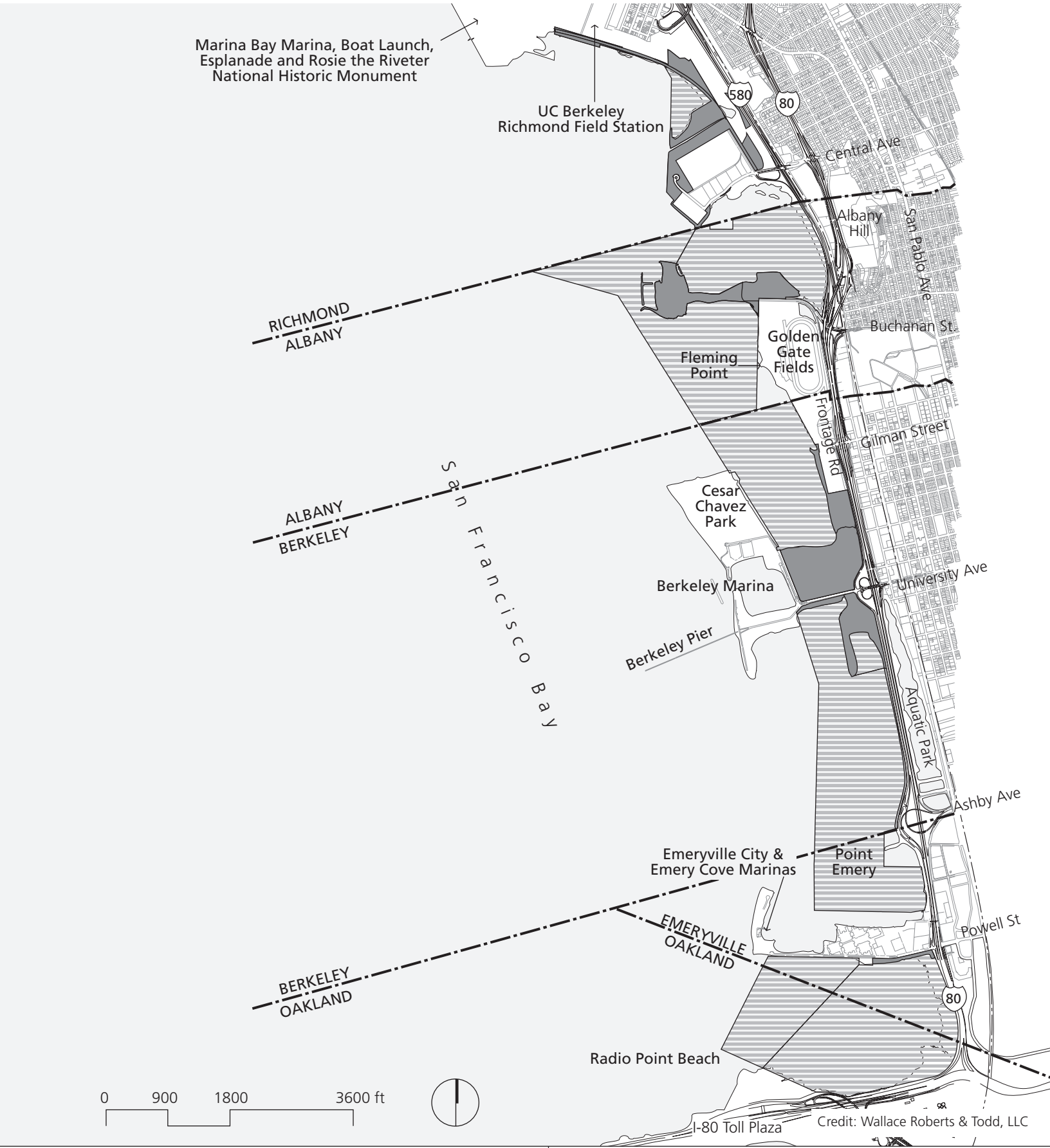
*To demonstrate the delicate interplay between human intervention and the natural systems' resilient response.*

*To foster public understanding of the need for ongoing protection and enhancement of the parks' natural and cultural resources for the education, inspiration, and enjoyment of present and future generations.*


Eastshore Park Project
EIR - Public Review Draft

# Figure II-1a: PROJECT BOUNDARIES & KEY FEATURES

Upland Parklands
Aquatic Parklands
City Boundaries

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# Figure II-1b:
# KEY ADJACENT FEATURES

Upland Parklands

Aquatic Parklands

City Boundaries

*A setting where all Californians can enjoy dramatic Bay views and natural open space in the midst of an urban setting.*

*A balanced range of high quality recreational opportunities that facilitate and enhance the public's enjoyment and appreciation of the Eastshore park project's natural, cultural, and scenic resources.*

*A range of recreational opportunities and facilities that recognizes and responds to the unique pressures on the Eastshore park project to address the continually shifting demand for public recreation.*

*Recreational facilities that are sensitively sited and designed to ensure protection of resource values as well as contributing to the park project's identity and sense of place.*

*An integrated and efficient multi-modal circulation system that facilitates visitor access to, and movement within, the park project.*

*Ongoing liaison and communication between the operators of the park project and local, County, State, and Federal agencies should be encouraged in order to maximize the potential benefits and opportunities each might bring to the other, and minimize potential conflicts.*

*Ensure that the level and character of use within the Eastshore park project are managed in such a way so as not to exceed the carrying capacity of park project resources.*

## 2. Draft General Plan Description

The following provides a discussion of the *Draft General Plan* State Parks classification, land use designations, specific use areas, and the circulation concept. The General Plan is a long-range plan. No specific timeframe or phasing for its implementation is proposed. Generally, the Plan will be implemented as funding becomes available. However, for the purposes of this EIR, buildout of the park is assumed to occur by 2022.

**a. Classification.** Pursuant to §5019.50 of the Public Resources Code (PRC), every park unit that is part of the State Parks system shall be classified according to one of the categories specified in the PRC. A classification of State Recreation Area is recommended for the Eastshore Park in the *Draft General Plan*, based on the range of recreational uses and environmental enhancements proposed in the Plan. In addition to the overall unit classification, the *Draft General Plan* also recommends that two sub-units with the Plan area, the Emeryville Crescent and the Albany Mudflats, be classified as Natural Preserves in recognition of their significant resource values (PRC §5019.71)

**b. Land Use Designations.** The *Draft General Plan* has been developed to guide future use and enhancement of the project site over the next decades. The *Draft General Plan* strives to provide a balance of uses that protects the natural and cultural resources of the parkland, while enhancing the public's ability to enjoy and understand them. The total land area of the Eastshore Park Project consists of approximately 2,262 acres, of which 2,002 acres are tidelands and 260 acres are uplands.[2]

The *Draft General Plan* divides this total acreage into three broad land use categories: preservation areas, conservation areas, and recreation areas. Table II-1 provides a summary of the land use

[2] The term "upland" is defined for this project to include areas that are generally above mean high tide.

designation distribution for the total land area of the project. Figures II-2a, II-2b, II-2c, II-3a, II-3b, II-3c, II-3d, and II-3e illustrate the land use designations for the Eastshore Park Project.

**Table II-1: Summary of Land Use Designation Distribution**

| Land Use Type | Area (Acres) | Percent of Total Park Area | Upland Area (Acres) | Percent of Total Upland Area | Tideland Area (Acres) | Percent of Total Tideland Area |
|---|---|---|---|---|---|---|
| Preservation | 650 | 29 | 10 | 4 | 640 | 32 |
| Conservation | 345 | 15 | 158 | 55 | 187 | 10 |
| Recreation | 1,267 | 56 | 116 | 41 | 1,151 | 58 |
| **Total** | **2,262** | **100** | **284** | **100** | **1,978** | **100** |

Source: Wallace, Roberts, and Todd, LLC, 2002.

The three broad land use categories are defined as follows.

**(1) Preservation.** Preservation and Preservation-Aquatic areas are those areas with unique or fragile natural, cultural, aesthetic, or educational features that need to be protected and preserved. The Emeryville Crescent, Albany Mudflats, and Hoffman Marsh/South Richmond Shoreline are identified as preservation areas. Public access in these areas will be restricted to safety, scientific, and maintenance activities

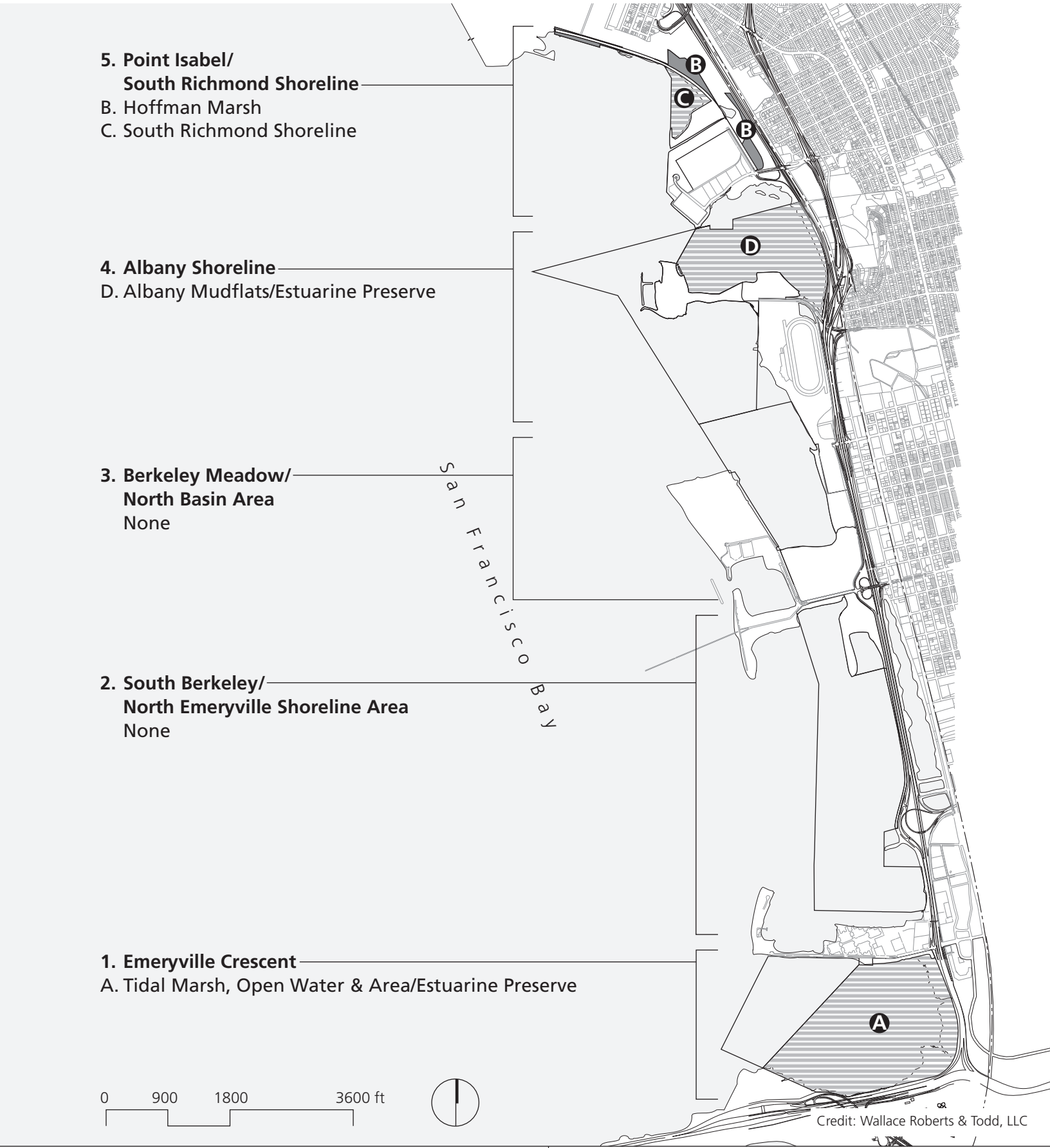
The *Draft General Plan* designates approximately 29 percent of the total park area, or 650 acres, as preservation areas. Lands abutting the Emeryville Crescent and Albany Mudflats, Hoffman Marsh, and those to the northeast, east, and southeast of Pt. Isabel Regional Shoreline are allocated for upland preservation areas. Tideland preservation areas are located in the Emeryville Crescent, the Albany Mudflats, and the aquatic area north of North Pt. Isabel.

**(2) Conservation.** Conservation and Conservation-Aquatic areas are areas whose natural habitat values will be protected and enhanced while accommodating lower intensity recreation (e.g., walking, bird-watching, and picnicking) that is compatible with and dependent on those values. Proposed environmental enhancements to the conservation areas include activities such as creek daylighting, wetlands enhancement, uplands revegetation, removal of exotic species, and debris removal.

The *Draft General Plan* designates approximately 15 percent of the total park area, or 345 acres, as conservation areas. Upland conservation areas include the southern shoreline along Powell Street in Emeryville, the shoreline along Frontage Road and Brickyard Cove, the southern shoreline adjacent to University Avenue, the Berkeley Meadow, Albany Beach, the northern and eastern perimeter of the Albany Plateau, and the Albany Neck and Bulb. Aquatic conservation areas are located immediately west of the aquatic preserve area in the Emeryville Crescent, in the Brickyard Cove in Berkeley, and west of the Albany Bulb.

**(3) Recreation.** Recreation and Recreation-Aquatic areas are those areas of the park that can accommodate more intensive recreation. These areas are characterized as having limited habitat value, and sufficient size to support the necessary parking, utilities, and infrastructure needed to support recreational uses.

The *Draft General Plan* designates approximately 56 percent of the total park area, or 1,267 acres, as recreation areas. Upland recreation areas include the Berkeley Brickyard, Berkeley North Basin Strip, the Albany Plateau, Pt. Isabel Regional Shoreline and North Pt. Isabel. Tideland recreation areas extend from the northern part of the Emeryville Peninsula through the Berkeley South and North Basins, and waters west of the Albany Mudflats.

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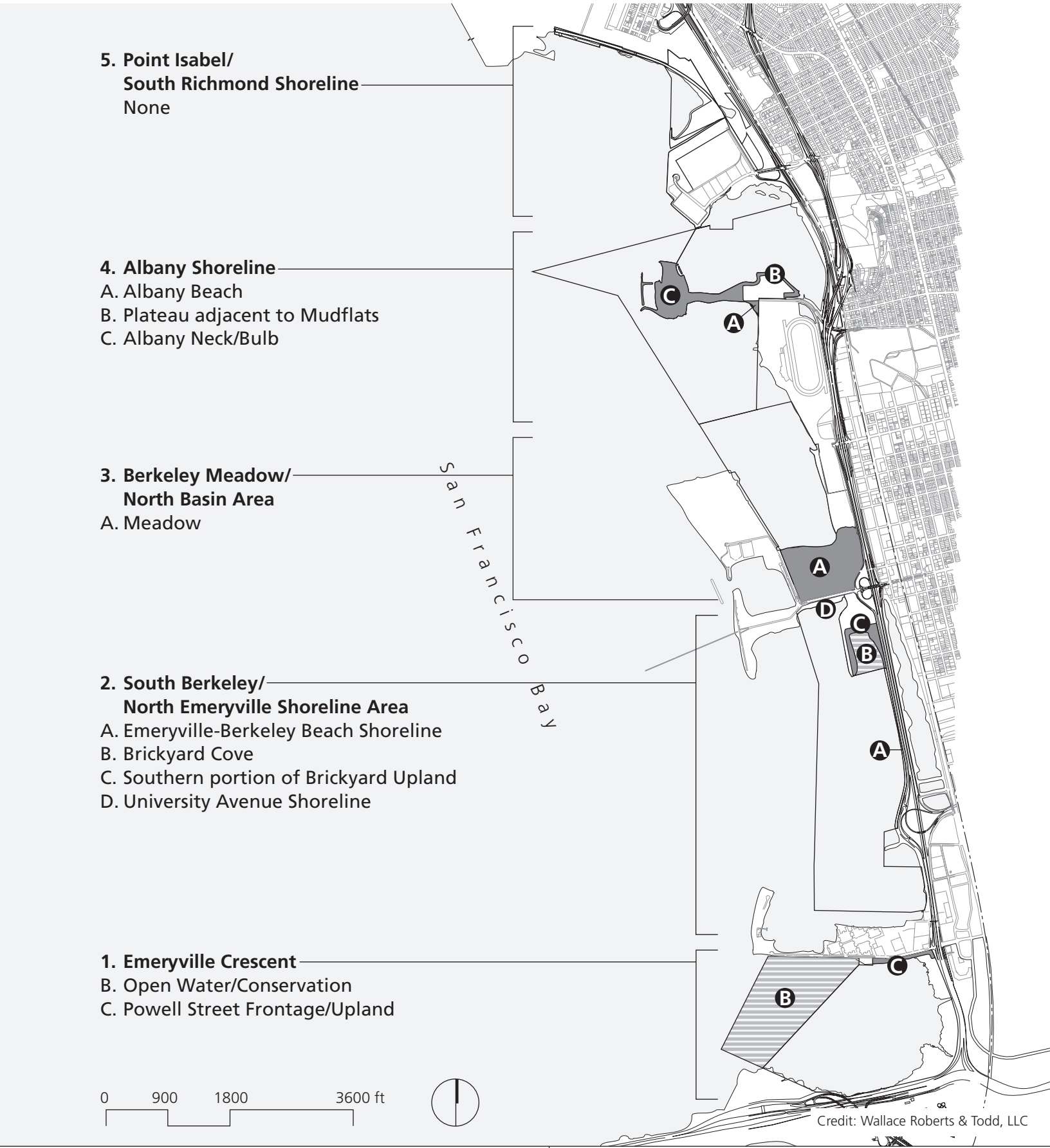
# Figure II-2a : LAND USE - PRESERVATION

Preservation

Preservation - Aquatic

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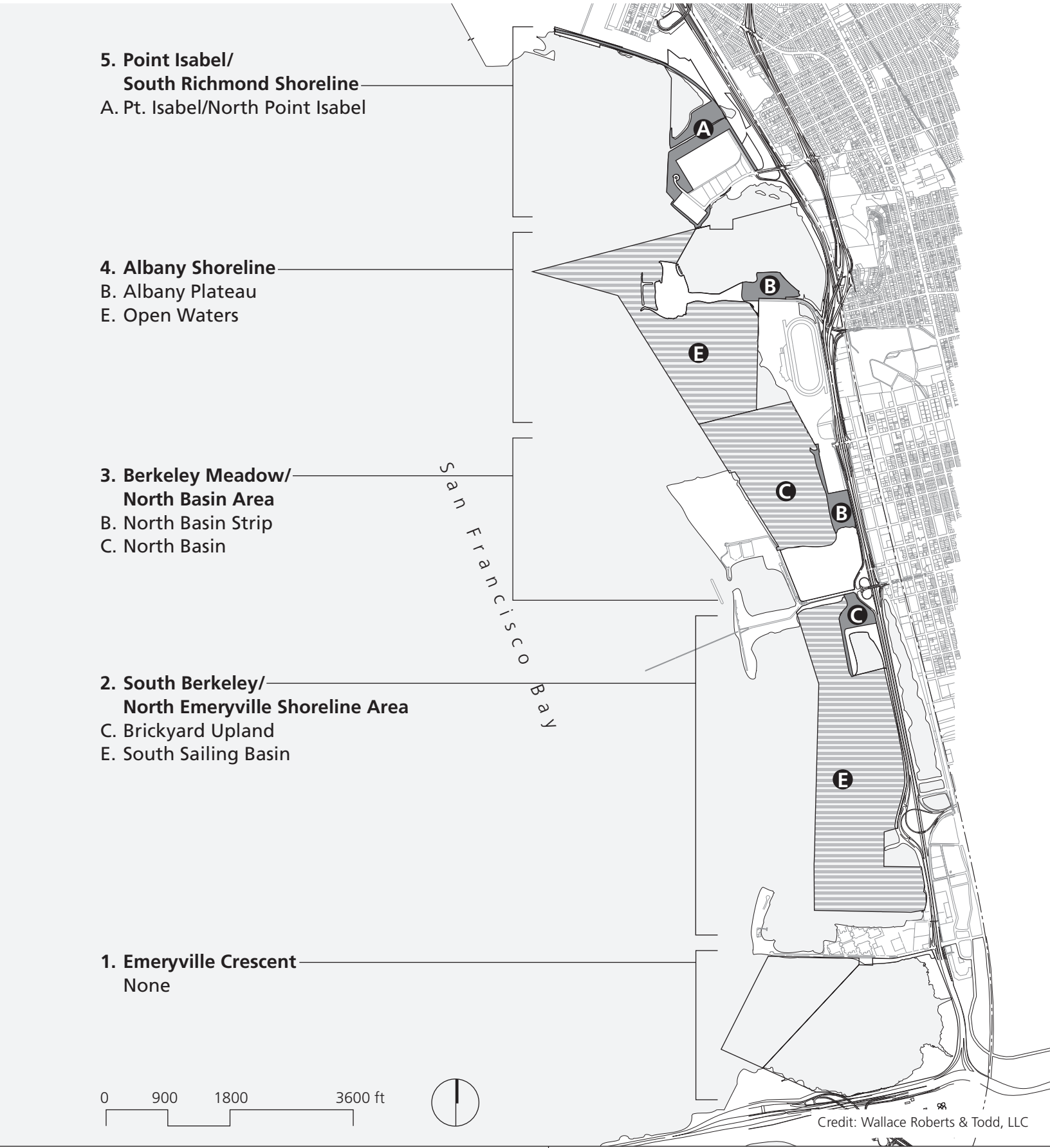
# Figure II-2b:
# LAND USE - CONSERVATION

Conservation

Conservation - Aquatic




Recreation

Recreation - Aquatic

Eastshore Park Project
EIR - Public Review Draft

# Figure II-2c:
# LAND USE - RECREATION

**c. Draft General Plan Specific Areas.** The *Draft General Plan* divides the park project into five specific areas which are designed around geographically or operationally-related areas within the park project. These specific areas were identified based on an analysis of the natural conditions and current human use of the park project. Management of the specific areas will adhere to parkwide goals and guidelines in addition to guidelines identified for each specific area. The five specific areas are: Emeryville Crescent, South Berkeley/ North Emeryville Shoreline, Berkeley Meadow/North Basin, Albany Shoreline, and Pt. Isabel/South Richmond Shoreline. These areas and the proposed *Draft General Plan* developments and improvements are shown in Figure II-1a. The San Francisco Bay Trail will be the major development that links these areas. A summary of the potential development and resource improvement projects that would result from full buildout of the proposed project is provided in Table II-2. Table II-3 provides a summary of land use designations and acreages within each specific area; and Table II-4 provides a detailed list of the potential development and improvement projects for each area. Figures II-3a, II-3b, II-3c, II-3d, and II-e provide a graphic presentation of the potential development and resource improvements in each of the five areas. Proposed *Draft General Plan* development and improvements in each of the five areas are summarized next.

**Table II-2: Eastshore Development and Improvement Summary**

| Development Summary | Quantity |
|---|---|
| Total Proposed New Building Area[a] | Up to 86,680 sf |
| Total Proposed New Parking Spaces[b] | Up to 750 |
| Total Proposed New Parking Area | 262,500 sf |
| Total Proposed Bay Trail Spur Extensions[c] | 1.3 miles |
| Total Proposed Internal Trails | 6.6 miles |
| Total Proposed New Shoreline Treatments/Promenades | 5,800 lf |
| Total Proposed New Shoreline Improvements[d] | 5,400 lf |

[a] Includes all new buildable area, including additions to existing facilities.
[b] Includes new parking spaces added to existing facilities.
[c] Does not include new Bay Trail spine segments.
[d] Does not include shoreline treatments/promenades.

Note: sf = square feet; lf = linear feet

Source: Wallace, Roberts, and Todd, LLC, 2002.

**(1) Emeryville Crescent.** This zone includes some of the richest avian habitat in the North Bay and is therefore designated as a preservation area. The management intent is to protect and enhance the habitat value of this area, while facilitating compatible public access. Access will be confined to the upland area along Powell Street. Facilities and improvements to the upland area will focus on providing opportunities for uses such as bird watching and picnicking and enhancing upland habitat. Potential development projects and improvements outlined in the *Draft General Plan* for this study area are provided in Table II-4.

**Table II-3: Specific Area Land Use Summary**

| Land Use Designation | Upland Area (Acres) | Tideland Area (Acres) | Total Area (Acres) |
|---|---|---|---|
| **Emeryville Crescent** | | | |
| Preservation Area | -- | 405 | 405 |
| Conservation Area | 5 | 150 | 155 |
| **South Berkeley/North Emeryville Shoreline** | | | |
| Preservation Area | 20 | 460 | 480 |
| Conservation Area | 21 | 19 | 40 |
| **Berkeley Meadow/North Basin** | | | |
| Conservation Area | 75 | -- | 75 |
| Recreation Area | 20 | 297 | 317 |
| **Albany** | | | |
| Preservation Area | -- | 190 | 190 |
| Conservation Area | 57 | 18 | 75 |
| Recreation Area | 20 | 394 | 414 |
| **Pt. Isabel/South Richmond Shoreline** | | | |
| Conservation Area | 10 | 45 | 55 |
| Recreation Area | 56 | -- | 56 |

Source: Wallace, Robers and Todd, LLC. 2002.

**Table II-4: Draft General Plan Specific Area Proposed Development and Enhancements**

| Area | Structures/Facilities | Parking | Trails | Environmental Enhancements |
|---|---|---|---|---|
| **EMERYVILLE CRESCENT** | | | | |
| | • Vista point/observation deck east of Fire Station (± 200-300 sf).<br>• Bird blind near the Powell St./ Frontage Rd. intersection.<br>• Picnic facilities near the western vista point/observation deck.<br>• Structural shoreline protection along shoreline parallel to Powell Street (± 600 lf). | • Up to 20 parking spaces along Powell Street east of fire station (7,000 sf). | • Shoreline trail from Powell Street/Frontage Road intersection to Fire Station (± 1,000 lf) with connection to existing shoreline trail. | • Enhance coastal scrub habitat in upland area along Powell Street by removing noxious weeds and planting locally native species.<br>• Restrict access to tidal marsh and mudflat areas. |
| **SOUTH BERKELEY/NORTH EMERYVILLE SHORELINE** | | | | |
| **Berkeley Beach, Brickyard and South of University Avenue** | • Vista point near end of Ashby Avenue.<br>• Park operations facility/visitors center (± 7,500-10,000 sf) in Brickyard.<br>• Restroom facilities (± 800-900 sf) in Brickyard.<br>• Concessions facilities, including recreation equipment, café/ restaurant, market, etc. (± 2,500-3,500 sf) in Brickyard.<br>• Structural shoreline treatment and pedestrian promenade (± 1,600 lf) along Brickyard peninsula with stairs/ramps to water.<br>• Pedestrian Bridge for Bay Trail Spur south of University Avenue (i.e., across Strawberry Creek) (± 100 ft. in length). | • Parking for up to 200 vehicles on Brickyard off Frontage Road (70,000 sf). | • Pedestrian trail system throughout Brickyard area (± 2,800 lf).<br>• Bay Trail spur and a smaller park trail along the south side of University Avenue from Frontage Road to Marina Boulevard (± 1,800 lf) (City of Berkeley sponsored). | • Removal of surface construction debris from Brickyard.<br>• Removal of invasive exotic species and revegetation with native species.<br>• Re-contouring of shoreline opposite (i.e., south of) the Strawberry Creek outfall in order to improve flushing of area and expand area of wetland habitat. |

*Table II-4 continued*

| Area | Structures/Facilities | Parking | Trails | Environmental Enhancements |
|---|---|---|---|---|
| | • Vista point at south end of Brickyard peninsula promenade (± 100-200 sf).<br>• Drop-off area and trail access to Brickyard Cove Beach.<br>• Turf area for informal recreation.<br>• Picnic facilities.<br>• Structural shoreline treatment along shoreline south of University Avenue (± 1,200 lf). | | | |
| **BERKELEY MEADOW/NORTH BASIN** | | | | |
| **Berkeley Meadow** | | | • Trail and landscaped area along north side of University Avenue from Frontage Road to Marina Boulevard (± 1,600 lf).<br>• East-west trail through Meadow from Frontage Road to Marina Boulevard (± 2,000 lf).<br>• North-South trail through meadow from University Avenue/Frontage Road intersections to pedestrian bridge over Schoolhouse Creek (±2,400 lf).<br>• North-South trail through meadow from University Avenue/Marina Boulevard intersection to Cesar Chavez Park (± 1,600 lf).<br>• Interpretive trails through Meadow (± 4,400 lf). | • Naturalize shoreline along north side of Berkeley Meadow (± 1,800 lf) creating new tidal marsh/mudflats.<br>• Enhance upland habitat on Meadow through revegetation with appropriate native species and removal of invasive exotic species.<br>• Protect and/or enhance significant areas of existing seasonal wetland. |

*Table II-4 continued*

| Area | Structures/Facilities | Parking | Trails | Environmental Enhancements |
|---|---|---|---|---|
| **North Basin Strip** | • Hostel with 20-40 beds (± 12,000-40,000 sf).<br>• Restroom facilities (approximately 800-900 sf).<br>• Boathouse and recreation concessions facilities (±8,000-10,000 sf).<br>• Interpretation Center (10,000-15,000 sf).<br>• Pedestrian Bridge linking North Basin Strip and Berkeley Meadow (i.e., across newly daylighted Schoolhouse Creek) (± 100 ft. in length).<br>• Structural shoreline treatment and pedestrian promenade (± 2,400 lf) with stairs/ramps to water.<br>• Small craft launch.<br>• Turf area for informal recreation.<br>• Picnic facilities. | • Parking for up to 350 vehicles on North Basin Strip off Frontage Road (122,500 sf). | | • Daylight Schoolhouse Creek, revegetate with natural riparian vegetation, and create freshwater wetlands. |
| **ALBANY** | | | | |
| **Albany Beach** | • New restroom facility (± 500-600 sf), at Albany Beach (assumes unsewered vault toilets).<br>• Boardwalks and protective fencing through dune area at Albany Beach.<br>• New water access at south end of Beach. | • Add up to 60 new spaces (21,000 sf ) (20 spaces existing) | • Extend Bay Trail spur along Beach toward Golden Gate Fields. | • Protect and expand dune area at Albany Beach.<br>• Removal of surface hazards.<br>• Removal of invasive exotic plant species and revegetation with native plant species. |
| **Albany Plateau** | • New restroom facility (± 500-600 sf), at Plateau (assumes unsewered vault toilets).<br>• Three to five multiple-use sports fields (e.g., soccer and baseball/softball) on the Plateau (no night lighting). | • 60 existing spaces located off-site, e.g., on Golden Gate Fields under joint use arrangement between sports field operator and Golden Gate Fields (20 spaces existing on Buchanan Road) | | • Protect riparian habitat along Buchanan Street south of Plateau.<br>• Enhance vegetative buffer along north and east edges of Plateau adjacent to Albany Mudflats.<br>• Removal of surface hazards. |

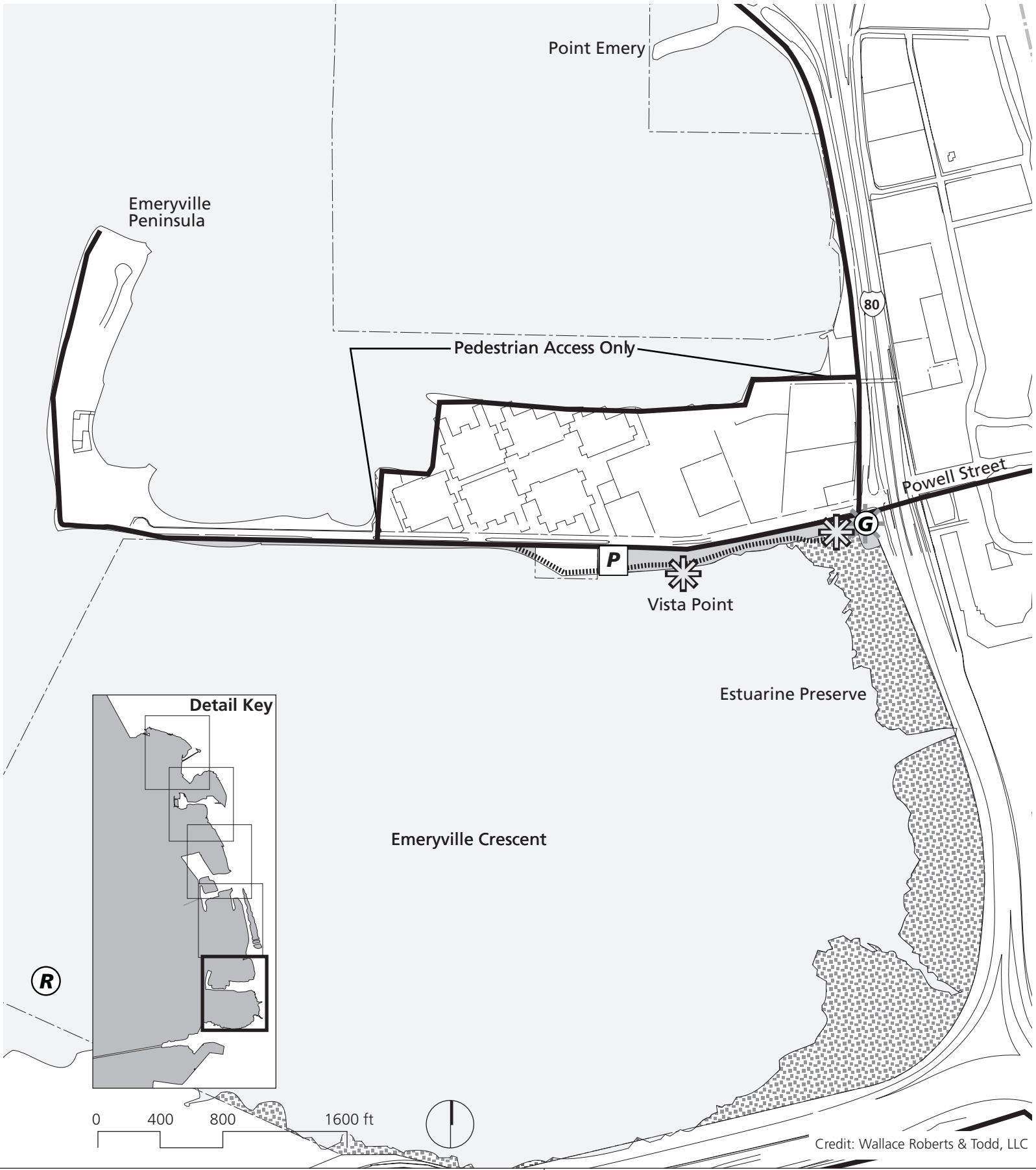
*Table II-4 continued*

| Area | Structures/Facilities | Parking | Trails | Environmental Enhancements |
|---|---|---|---|---|
| | • Concession services building for snack bar, equipment storage, etc. (± 400-500 sf)<br>• Turf area for informal recreation immediately west of sports fields area.<br>• Picnic facilities immediately west of sports fields area.<br>• New vista point (± 100-200 sf each), overlooking the Albany Mudflats. | | | • Removal of invasive exotic plant species and revegetation with native plant species. |
| **Albany Neck and Bulb** | • Remove surface hazards and replace with new shoreline protection along south side of Neck and Bulb (± 3,000 lf).<br>• Stairs/ramp to south side of Albany Neck to enhance water access (no vehicle access to this point).<br>• New vista point (± 100-200 sf each), on west end of Albany Bulb. | | • Bay Trail spur extension west to end of Albany Bulb (± 2,000 lf).<br>• Maintain and enhance trail system through Albany Neck and Bulb (± 2.3 miles). | • Removal of surface hazards.<br>• Removal of invasive exotic plant species and revegetation with native plant species. |
| **Albany Mudflats** | | | | • Restrict public access to Albany Mudflats. |
| **Pt. ISABEL/SOUTH RICHMOND SHORELINE** | | | | |
| | • Restroom facility (300-400 sf) west of Isabel Road.<br>• Shoreline treatment and pedestrian promenade (± 1,800 lf) along west shoreline of Pt. Isabel and North Pt. Isabel.<br>• Pedestrian Bridge across Hoffman Channel, linking Pt. Isabel and North Pt. Isabel (± 200 lf). | • Add up to 30 new spaces (10,500 sf) [50 spaces existing] to East Parking Area off Rydin Road.<br>• New 30-space parking area (10,500 sf) [200 spaces existing] to west side of Isabel Road near new water access area (just north of EBMUD). | • Connection of Bay Trail Spur from Central Avenue around Bay side of EBMUD facility (± 3,200 lf).<br>• Maintain existing internal trail system (± 1.3 miles) in Pt. Isabel and North Pt. Isabel. | • Enhance vegetation buffer along north shore of North Pt. Isabel.<br>• Removal of invasive exotic plant species and revegetation with native plant species in Hoffman Marsh and along South Richmond shoreline.<br>• Remove exotic invasive species along north shore of Richmond shoreline. |

*Table II-4 continued*

| Area | Structures/Facilities | Parking | Trails | Environmental Enhancements |
|---|---|---|---|---|
| | • Turf area with picnic facilities and equipment lay-down area at new water access area immediately north of EBMUD facility.<br>• Stairs/ramp to provide water access from shoreline promenade (north of EBMUD).<br>• Protective fencing along north shore of North Pt. Isabel from Bay Trail to promenade (± 2,000 lf).<br>• Two new vista points along existing Bay Trail north of Pt. Isabel (± 100-200 sf each). | | | |

Source: Wallace, Roberts, and Todd, LLC, 2002.

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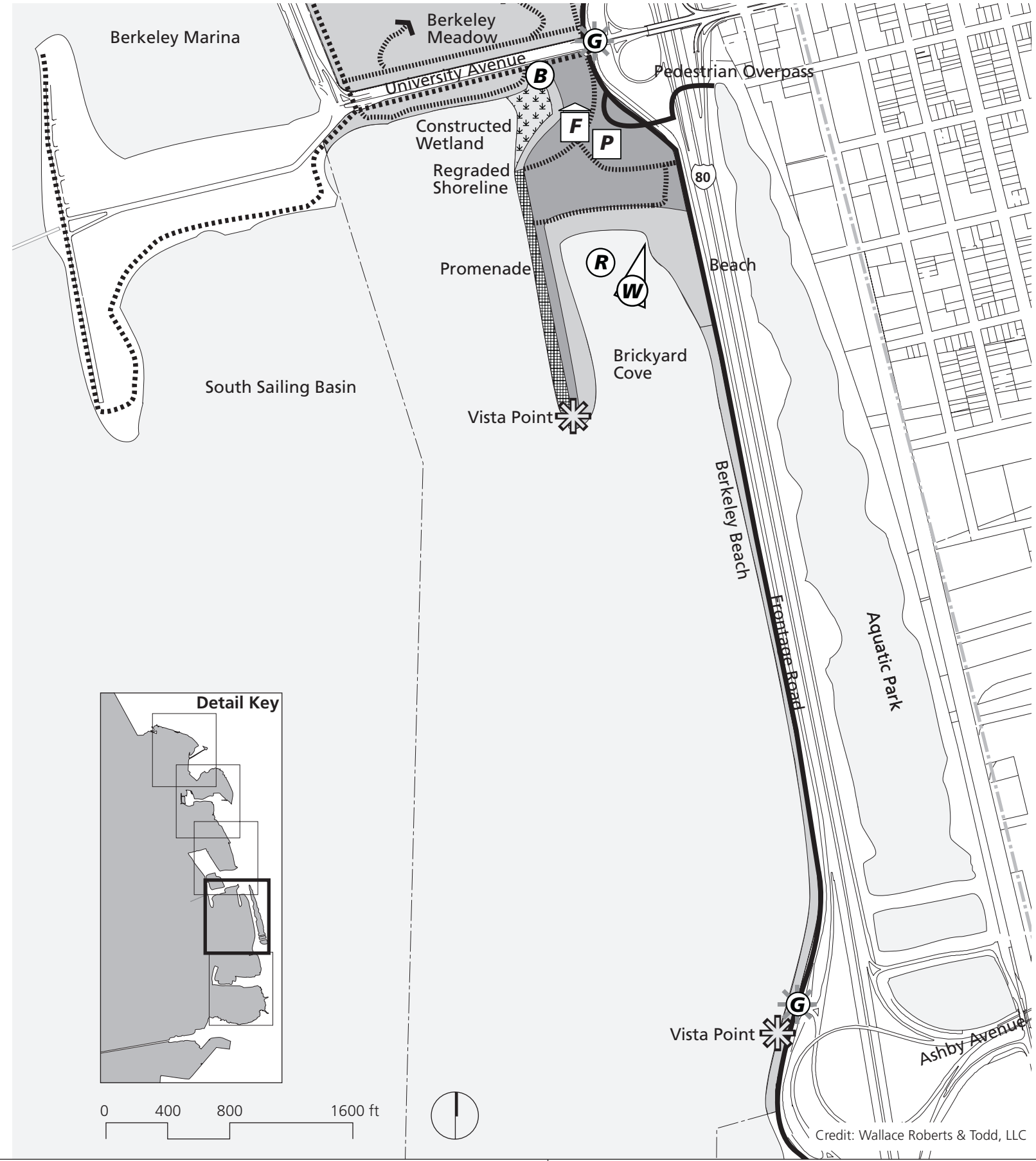
# Figure II-3a: EMERYVILLE CRESCENT

Recreation
Conservation
Preservation
Promenade
Constructed Wetland

B Bridge
R Restoration Area
P Parking
G Gateway
Vista Point

Bay Trail-Exist
Bay Trail-Prop'd
Park Trail
F Facility
W Water Access

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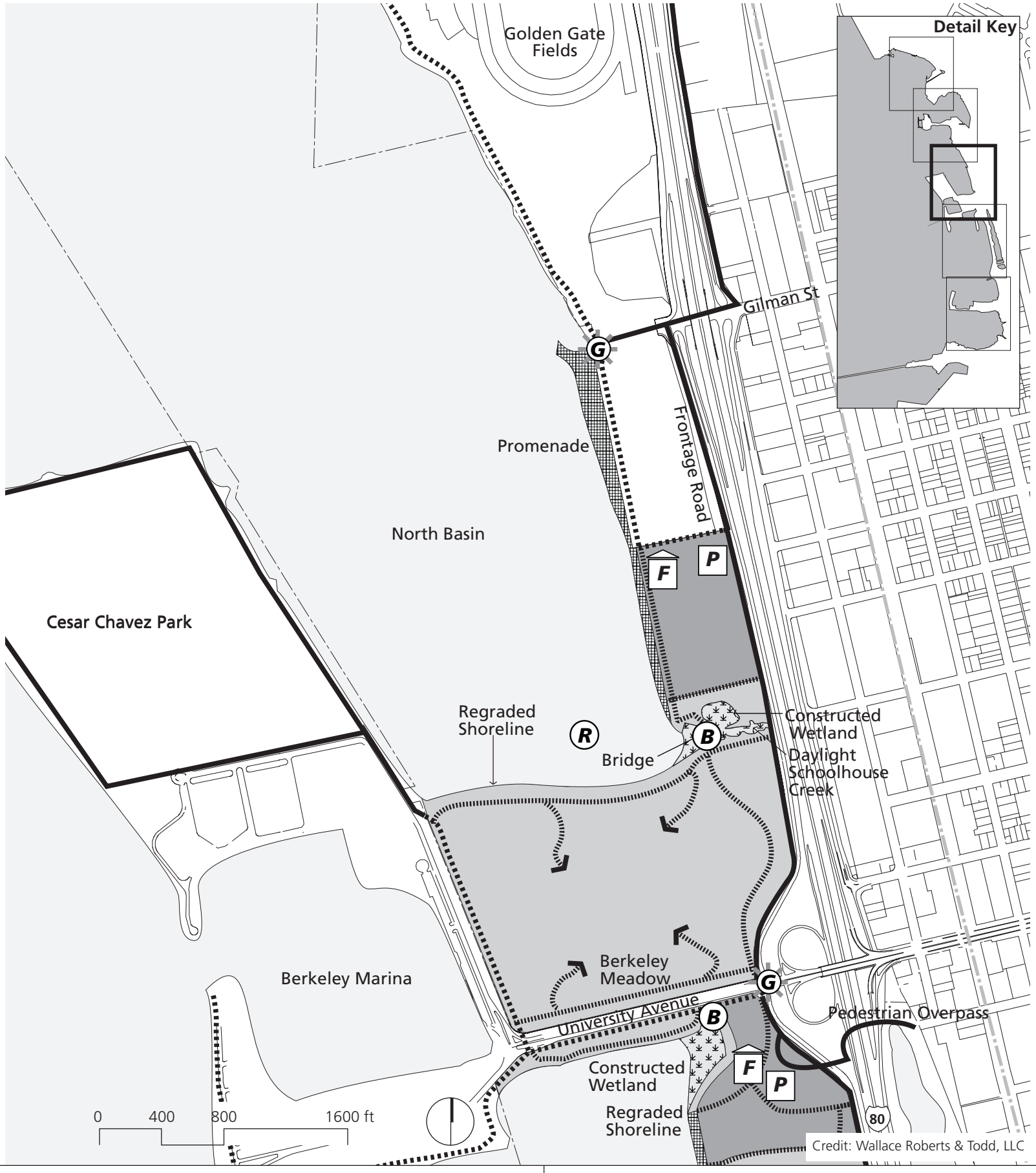
# Figure II-3b: SOUTH BERKELEY-NORTH EMERYVILLE

Recreation
Conservation
Preservation
Promenade
Constructed Wetland
Bridge
Restoration Area
Parking
Gateway
Vista Point
Bay Trail-Exist
Bay Trail-Prop'd
Park Trail
Facility
Water Access

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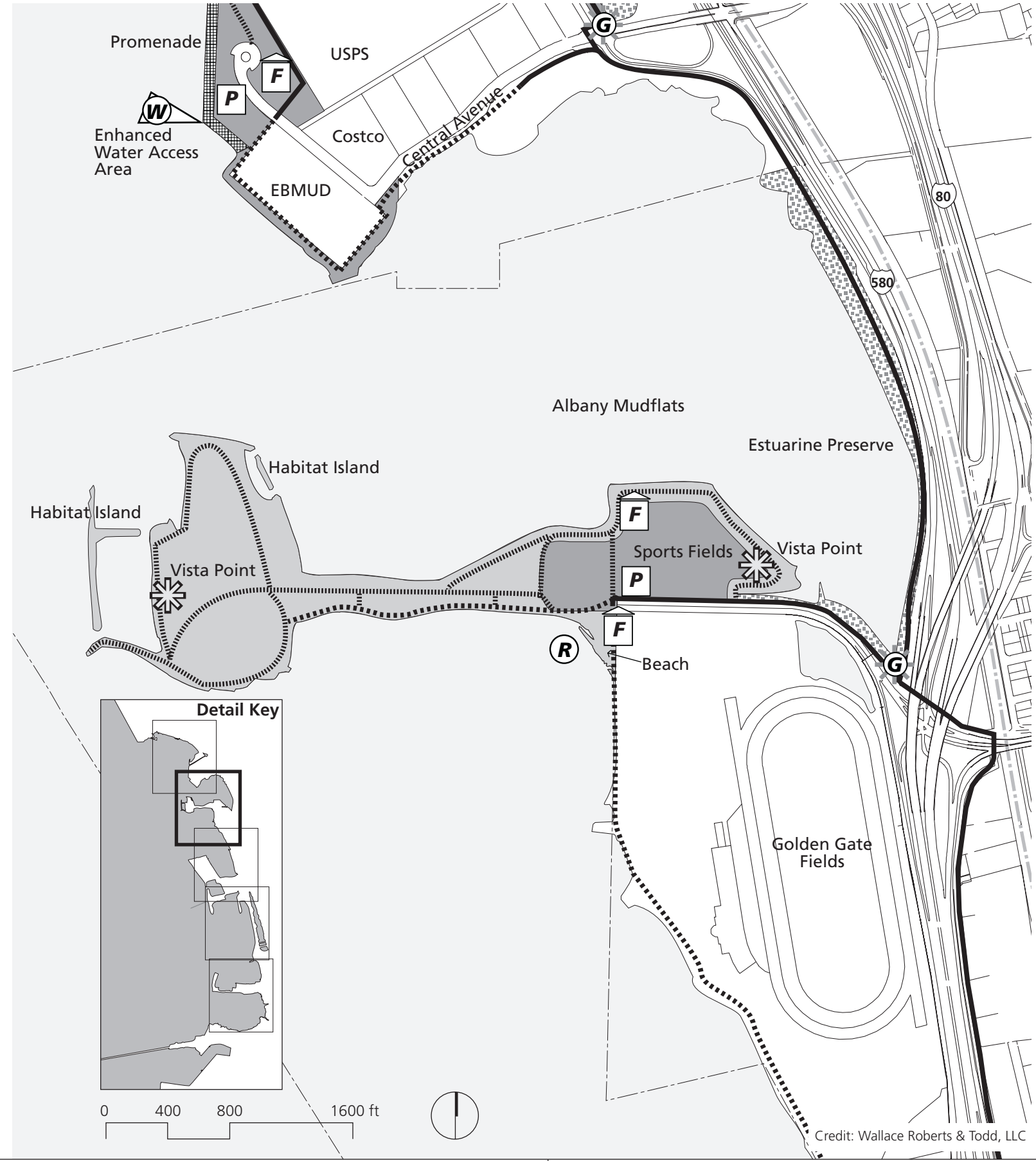
# Figure II-3c: BERKELEY MEADOW/NORTH BASIN

Recreation
Conservation
Preservation
Promenade
Constructed Wetland
Bridge
Restoration Area
Parking
Gateway
Vista Point
Bay Trail-Exist
Bay Trail-Prop'd
Park Trail
Facility
Water Access

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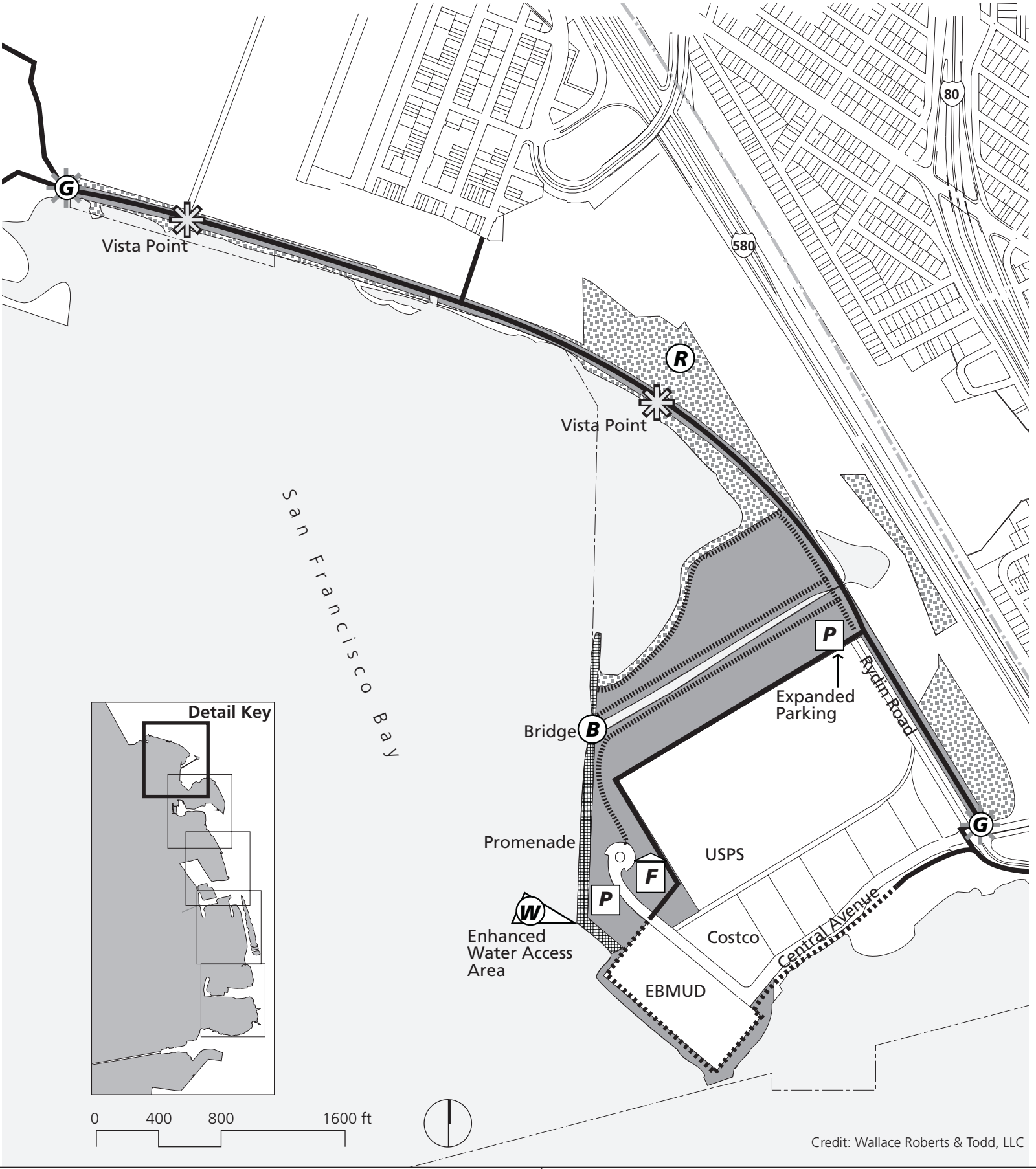
# Figure II-3d:
# ALBANY SHORELINE

Recreation
Conservation
Preservation
Promenade
Constructed Wetland

B Bridge
R Restoration Area
P Parking
G Gateway
Vista Point

Bay Trail-Exist
Bay Trail-Prop'd
Park Trail
F Facility
W Water Access

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# Figure II-3e: PT. ISABEL/SOUTH RICHMOND SHORELINE

**(2) South Berkeley/North Emeryville Shoreline.** This zone includes a diverse range of shoreline conditions. The open waters of the South Sailing Basin and expansive views of San Francisco and the Bay Bridge dominate this zone. The management intent is to provide a range of recreational opportunities that respond to the zone's diverse features, including open waters, sandy beaches, protected cove and mudflats, upland habitat, and developed areas. The geographic location and disturbed condition of the majority of the upland area of the Brickyard makes it an appropriate area for locating the operations center for the park, various visitor-serving facilities, and enhanced urban recreation. Potential development projects and improvements outlined in the *Draft General Plan* for this study area are provided in Table II-4.

**(3) Berkeley Meadow/North Basin.** This area, which includes the Berkeley Meadow, the North Basin, and the North Basin Strip, serves as a transitional area between the urban areas of Berkeley and the Berkeley Marina. The majority of this area is designated for conservation uses; however, the development of visitor-serving and recreational facilities are proposed for the North Basin Strip. Potential development projects and improvements outlined in the *Draft General Plan* for this study area are provided in Table II-4.

**(4) Albany.** The *Draft General Plan* designates the Neck, Bulb, and Beach in the Albany specific area as conservation areas to preserve the sense of naturalness and isolation found there. The Albany Mudflats provide significant avian habitat and is designated as a preservation area. The management intent is to protect and enhance the habitat value of this area, while also enhancing the public's ability to appreciate this resource from the adjacent shoreline areas. The Albany Plateau, due to its generally level terrain, is designated for active recreation, including both formal sports fields and informal recreation areas. Since State Parks is not in the practice of developing or operating formal sports facilities, the sports fields component would be developed and operated under a separate agreement with an independent agency or joint powers authority. Potential development projects and improvements outlined in the *Draft General Plan* for this study area are provided in Table II-4.

**(5) Pt. Isabel/South Richmond Shoreline.** The Pt. Isabel/South Richmond Shoreline specific area includes the greatest amount of existing improvements of any other specific area due to East Bay Regional Park District's operation of the Pt. Isabel Regional Shoreline and the existing Bay Trail. The Pt. Isabel/North Pt. Isabel area is also the most intensely used area due to its designation as an off-leash dog facility. The management intent for the Pt. Isabel/North Pt. Isabel sub-zone is to continue to allow off-leash dog use under an agreement with an independent operator, but also to encourage more diverse use by providing additional facilities. The Hoffman Marsh and South Richmond Shoreline areas are designated as preservation areas due to their high habitat value.

**d. Circulation**. The *Draft General Plan* includes Circulation guidelines that provide guidance for future transportation developments. Access to the Eastshore Park project will be provided by several modes of transport, such as vehicular, pedestrian, bicycles, and boat. Figure II-4 illustrates the primary circulation system that serves the Eastshore Park Project.

Six park entrances (Gateways) are envisioned for Eastshore Park, where I-80 and I-580 access and local street connections are available. The Gateways are located at Powell Street in Emeryville; Ashby Avenue, University Avenue, and Gilman Street in Berkeley; Buchanan Street in Albany; and Central Avenue in Richmond.

Parking facilities will be provided within the four specific areas: Emeryville, Berkeley, Albany, and the South Richmond Shoreline. A total of 270 parking spaces is currently provided within the project site; the *Draft General Plan* anticipates the addition of up to 750 new parking spaces, for a total of 1,020 parking spaces at full buildout.

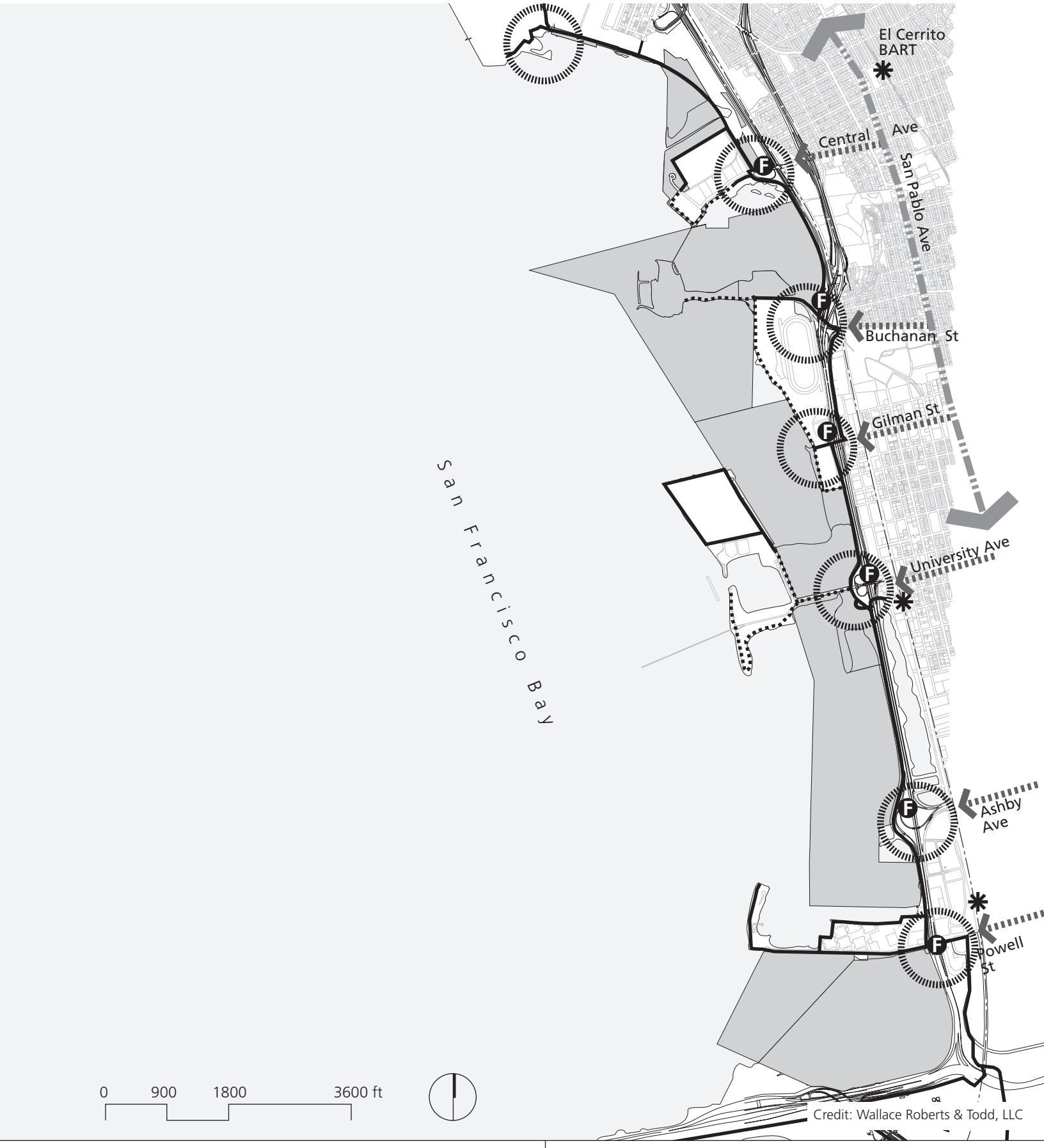
At least initially, public transit to the project site will be provided by bus (i.e., at some point in the future, there is the possibility of ferry and/or water taxi service). Bus access will be provided by AC Transit routes 43, 51, L, LC, and Y. The Amtrak stations in Emeryville and Berkeley are near enough to portions of the park to allow intermodal and pedestrian access. The Emeryville station is located just off Powell Street and is accessible to AC Transit Route Y, which goes to the Emeryville Peninsula. The Berkeley station is located beneath the University Avenue overpass at Third Street. The pedestrian bridge over I-80 (completed in February 2002) provides pedestrian and bicycle access from the Amtrak station to the Berkeley Brickyard area of the park.

The San Francisco Bay Trail provides primary pedestrian and bicycle access to and through the park. The majority of the Bay Trail in the project vicinity is located in public rights-of-way that are adjacent to, but outside of the Eastshore park project. Only limited portions of the Bay Trail are located on lands owned by the State that are part of the project. The Bay Trail extends parallel to I-80 and currently includes spurs to shoreline areas including: the Emeryville Peninsula, Albany Plateau, Albany Beach, and the Pt. Isabel Regional Shoreline. The *Draft General Plan* proposes and/or assumes the following additional spurs to either connect existing Bay Trail spine segments or to enhance access to the shoreline: 1) completion of the trail spine along Frontage Road; 2) a spur to connect the Bay Trail at University Avenue to the segment around the perimeter of Cesar Chavez Park; 3) a spur to connect the Gilman Street and Frontage Road segments along the North Basin Strip perimeter; 4) a spur from Buchanan Street west along the southern shore of the Albany Neck to the Albany Bulb; and 5) a spur to connect the Bay Trail segment in the Pt. Isabel Regional Shoreline to the Central Avenue segment so that the Bay Trail extends along Central Avenue and around the EBMUD facility along the shoreline.

## D. ANTICIPATED ADOPTION AND IMPLEMENTATION

The *Eastshore Park Project Draft General Plan* is anticipated to be adopted by the California Department of Parks and Recreation in November 2002. For the purposes of this environmental evaluation, the *Draft General Plan* is expected to be fully implemented in 2022. Currently, there is no projected development phasing for the Eastshore Park Project, as development of the park is contingent upon the availability of bond proceeds, grants, and/or other sources of funding.

No particular area or facility within the park has development or improvement priority. Some areas will be developed or improved sooner than others; however, the order of improvements does not signify "priority," but rather the availability of funding. Enhancements funded as mitigation for other projects are more likely to be implemented in the near term. Improvements that are independently funded by concessionaires and operators, such as the sports fields on the Albany Plateau, also may occur sooner than other developments or improvements because they are not dependent on State funding. Similarly, Bay Trail improvements may occur sooner than other developments or improvements because they can be funded from multiple sources and can be incorporated as circulation improvements that are not directly related to the Eastshore Project.

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# Figure II-4: CIRCULATION

## E. INTENDED USES OF THE EIR

In compliance with the California Environmental Quality Act (CEQA), this report describes the environmental consequences of the *Draft General Plan*. This EIR is designed to fully inform State Parks officials, in addition to other responsible agencies, persons, and the general public of the potential environmental effects of the proposed project.

State Parks is the Lead Agency for environmental review of the *Draft General Plan*, and is responsible for submitting the Notice of Preparation (NOP) to appropriate agencies to identify any issues of concern prior to preparation of the EIR. The NOP was circulated on February 15, 2002 to public agencies and neighborhood organizations and persons considered likely to be interested in the project and its potential impacts. The NOP was also available for public review on the State Parks website. A copy of the NOP, the Eastshore Park Project *Draft General Plan* Initial Study, and all written responses are provided in Appendix A of this EIR. State Parks is also responsible for submitting the EIR for review to appropriate public agencies and for submitting the document to the State Office of Planning and Research. Table II-5 presents a list of agencies that are expected to use this EIR in their decision-making, as well as the associated permits and approvals that would be required to implement the proposed project.

**Table II-5: Agency Approvals and Regulatory Review**

| Lead Agency | Permit/Approval |
|---|---|
| State of California Department of Parks and Recreation (State Parks) | • *Draft General Plan* review and acceptance<br>• EIR Certification |
| **Responsible Agencies** | |
| East Bay Regional Park District (EBRPD) | • *Draft General Plan* review and comment |
| San Francisco Bay Conservation and Development Commission (BCDC) | • Approval of any physical development located in the Bay or within 100 feet of the shoreline |
| East Bay Municipal Utility District (EBMUD) | • Approval of water line, water hookups and review of water needs<br>• Approval for sewer treatment capacity |
| California Department of Transportation (Caltrans) | • Approval of plans and encroachment permits |
| California Regional Water Quality Control Board (RWQCB) | • National Pollutant Discharge Elimination System (NPDES) permit for stormwater discharge<br>• Section 401 Water Quality Certification under the Clean Water Act |
| US Army Corps of Engineers (Corps) | • Section 10 or Section 404 Permits for impacts on wetlands and waters of the U.S. |
| Environmental Protection Agency (EPA) | • Oversight of Section 404 Program |
| **Other Agencies** | |
| Pacific Bell (PacBell) | • Approval of communication line improvements and connection permits |
| Pacific Gas & Electric (PG&E) | • Approval of natural gas improvements and connection permits |
| California Department of Toxic Substances Control (DTSC) | • Approval and oversight of hazardous material remediation |
| Bay Area Air Quality Management District (BAAQMD) | • Review of air quality pollution emissions |
| **Trustee Agencies** | |
| California Department of Fish & Game (CDFG) | • Address state Endangered Species Act requirements and protection measures for other special-status species. |
| US Fish and Wildlife Service (USFWS) | • Biological opinion and incidental take permits, if required, for species listed as Threatened and Endangered under the federal Endangered Species Act. |
| National Marine Fisheries Service (NMFS) | • Address protection measures for anadromous fish, marine fish, and marine mammals, including Endangered Species Act requirements for federally listed species. |
| State Lands Commission (SLC) | • Approvals for facilities or activities in sovereign and public trust lands including coastal tide lands per requirements of the Public Trust Doctrine. |

Source: LSA Associates Inc., 2002.

# III. SETTING, IMPACTS AND MITIGATION MEASURES

This chapter contains an analysis of each environmental topic that has been identified through preliminary environmental analysis for the Eastshore Park Project General Plan EIR prepared for the California Department of Parks and Recreation (State Parks) and, as such, constitutes the major portion of this Draft EIR. Sections A through L of this chapter describe the environmental setting of the proposed project (the *Draft General Plan*) as it relates to each specific issue, the impacts resulting from implementation of the project, and mitigation measures that would reduce impacts of the project, as necessary.

## A. DETERMINATION OF SIGNIFICANCE

Under CEQA, a significant effect is defined as a substantial, or potentially substantial, adverse change in the environment.[1] The *CEQA Guidelines* direct that this determination be based on scientific and factual data. Each impact evaluation discussion in this chapter is prefaced by a summary of criteria of significance. These criteria have been developed in a cooperative process with State Parks, East Bay Regional Park District (EBRPD), Coastal Conservancy, and LSA Associates, Inc. staff using the *CEQA Guidelines.*

## B. ISSUES ADDRESSED IN THE DRAFT EIR

The following environmental issues are addressed in this chapter:

A. Aesthetics
B. Air Quality
C. Biological Resources
D. Cultural Resources
E. Geology and Soils
F. Hazards
G. Hydrology and Water Quality
H. Land Use and Public Policy
I. Noise
J. Public Services
K. Transportation and Circulation
L. Utilities

[1] Public Resources Code 21068.

## C. FORMAT OF ISSUE SECTIONS

Each environmental issue section has two parts: 1) Setting, and 2) Impacts and Mitigation Measures for the proposed project. Each impacts and mitigation measures subsection is further divided into an initial discussion of *less-than-significant* impacts and a following discussion of *significant* impacts. Any identified significant impacts are numbered and shown in bold type, and the corresponding mitigation measures are numbered and indented. Significant impacts and mitigation measures are numbered consecutively within each topic and begin with an acronymic reference to the impact section (e.g., LU). The following symbols are used for individual topics:

| | |
|---|---|
| VIS: | Aesthetics |
| AIR: | Air Quality |
| BIO: | Biological Resources |
| CULT: | Cultural Resources |
| GEO: | Geology and Soils |
| HAZ: | Hazards |
| WTR: | Hydrology and Water Quality |
| LU: | Land Use and Public Policy |
| NOI: | Noise |
| SVC: | Public Services |
| TRAF: | Transportation and Circulation |
| UTL: | Utilities |

Impacts are also categorized by type of impact as follows:

| | | |
|---|---|---|
| S | = | Significant |
| SU | = | Significant and Unavoidable |
| LTS | = | Less than Significant |

These notations are provided following each identified significant impact and each mitigation measure to identify their significance before and after mitigation.

# A. AESTHETICS

The following section describes visual resources within and in the vicinity of the Eastshore Park project site, summarizing information contained in the *Eastshore Park Project Resource Inventory* (*Resource Inventory*).[1] Potential impacts related to visual resources that could result from implementation of the proposed project are discussed, and mitigation measures are recommended, as necessary.

## 1. Setting

This section describes the visual resources of the project site, surrounding views, and factors that influence the aesthetic perception of the landscape. Please refer to the Scenic Resources section of the *Resource Inventory* for more detailed information.

**a. Landscape Character.** The project site's shoreline location offers visitors panoramic views of San Francisco Bay and an array of distinctive landmarks (e.g., Alcatraz, Golden Gate Bridge, Mt. Tamalpais, UC Berkeley Campanile). Its urban setting also affords visitors views of urban elements such as freeways and industrial areas. Together, the 8½ miles of the project site and the varied shoreline created by the numerous peninsulas that punctuate the project site's landscape provide significant variety in both viewpoint orientation and available viewsheds, creating a wealth of viewing conditions and opportunities. Since much of the upland area within the project site was created by landfill operations, there are few visual resources of significance (e.g., topographic changes, geologic formations, or stands of mature trees) in the project site's upland areas. In other words, views from the project site encompass many of the visual elements that make the Bay Area famous, while views of the project site itself, while still visually appealing, are not as dramatic.

*View 1: Mt. Tamalpais can be seen from Pt. Isabel*

**b. Views Within the Project Site.** The project site's most significant visual resources are available panoramic views from the site. These views include west-facing views of San Francisco Bay and the distant skyline, as well as panoramas of the East Bay Hills that form the skyline to the east. In addition to the Bay views, with their combination of water, sky, and distinctive natural and manmade features, are appealing views of urbanized areas to the east. The project site provides numerous vantage points from which to take advantage of available views. Those areas that provide the highest quality views include the Berkeley Beach and Brickyard, Albany Beach, Neck, and Bulb, Pt. Isabel, and the Bay Trail through the Meeker Slough in Richmond between Hoffman

[1] The *Resource Inventory* is a public document that is available on the Eastshore Park website: www.eastshorestatepark.org.

Marsh and Marina Bay (see View 1). Each of these areas provides sweeping views to the west of the Bay, in addition to views of the East Bay hills.

The peninsulas that extend from the shoreline divide the project site into a series of five geographically-defined visual units. While similar, each of these visual units has its own visual character associated with its geographic context, the character of its vegetation, the amount of existing development, and the quality of its views. Typically, a visual unit is defined by a series of ridgelines, and the focus of views and the discussion of visual resources is on what exists within the interior of the project site. However, a unique feature of the visual units of Eastshore Park project site is that water forms the interior of the units, so the visual focus and visual resources tend to be those elements around the Bay edge.

To varying degrees, the visual units generally share three common characteristics: they expand to the west in dramatic Bay views, they expand to the east to views of the East Bay hills, and they are defined on the north and south by peninsulas that extend into the Bay. Following is a discussion of the visual units within the project site.

**(1) Emeryville Crescent.** The Emeryville Crescent is a focused visual unit that is clearly defined by the Emeryville peninsula and the Bay Bridge landing and toll area. The marshlands provide a high quality foreground element that complements the scenic vista out to the Bay. These coastal marshes are among the most visually distinctive natural areas in the project site, along with the wetlands in the Emeryville Crescent and the Albany Mudflats, and provide opportunities for bird-watching. Views to the east are generally not distinctive.

**(2) Emeryville Shoreline/Berkeley Beach/Brickyard Cove.** This visual unit is much broader and less focused in nature than many of the other visual units within the project site. The lack of upland area along the Emeryville/Berkeley Beach shoreline places the visual emphasis on the Bay and views to the west. Points along West Frontage Road offer clear Bay views, including the Golden Gate Bridge, Alcatraz Island, and the Bay Bridge. Fore-and middle-ground views include the Berkeley Marina and associated restaurants, trees and shoreline areas, and the Berkeley Pier. Unlike the Emeryville Crescent, there is no significant marshland or habitat in this stretch that constitutes a distinctive visual feature. Views to the east from this area include portions of the Berkeley Hills with distinct landmarks such as Lawrence Laboratory, the Campanile on the UC Berkeley campus, and the Claremont Hotel. The quality of views to the east benefits from the presence of Aquatic Park on the east side of the freeway, which has prevented the development of industrial uses there.

**(3) North Basin/Albany Bulb.** This visual unit is significantly different from the others. First, Cesar Chavez Park generally closes off westward views to the Bay from the south end of this visual unit. Also, this visual unit has much more upland area than the other units. This upland area not only includes the Meadow and North Basin, but also Golden Gate Fields. As in the Berkeley Beach visual unit to the south, views to the east include attractive vistas of the Berkeley Hills, but the quality of these views is tempered by industrial and commercial development along the east side of the freeway that forms the foreground of the views. The combination of the relatively low visual quality of the Golden Gate Fields facilities, the absence of distinctive visual features within the Meadow and North Basin, urban development to the east, and limited Bay views from the southern half of the visual unit results in the unit having lower overall visual quality than the other visual units.

**(4) Albany Mudflats.** Like the Emeryville Crescent, the Albany Mudflats form a very focused and well-defined visual unit. As in the Emeryville Crescent, the Albany Mudflats also include marshland areas that provide an attractive foreground element within the unit. However, unlike the Emeryville Crescent, this visual unit is bordered by land masses on the west side, and so does not provide sweeping Bay views. Views to the east from this visual unit differ significantly from the character of eastward views from the other visual units. Albany Hill forms a distinctive visual feature and terminus to views to the east. The combination of high-rise residential, single-family hillside development, and dense eucalyptus groves on this unique topographic feature contributes to the visual variety and interest associated with views to the east.

**(5) Pt. Isabel/Hoffman Marsh.** This visual unit is less well-defined than the other visual units because there is no topographic feature that encloses the north end. Also, the Bulk Mail Center tends to splinter the visual unit, by visually isolating the portion of Hoffman Marsh that wraps around the east side of the Center (e.g., between Rydin Road and I-580). The distant San Francisco skyline, Brooks Island, and the well-established marshlands that extend the length of the visual unit provide a rich visual element within the unit. High quality views exist across the Bay and along the shoreline from the tip of Pt. Isabel bayside of the EBMUD water treatment plant. Industrial and commercial development can be seen to the north, east, and south.

**c. External Views of the Project Site.** Given its 8½-mile length, the project site can be seen from numerous off-site viewpoints. These viewpoints generally fall into three categories: views from area roadways, views from adjacent and nearby properties, and views from the Bay. Generally, as is the case with views from the project site, the external views with the highest scenic value are not of the project site itself, but of the Bay and the distinctive skyline elements to the west. Following are descriptions of these significant public views.

**(1) Views From Area Roadways.** Area roadways provide views of the project site to the greatest number of people. The I-80 corridor is one of the most heavily traveled corridors in the Bay Area and parallels the project site for most of its length. Similarly, I-580 is located north of the project site. Travelers on I-80 and I-580 have both distant and close up views of portions of the project site. In addition to the freeways, other roadways or trails that provide views of the project site include the lateral entry roadways that connect to the project site from areas east of the freeway, including Powell Street, Ashby Avenue, University Avenue, Gilman Street, Buchanan Street, Central Avenue, Bayview Avenue; the Berkeley Pedestrian/Bicycle Bridge over I-80/I-580; and the frontage road that parallels the project site from Powell Street to Gilman Street.

The views from these roadways are influenced by a number of conditions including the direction of travel, the speed of travel, and the elevation of the roadway. Generally, the cone of vision from an automobile tends to be focused within 60 to 90 degrees centered on the front of the car. As speed increases the width of the cone generally decreases because of the need to concentrate on the road and other traffic.

*Views from I-80/I-580.* Two general viewing conditions occur along the I-80/I-580 corridor: areas with significant scenic, distant views because there is little or no land area and development between the freeway and the Bay, and areas where land and development in the foreground generally restrict distant and scenic views. The segments of I-80/I-580 between the Bay Bridge toll area and Powell Street, and north of the Emeryville peninsula to the Brickyard, provide views with the highest

scenic value because they provide panoramic views of the Bay. The segment from the Brickyard north to Albany Hill provides views primarily of the upland areas of the project site and Golden Gate Fields, with only limited views to the Bay. The quality of the views available from this segment varies from rather non-descript along the Meadow and North Basin to less appealing along Golden Gate Fields.

Overall, views available to southbound travelers have a higher scenic quality than those available to northbound travelers. Generally, the road alignment provides more interesting view corridors to southbound travelers, but the southbound lanes are also closer to the shoreline, so median barriers and extra lanes of traffic do not obstruct views. However, chain link fencing along the top of barriers detracts from the overall visual experience of driving along I-80/I-580. A third factor influencing the visual experience is that rush hour congestion frequently slows traffic on the southbound lanes, thus providing morning commuters with time to appreciate the Bay views.

The focus of the highest quality views from I-80/I-580 tends to be on the middle and background elements of the viewshed, since there is limited land area and an absence of significant resources in the foreground. The one exception, where the visual quality and interest extend between foreground, middleground, and background, are views available to southbound traffic on the express lane flyover at the I-80/I-580/I-880 interchange. In this location, the restored marshes in the Emeryville Crescent provide an attractive foreground element that enhances the more distant Bay view.

*Views from I-580.* The viewshed from I-580 (where it diverges from I-80) is much different from that of I-80/I-580. The views from I-580 focus on the foreground rather than on the background of the viewshed. Also, rather than having dramatic visual elements such as the Golden Gate Bridge and San Francisco skyline, the views of the marshes have less variety and are more subtle in character, but are also of very high quality. I-580 runs immediately adjacent and at a similar elevation to the Albany Mudflats and Hoffman Marsh, so the foreground marshes are quite visible to travelers in both directions (see View 2). Whereas the foreground elements along I-80/I-580 tend to detract from the more scenic background, the situation is reversed along I-580, where background elements such as the U.S. Postal Service Bulk Mail facility and Golden Gate Fields grandstands compromise the scenic quality of the marshes in the foreground.

*View 2: The Albany Mudflats are visible on I-580 southbound*

*Views from Lateral Access/Entry Roads.* Seven roads provide east/west access between the project site and the communities to the east of the freeway: Powell Street, Ashby Avenue, University

Avenue, Gilman Street, Buchanan Street, Central Avenue, and Bayview Avenue. Although the general east/west alignment of these roadways would suggest that they provide westbound travelers with excellent views into and beyond the project site, the visual quality of the entry experience from these roadways generally ranges from fair to low.

Of the seven roadways, Bayview Avenue in Richmond provides the most scenic view of the Hoffman Marsh and the Bay beyond, but this view is of very limited duration due to the curvature of the roadway. Buchanan Street, Gilman Street, and Powell Street pass under the freeway and generally provide the most limited and least appealing views. Of the three underpass entries, Powell Street provides the highest quality visual experience because it allows for at least a glimpse of the Emeryville Crescent and Bay Bridge beyond. Views from the Gilman Street entry are dominated by the parking and stable areas at the south end of Golden Gate Fields, and the visual experience at the Buchanan Street entry is dominated by the confusing tangle of the freeway interchange.

Central Avenue, University Avenue, and Ashby Avenue, which all pass over the freeway, provide a more appealing visual experience when approaching the project site. Of the three roadways, University Avenue provides the most scenic view and best conveys a sense of entry to the project site. Generally, the landscaping of the Berkeley Marina obscures the views directly out to the Bay, but westbound travelers do have a limited view of the Bay Bridge and San Francisco skyline as they come off the University Avenue overpass. In addition to the Bay view, banners that line the roadway and the predominantly open, landscaped character of the corridor are components of this approach.

*Views from the Berkeley Pedestrian/Bicycle Bridge.* Views from the Berkeley Pedestrian/ Bicycle Bridge over I-80/I-580 encompass the Brickyard, Seabreeze Market, the Bay, portions of Marin County, and the East Bay hills. Because of the east/west orientation of the bridge, and the low relative speed of pedestrian and bicycle traffic, views of the project site from this area are very significant and convey a sense of entry to the project site that is missing from many of the other access routes. The bridge's western terminus is at the southwest quadrant of University Avenue and Frontage Road, which has been leased to an outside operator for use as a "put and take" operation to temporarily store clean landfill material. The constant movement and mounding of soil results in an area devoid of vegetation that is continuously disturbed. The activity of earthmovers and large trucks associated with this operation and the dust and mud generated by their activities also tend to detract from the visual quality of the setting. The location of this activity at the Bicycle/ Pedestrian Bridge and University Avenue entrance to the project site, adjacent to the Seabreeze Market, further increases the magnitude of the impact due to the visual prominence of the area (see View 3). Land for the put and take operation is being leased to the contractor on a short-term renewable basis.

*Views from West Frontage Road.* West Frontage Road runs parallel to the west side of the freeway from Powell Street north to Gilman Street and provides access to the same views as I-80/I-580. However, views from West Frontage Road are generally more significant, because viewers have fewer intervening elements between them and the viewshed, and the slower traffic speeds and lower traffic volumes allow for more leisurely enjoyment of available views.

While West Frontage Road provides higher quality views of the Bay, it also provides more focused and close-up views into portions of the project site. The proximity of areas such as the Brickyard, Meadow, North Basin, and the Golden Gate Fields parking areas to West Frontage Road increases both their visual significance and their sensitivity. Visual elements such as the put and take operation

in the Brickyard, the Christmas tree/pumpkin patch lease area, and the race track parking areas, that were relatively insignificant when viewed from the freeway, play a much more prominent, and less positive, role in determining the quality of the visual experience from West Frontage Road.

*View 3: The put and take operation at the Brickyard, viewed from the Berkeley Pedestrian/Bicycle Bridge*

**(2) Views From Adjacent and Nearby Properties.** The urban surroundings of the project site provide extensive views into the site itself. Areas with views fall into two broad categories: areas on the west side of the freeway and immediately adjacent to the project site, and areas east of the freeway.

*Adjacent Development Areas.* Generally, the project site does not play a significant role in the views from developed areas adjacent to the project site. In fact, not only do the majority of the uses west of the freeway not focus on the project site, they do not even face it. The bulk mailing facility and the "big box" commercial uses off Central Avenue are generally indoor operations that do not have windows facing the project site or the Bay. Golden Gate Fields essentially turns its back on the Bay and the project site, in order to buffer its visitors from winds. The Berkeley Marina and the hotel and restaurants surrounding it are logically focused on views out to the Bay, rather than toward the project site. Marina Boulevard, which parallels the Meadow, and Cesar Chavez Park both provide views out over the Meadow and the North Basin area, but do not focus on these areas. Residential, office and commercial development on the Emeryville peninsula are the only adjacent uses that provide significant views out toward the project site. Generally, the marshlands of the Emeryville Crescent and the area north of the peninsula play a benign role in views from these areas, comprising a foreground to more sweeping and distant vistas.

*Development East of the Freeway.* The project site also does not play a significant role in the views from developed areas east of the freeway. Areas immediately east of the freeway that have views of the project site include high-rise residential structures such as the Gateview condominiums in Albany, the Pacific Park Plaza condominiums in Emeryville, and the single-family residential neighborhood on Albany Hill. From these elevated viewpoints, the narrow strip of the project site forms a relatively insignificant segment of the viewshed. Foreground elements such as the freeway, Golden Gate Fields, the Berkeley Marina, and the Emeryville peninsula, and background elements such as the Bay, Golden Gate Bridge, San Francisco skyline, and Mt. Tamalpais are much more prominent and visually significant elements from these viewpoints. The project site is slightly visible from a number of hillside neighborhoods in Albany and Berkeley. However, as previously stated, the site does not form a large segment of the total viewshed.

However, the Albany Plateau, which actually is a very significant foreground element from views in the Albany Hill area, provides an exception to this rule. The Albany Plateau is quite visible from Albany Hill residences and Albany Hill Park.

**(3) Views From the Bay.** The Bay itself, including water areas both inside and outside of the project site, provides excellent opportunities for viewing both the project site and surrounding visual resources. Views from the Bay are experienced by a much smaller number of people than from the land-based viewpoints described above, but they have the advantage of being free of the foreground distractions and impediments, such as buildings and cars, that can compromise viewpoints on land. Even such elements as the freeways and industrial development that detract from views from within the project site become more benign as one moves away from the shoreline, allowing these elements to blend into the larger panorama. Thus, the quality of the visual experience from the Bay is very high and is available both to individuals who are windsurfing or kayaking, and to groups who are sailing or taking a commercial cruise.

The lands within the project site generally do not comprise a significant visual element within the viewshed. Due to the relatively flat topography and absence of trees, the project site generally forms a benign foreground element to the scenically significant background of the Berkeley/Oakland Hills.

**d. Visual Resource Considerations.** Following is a brief discussion of key visual attributes that contribute to the aesthetic quality of the project site and its vicinity.

*Ephemeral Conditions.* Two ephemeral conditions (i.e., conditions that are transitory in nature, happening either occasionally and/or for limited periods of time) affect the project site in ways that influence the visitor's experience of the project site's visual resources.

Due to the west-facing orientation of the shoreline, sunsets are significant ephemeral events that enhance the already high scenic quality of Bay views from the project site. The coloration of the setting sun backlights distinctive features such as Mt. Tamalpais, the Golden Gate Bridge, and the San Francisco skyline. Many people visit the project site on a regular basis to view the sunset.

Fog is the other ephemeral condition that affects views from the project site. Often during the summer (June – August), fog rolls in during the late afternoon and may not dissipate until mid-morning the following day. The project site's location directly opposite the Golden Gate Bridge and the opening to San Francisco Bay places it in the "fog belt." Typically, the fog banks roll in through the Golden Gate and move directly across to the east shore. It is not uncommon for the fog banks to touch ground in Albany, before they begin to spread laterally north and south to areas on the west side of the Bay. The effects of the fog can be dramatic, and some individuals find it a unique and intriguing visual element.

*Dumping and Debris.* Many areas within the project site show evidence of its historical landfill use. Since the majority of the landfill material consisted of construction debris, the debris that is still visible on the surface tends to be materials such as bricks, concrete, and steel reinforcing bar. The two principal areas with visual evidence of significant construction material are the Brickyard and the Albany Plateau and Bulb. Given the length of time these materials have been in place, vegetation has covered much of the surface. Thus, the negative visual impact associated with this material is experienced primarily by those visiting the area. These materials are generally not prominent enough to

adversely impact views from external viewpoints. The one exception to this is in locations where construction debris has been used to stabilize the shoreline, such as along the west shore of the Brickyard and the north shore of the Albany Plateau (see View 4). The large chunks and slabs of concrete that line the shore in these areas lack vegetative cover and so are visible from locations outside of the project site.

*View 4: The view northwest from the Albany Bulb*

In addition to landfill debris, other refuse that detracts from the visual quality of the project site includes debris that washes up on the shoreline from the Bay and garbage that is left by visitors to the area. As with the construction debris, the negative visual impact mainly affects those within the project site. The debris is subject to tides and currents, and the two primary locations of garbage accumulation appear to be the southwest facing inlets on the west side of Brickyard peninsula near University Avenue, and the Albany Beach area. Much of this debris consists of cans, bottles, and plastic wrappers, but larger items such as automobile tires and wooden timbers also wash ashore. Most of the garbage that has been left by visitors appears to be associated with overnight encampments, and is found in isolated pockets throughout the brushy areas on the Brickyard peninsula and the Albany Plateau and Bulb.

*Development and Utilities.* Very few structures have been developed within the project site. Seabreeze Market, at the corner of University Avenue and Frontage Road, and the restrooms and dog washing facility at Pt. Isabel are the only buildings currently within the project site. Seabreeze Market and the dog washing facility are both leased concessions, and both are housed in "temporary" structures. While neither of these structures has a significant adverse visual impact, neither particularly enhances the visual environment. Over the years, Seabreeze Market has added landscaping and other improvements to enhance its appearance, but its utilitarian and temporary nature is still evident. In addition to these structures, chain link fencing along the highway and trails further detracts from the visual character of the site.

Very few utilities are evident within the project site, or in adjacent areas. The only overhead utility line within the project site runs east-west along the Virginia Street right-of-way between the Meadow and the North Basin. Otherwise, the skyline is remarkably free of utility poles and lines. The principal utilities visible in the vicinity are the cities' "cobra head" streetlights that are used on Powell Street, University Avenue, and Central Avenue.

**e. Regulatory Considerations.** The San Francisco Bay Plan (Bay Plan) Policies on Appearance, Design, and Scenic Views state that "all bayfront development should be designed to enhance the

pleasure of the user or viewer of the Bay. Maximum efforts should be made to provide, enhance, or preserve views of the Bay and shoreline, especially from public areas. . . Shoreline development should be built in clusters, leaving open area around them to permit more frequent views of the Bay . . . Views of the Bay from . . . roads should be maintained by appropriate arrangements and heights of all developments and landscaping between the view areas and the water." In addition, Map 4 in the Bay Plan designates I-80 and the Bay Bridge as scenic roadways.

## 2. Impacts and Mitigation Measures

This section analyzes impacts related to visual resources that could result from implementation of the proposed project. The section begins with the criteria of significance, which establish the thresholds to determine whether an impact is significant. The latter part of this section identifies potential impacts associated with the proposed project, and proposes mitigation measures, as necessary. This evaluation of potential impacts to visual resources is based on a programmatic analysis of proposed modifications to the project site and does not take into account specific locations or design characteristics of individual projects, which have not yet been proposed.

**a. Criteria of Significance.** The *Draft General Plan* would have a significant impact on visual resources and aesthetics if it would:

- Have a substantial adverse effect on a scenic vista;
- Substantially degrade the existing visual character or quality of the site and its surroundings; or
- Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

**b. Less-than-Significant Impacts to Visual Resources.** The impact analysis in this section examines potential less-than-significant impacts of the *Draft General Plan*. Appendix B of this document contains a compendium of all *Draft General Plan* guidelines for reference.

**(1) New Construction and Visual Resources.** New construction that would result from implementation of the proposed project includes but is not limited to visitor-serving uses (e.g., visitor center, concessions facilities, interpretive center, restrooms, boathouse, youth hostel, pedestrian bridges, waterfront promenades, parking areas, etc…) and service-uses (equipment storage facilities, landscaping, fencing, etc…). Because the project site contains expansive views and allows for the enjoyment of scenic vistas of the Bay, visual landmarks, the East Bay hills, and surrounding areas, the construction of new facilities associated with the project could potentially impact existing scenic resources. Less-than-significant adverse impacts associated with proposed construction are discussed below.

*Proposed Construction on Emeryville Lands*. A new 20-space parking facility and a 200 to 300 square foot vista point/observation deck is proposed east of the Emeryville fire station on Powell Street. Although these facilities would occupy an area that is currently covered by turf, they would not obstruct views out to the Emeryville Crescent, the Bay Bridge, or to points west from either the project site, Powell Street, or buildings on Emeryville Peninsula. Depending on its location and design, construction of the parking lot could result in a visual break in the wide grassy area that occupies the south side of Powell Street. However, the proposed parking facility and vista point

would provide enhanced public access to the shoreline, and more formalized areas from which to experience the extensive views to the south. Thus, construction of the parking lot and vista point would not have a substantial adverse effect on scenic vistas from I-80/I-580 and the Bay Bridge or substantially degrade the existing visual character of the site or its surroundings. Possible collaboration with the City of Emeryville could result in adequate on-street parking or joint use of existing parking lots, thus eliminating this potential visual impact.

*Proposed Construction on Berkeley Lands.* A majority of the facilities proposed in the *Draft General Plan* would be built on lands within the City of Berkeley. Two new parking areas are proposed for this area: a 350-space facility on North Basin and a 200-space facility in the Brickyard. The North Basin and Brickyard parking areas would be developed on a gravel area mostly devoid of vegetation, and a fill storage area, respectively. Neither parking area would obstruct scenic views and, because they would be located directly on disturbed areas with little scenic quality, would not degrade the existing visual quality of the project site.

The *Draft General Plan* also proposes to develop a 7,500 to 10,000 square foot park operation facility/visitor's center, an 800 to 900 square foot restroom, a 100 to 200 square foot vista point, and a 2,500 to 3,500 square foot concessions facilities in the Brickyard Cove. This area is currently occupied by a "put and take" fill operation that constitutes a visual discontinuity with surrounding areas, and detracts from the visual quality of the Seabreeze Market outdoor eating area. These facilities, along with expected landscaping improvements, would improve the visual quality of the Brickyard Cove, which is currently occupied by bare soil, piles of fill, and earthmoving equipment. Because vegetation and buildings already screen some views of the Bay from this area, the construction of the proposed buildings would not further obstruct views. Existing views towards the Bay from West Frontage Road, University Avenue, the bicycle/pedestrian overpass, and I-80/I-580 would not be obstructed.

In addition, the *Draft General Plan* proposes to construct a 20 to 40-bed hostel, an 8,000 to 10,000 square foot boathouse and recreation concession, an 800 to 900 square foot restroom facility, a 1,000 to 2,000 square foot concessions building, and a 10,000 to 15,000 square foot interpretation center in the North Basin. (As an example, the proposed hostel would most likely be similar in size to a hostel at Point Reyes Station, on Limantour Road, which has a 44-bed capacity.) These facilities would be located adjacent to a promenade along the Bay shoreline. These facilities could potentially block some views east from the shoreline; however, these views are primarily of the east side of Cesar Chavez Park and the Berkeley Marina, and do not have particularly high scenic value. The proposed buildings would be of a size and scale (the Interpretation Center would encompass less than ¼ acre) that would be proportional with the walkway. These facilities could limit views out to the Bay from proposed recreational fields to the east, but would not fully block views of Mt. Tamalpais or the Golden Gate Bridge. The proposed buildings would be only slightly noticeable from West Frontage Road due to their distance from the road (see View 5).

*Proposed Construction on Albany Lands.* The *Draft General Plan* proposes to expand the existing parking area adjacent to Buchanan Street to a total of 120 spaces (half of which could be located off-site on Golden Gate Fields property). The visual quality of the area surrounding the existing parking area is currently low, due to its location next to the chain link fence and adjacent gravel parking lot on Golden Gate Fields property. The proposed parking expansion would thus not

detract from the scenic quality of the site. In addition, the parking area would not obstruct views of the Bay, which are already partially obstructed by trees located to the northeast of Albany Beach.

*View 5: Looking west into the North Basin from West Frontage Road*

The proposed project would also result in the construction of two new restroom facilities totaling 500 to 600 square feet (located behind Albany Beach and on Albany Plateau, respectively), and a 400 to 500 square foot concessions services building located on the Albany Plateau. The Albany Plateau and Albany Beach currently provide extensive views of the East Bay hills, the San Francisco skyline, and the western portion of the Bay. Some of these views would be partially obstructed in areas immediately adjacent to these proposed facilities. Because the Albany Plateau is located at a higher elevation than Buchanan Street, and Albany Beach is currently partially obstructed by trees, construction of these new buildings would not substantially affect views from Buchanan Street or the existing parking area (View 6). These facilities are sufficiently small that they would not result in a substantial adverse impact on existing views from I-580 or substantially degrade the existing visual quality of the Albany Plateau or Albany Beach.

*View 6: Views into the Albany Plateau from Buchanan Street are hindered by vegetation and the Plateau's higher elevation*

*Proposed Construction on Richmond Lands.* Implementation of the *Draft General Plan* would result in the expansion of the existing 50-space parking area off Rydin Road to a total of 80 spaces, the construction of a new 30-space parking area and a 300 to 400 square foot restroom on the west side of Isabel Road, the construction of a 480 square foot dogwashing concession and 200 square foot coffee bar on the site of the temporary dogwashing concession, and the construction of two new 100 to 200 square foot vista points along the Bay Trail north of Pt. Isabel.

The proposed parking lot expansion and new lot construction would occur at a pre-existing parking lot and adjacent to an existing parking area, respectively. Both of these areas are located alongside existing roads near the entrances to the Pt. Isabel turf areas where most recreational activity occurs. Because these parking areas would be located on the edge of the large expanse of Pt. Isabel open space, adjacent to existing development, they would not compromise the existing visual quality of the site or substantially impact scenic vistas. The proposed dogwashing concession and coffee bar would be located on the site of the temporary dogwashing concession. Although the new facilities would be larger than the existing building, they would not be located immediately adjacent to the waterfront and so would not compromise Bay views (no views are currently available from behind the facility). Because a dogwashing concession currently exists on the site, construction of a new building would not substantially degrade the existing scenic quality of the site. Permanent landscaping and public areas that would be associated with the new concession facility and coffee bar could potentially benefit the visual quality of the immediate area.

The proposed restroom facility on the west side of Isabel Road would be located adjacent to the waterfront and so would block views to the west from areas immediately adjacent to the east of the facility. However, the restroom facility would not block waterfront access and associated views, due to the existence of the shoreline walkway to the west, which would be replaced by a more formalized promenade. In addition, the size of the restroom structure would be visually compatible with the scale of the existing parking area and shoreline pathway. Therefore, construction of this building would not result in a substantial adverse impact on existing views into the Bay or degrade the existing visual quality of the immediate site. Construction of the two new vista points would allow for enhanced viewing opportunities into the Bay and would not degrade the existing visual character of the Bay Trail.

*Construction of Shoreline Promenades.* The *Draft General Plan* would also result in the development of formal urban promenades along the shoreline in Brickyard Cove, North Basin, Pt. Isabel, and North Pt. Isabel. These areas are currently occupied by gravel or dirt shoreline walkways with varying degrees of shoreline protection. The development of more formal walkways and "hardened" shorelines would reduce negative visual impacts associated with current conditions, such as inconsistent paving, shoreline erosion, and turf erosion on trail margins (see View 7). The proposed shoreline pathways would be of a scale that is visually comfortable to pedestrians and would be compatible with existing buildings and the design framework of the shoreline. Therefore, the construction of the shoreline promenades would benefit the overall visual quality of the project site.

*View 7: The Pt. Isabel shoreline is currently characterized by turf erosion and inconsistent paving*

*Construction of Sports Fields and Turf Areas.* The *Draft General Plan* would also result in the development of turf areas for informal recreation at the North Basin in Berkeley and sports fields on the Albany Plateau. These portions of the project site are currently characterized by low, grassy, mostly non-native vegetation. Thus, the development of recreational fields in these areas, exemplified by expanses of irrigated grasses, would not substantially change the visual appearance of these areas. Views from West Frontage Road and I-80/I-580 into North Basin would be slightly altered due to the development of recreational fields on existing open space, but views out to the Bay would be preserved and the overall scenic quality of the area would not be substantially impacted. Views from the portion of Buchanan Street within the project site northward into the Plateau would remain essentially the same after implementation of the *Draft General Plan* due to the high elevation of the Plateau (which obstructs direct views into the area) and the existence of trees along the north side of the road, which would be preserved.

The *Draft General Plan* contains specific guidelines (which are referenced below) that would avoid or minimize to a less-than-significant level potential impacts to visual resources associated with the construction of new facilities by:

1. Requiring the preparation of Specific Project Plans for each management zone or sub-zone prior to initiation of major development or enhancement projects. The Specific Project Plans would establish the nature, scale, and location of new development such as visitor facilities and service uses (see guidelines VISIT-1, OPER-1).

2. Requiring environmental review and the identification of potential negative impacts associated with site-specific development projects, management plans, and Specific Project Plans for the implementation of the *Draft General Plan* in accordance with the California Environmental Quality Act (CEQA) (see guidelines OPER-2, CAPACITY-2).

3. Requiring that the siting of buildings, structures and landscaping be sensitive to scenic views of and beyond the project site and views from key viewpoints (see guideline AESTH-10).

4. Designating a maximum height of generally one-story for buildings and structures, while allowing two-story buildings consistent with the protection of significant scenic views (see guideline AESTH-12).

**(2) Lighting and Glare.** Sources of new lighting and glare associated with buildout of the *Draft General Plan* could adversely affect nighttime views and protected wildlife communities. The location of outdoor lighting on the project site would be determined prior to the approval of individual projects within the *Draft General Plan*. Although the quantity and nature of outdoor lighting for the project site has not yet been determined, lighting would be installed mainly for safety purposes.

The *Draft General Plan* contains specific guidelines (which are referenced below) that would avoid or minimize to a less-than-significant level potential impacts to visual resources associated with light and glare by:

1. Requiring the preparation of Specific Project Plans for each management zone or sub-zone prior to initiation of major development or enhancement projects. The Specific Project Plans would establish the nature, scale, and location of new development such as visitor facilities and service uses (see guidelines VISIT-1, OPER-1).

2. Requiring environmental review and the identification of potential negative impacts associated with site-specific development projects, management plans, and Specific Project Plans for the implementation of the *Draft General Plan* in accordance with the California Environmental Quality Act (CEQA) (see guidelines OPER-2, CAPACITY-2).

3. Restricting night lighting to developed areas of the park and not permitting lighting in areas designated as preservation areas or in areas with sensitive habitat values; not permitting night-lighting of recreational fields, and requiring that lighting levels be kept as low as possible (see guidelines AESTH-5, AESTH-6, AESTH-7).

**c. Significant Visual Resources Impacts.** No potentially significant adverse impacts to visual resources would occur with implementation of the *Draft General Plan.*

# B. AIR QUALITY

This section summarizes current air quality conditions in the Bay Area, as discussed in the *Eastshore Park Project Resource Inventory* (*Resource Inventory*).[1] This section has been prepared using methodologies and assumptions recommended by the Bay Area Air Quality Management District (BAAQMD).[2] Potential impacts and mitigation measures, as appropriate, to reduce or eliminate impacts related to air quality are identified.

## 1. Setting

The following discussion summarizes information contained in the *Resource Inventory* on existing air quality conditions at and in the vicinity of the project site. Please refer to the Climate and Air Quality section of the *Resource Inventory* for a more comprehensive discussion of the air quality conditions at the project site and within the greater San Francisco Bay Area.

**a. Air Quality Standards.** Both the State and federal governments have established health-based Ambient Air Quality Standards (AAQS) for six air pollutants: carbon monoxide (CO), nitrogen dioxide ($NO_2$), ozone ($O_3$), lead (Pb), suspended particulate matter (PM) and sulfur dioxide ($SO_2$). In addition, the State has set standards for sulfates, hydrogen sulfide ($H_2S$), vinyl chloride (VC), and visibility reducing particles. These standards are designed to protect the health and welfare of the populace within a reasonable margin of safety.

In addition to establishing primary and secondary AAQS, the State of California has established a set of episode criteria for CO, $NO_2$, $O_3$, PM, and $SO_2$. These criteria refer to episode levels representing periods of short-term exposure to air pollutants that actually threaten public health. Health effects are progressively more severe as pollutant levels increase from Stage One to Stage Three.

California Ambient Air Quality Standards (CAAQS) and National Ambient Air Quality Standards (NAAQS) are listed in Table III.B-1. A summary of the health effects of these criteria pollutants, published by the California Air Resources Board (ARB), is shown in Table III.B-2.

**b. Regional Climate.** Cool summers, mild winters, and infrequent rainfall characterize the Mediterranean climate of the San Francisco Bay Area. The atmospheric processes combine to restrict the ability of the atmosphere to disperse air pollution. During rainy periods, ventilation (rapid horizontal movement of air and injection of clean air) and vertical mixing are usually high. Thus, pollution levels tend to be low. However, frequent dry periods do occur during the winter when mixing and ventilation are low, and pollutant levels build up. Please refer to the *Resource Inventory* for a more comprehensive discussion of the regional climate with respect to wind, temperature, precipitation, and fog.

[1] The *Resource Inventory* is a public document that is available on the Eastshore Park website: www.eastshorestatepark.org.

[2] Bay Area Air Quality Management District, 1996. *BAAQMD CEQA Guidelines – Assessing the Air Quality Impacts of Projects and Plans*. April.

**Table III.B-1: Ambient Air Quality Standards**

| Pollutant | Averaging Time | State | Federal | |
|---|---|---|---|---|
| | | Concentration | Primary | Secondary |
| Ozone ($O_3$) | 1-Hour | 0.09 ppm (180 µg/$m^3$) | 0.12 ppm | Same as Primary Standard |
| | 8-Hour | -- | 0.08 ppm (157 µg/$m^3$) | |
| Nitrogen Dioxide ($NO_2$) | Annual Arithmetic Mean | -- | 0.053 ppm (100 µg/$m^3$) | Same as Primary Standard |
| | 1-Hour | 0.25 ppm (470 µg/$m^3$) | -- | |
| Carbon Monoxide (CO) | 8-Hour | 9 ppm (10 mg/$m^3$) | 9 ppm (10 mg/$m^3$) | None |
| | 1-Hour | 20 ppm (23 mg/$m^3$) | 35 ppm (40 mg/$m^3$) | |
| Fine Particulate Matter ($PM_{2.5}$) | 24-Hour | No Separate State Standard | 65 µg/$m^3$ | Same as Primary Standard |
| | Annual Arithmetic Mean | | 15 µg/$m^3$ | |
| Respirable Particulate Matter ($PM_{10}$) | Annual Geometric Mean | 30 µg/$m^3$ | -- | Same as Primary Standard |
| | 24-Hour | 50 µg/$m^3$ | 150 µg/$m^3$ | |
| | Annual Arithmetic Mean | -- | 50 µg/$m^3$ | |
| Sulfur Dioxide ($SO_2$) | Annual Arithmetic Mean | -- | 0.03 ppm (80 µg/$m^3$) | -- |
| | 24-Hour | 0.04 ppm (105 µg/$m^3$) | 0.14 ppm (365 µg/$m^3$) | -- |
| | 3-Hour | -- | -- | 0.5 ppm (1,300 µg/$m^3$) |
| | 1-Hour | 0.25 ppm (655 µg/$m^3$) | -- | -- |
| Lead (Pb) | 30-Day Average | 1.5 µg/$m^3$ | -- | -- |
| | Calendar Quarter | -- | 1.5 µg/$m^3$ | Same as Primary Standard |
| Sulfates | 24-Hour | 25 µg/$m^3$ | -- | -- |
| Hydrogen Sulfide ($H_2S$) | 1-Hour | 0.03 ppm (42 µg/$m^3$) | -- | -- |
| Vinyl Chloride (VC) (chloroethene) | 24-Hour | 0.010 ppm (26 µg/$m^3$) | -- | -- |
| Visibility Reducing Particles | 8-Hour (10am-6pm PST) | --[a] | -- | -- |

Notes: ppm = Parts per million
mg/$m^3$ = milligrams per cubic meter.
µg/$m^3$ = micrograms per cubic meter.

[a] In sufficient amount to produce an extinction coefficient of 0.23 per kilometer due to particles when the relative humidity is less than 70 percent. Measurement in accordance with ARB Method V.

Source: California Air Resources Board, 2000.

**Table III.B-2: Summary Of Health Effects Of Major Criteria Air Pollutants**

| Pollutants | Sources | Primary Effects |
|---|---|---|
| Ozone ($O_3$) | • Atmospheric reaction of organic gases with nitrogen oxides in sunlight | • Aggravation of respiratory and cardiovascular diseases<br>• Irrigation of eyes<br>• Impairment of cardiopulmonary function<br>• Plant leaf injury |
| Nitrogen Dioxide ($NO_2$) | • Motor Vehicle exhaust<br>• High-temperature stationary combustion<br>• Atmospheric reactions | • Aggravation of respiratory illness<br>• Reduced visibility<br>• Reduced plant growth<br>• Formation of acid rain |
| Carbon Monoxide (CO) | • Incomplete combustion of fuels and other carbon-containing substances, such as motor vehicle exhaust<br>• Natural events, such as decomposition of organic matter | • Reduced tolerance for exercise<br>• Impairment of mental function<br>• Impairment of fetal development<br>• Death at high levels of exposure<br>• Aggravation of some heart diseases (angina) |
| Suspended Particulate Matter ($PM_{10}$) | • Stationary combustion of solid fuels<br>• Construction activities<br>• Industrial processes<br>• Atmospheric chemical reactions | • Reduced lung function<br>• Aggravation of the effects of gaseous pollutants<br>• Aggravation of respiratory and cardiorespiratory diseases<br>• Increased cough and chest discomfort<br>• Soiling<br>• Reduced visibility |
| Sulfur Dioxide ($SO_2$) | • Combustion of sulfur-containing fossil fuels<br>• Smelting of sulfur-bearing metal ores<br>• Other industrial processes | • Aggravation of respiratory diseases (asthma, emphysema)<br>• Reduced lung function<br>• Irritation of eyes<br>• Reduced visibility<br>• Plant injury<br>• Deterioration of metals, textiles, leather, finishes, coatings, etc. |
| Lead (Pb) | • Contaminated soil | • Impairment of blood function and nerve construction<br>• Behavioral and hearing problems in children |

Source: California Air Resources Board, 2000.

**c. Regional Air Quality.** Air quality in the San Francisco Bay Area falls under the jurisdiction of the BAAQMD.[3] The BAAQMD's Bay Area Clean Air Plans (CAPs) contain district-wide control measures to reduce CO and $O_3$ precursor emissions.

Air quality standards are exceeded primarily during meteorological conditions conducive to high pollution levels, such as cold, windless winter nights or hot, sunny summer afternoons. Two meteorological factors affect air quality in the vicinity of the Eastshore Park Project. Winds direct the transport of air pollution emissions and control the volume of air that pollution is mixed into at any given time, and temperature inversions determine the vertical mixing depth of air pollutants.

In June, 1995, the Bay Area region was redesignated as an attainment area (pollutant concentrations did not violate standards for pollutants in the area) for the federal $O_3$ standard. However, unusual heat waves triggered new exceedances of the national $O_3$ standard in the summers of 1995 and 1996; as a result, the Bay Area's $O_3$ status was changed to nonattainment in July, 1998. $O_3$ levels also exceeded the State standard twice in 1996. State or federal CO standards have not been exceeded at any of the region's monitoring stations since 1991. In 1998, the Bay Area was redesignated as an attainment/maintenance area for federal CO standards. A summary of the attainment status for the San Francisco Bay Area with respect to federal and State AAQS is provided in Table III.B-3.

Motor vehicle use is projected to increase substantially throughout the region in coming years. However, due to improving emissions control technology, individual vehicles will contribute substantially fewer pollutants to regional air quality on average than at present. However, this decrease in emissions from individual vehicles is not expected to eliminate an overall increase in regional air emissions.

**d. Local Climate.** The project site is located within the climatological subregion of northern Alameda and western Contra Costa counties. The dispersion of pollutants in the area is governed by the local winds, which control the rate of dilution of transport. The prevailing wind distribution at the site results in the rapid ventilation of the area in the daytime with clean marine air and corresponding good air quality. Temperature inversions also have an effect on air quality, as they limit the vertical dispersion of pollutants. Low inversion heights limit volume of air exchange available to adequately dilute atmospheric pollutants.

The air pollution potential is lowest for the parts of the subregion that are closest to the Bay, due largely to good ventilation and less influx of pollutants from upwind sources. The occurrence of light winds in the early mornings and evenings occasionally causes elevated pollutant levels. Because of the lower frequency of strong winds, the air pollution potential at the northern (Richmond) and southern (Oakland, San Leandro) parts of this subregion is marginally higher than communities directly east of the Golden Gate, when moderate and strong winds are more frequently experienced.

**e. Local Air Quality.** The major pollutants of concern in the San Francisco Bay Area—$O_3$, CO, and PM—are monitored at a number of locations. Two air quality monitoring stations are located within the vicinity of the Eastshore Park Project: in Oakland (on Alice Street near Jack London Square) and in Fremont on Chapel Way. The Oakland monitoring station measures $O_3$ and CO, but

[3] Ibid.

**Table III.B-3: Bay Area Attainment Status As Of January 2002**

| Pollutant | Averaging Time | California Standard[a] | | Federal Standards[b] | |
|---|---|---|---|---|---|
| | | Concentration | Attainment Status | Concentration[c] | Attainment Status |
| Ozone ($O_3$) | 8-Hour | | | 0.08 ppm | U[d] |
| | 1-Hour | 0.09 ppm (180 µg/m$^3$) | N | 0.12 ppm (235 µg/m$^3$) | N[e] |
| Nitrogen Dioxide ($NO_2$) | Annual | -- | -- | 0.053 ppm (100 µg/m$^3$) | A |
| | 1-Hour | 0.25 ppm (470 µg/m$^3$) | A | -- | -- |
| Carbon Monoxide (CO) | 8-Hour | 9.0 ppm (10 mg/m$^3$) | A | 9.0 ppm (10 mg/m$^3$) | A[f] |
| | 1-Hour | 20 ppm (23 mg/m$^3$) | A | 35 ppm (40 µg/m$^3$) | A |
| Suspended Particulate Matter ($PM_{10}$) | Annual Arithmetic Mean | -- | -- | 50 µg/m$^3$ | A |
| | Annual Geometric Mean | 30 µg/m$^3$ | N | -- | -- |
| | 24-Hour | 50 µg/m$^3$ | N | 150 µg/m$^3$ | U |
| Suspended Particulate Matter ($PM_{2.5}$) | Annual Arithmetic Mean | -- | -- | 15 µg/m$^3$ | U |
| | 24-Hour | -- | -- | 65 µg/m$^3$ | U |
| Sulfur Dioxide ($SO_2$) | Annual | -- | -- | 0.03 ppm (80 µg/m$^3$) | A |
| | 24-Hour | 0.04 ppm (105 µg/m$^3$) | A | 0.14 ppm (365 µg/m$^3$) | A |
| | 1-Hour | 0.25 ppm (655 µg/m$^3$) | A | -- | -- |
| Sulfates | 24-Hour | 25 µg/m$^3$ | A | | |
| Lead (Pb) | 30-Day Average | 1.5 µg/m$^3$ | A | | |
| | Calendar Quarter | | | 1.5 µg/m$^3$ | A |
| Hydrogen Sulfide ($H_2S$) | 1-Hour | 0.03 ppm (42 µg/m$^3$) | U | | |
| Vinyl Chloride (VC) (chloroethene) | 24-Hour | 0.010 ppm (26 µg/m$^3$) | No information available | | |
| Visibility Reducing Particles | 8-Hour (1000 to 1800 PST) | (See note g) | U | | |

Notes: A = Attainment ppm = Parts per million
N = Nonattainment mg/m$^3$ = Milligrams per cubic meter
U= Unclassified µg/m$^3$ = Micrograms per cubic meter

[a] California standards for $O_3$ , CO (except Lake Tahoe), $SO_2$ (1-hour and 24-hour), $NO_2$, $PM_{10}$, and visibility reducing particles are values that are not to be exceeded. The standards for sulfates, Lake Tahoe CO, Pb, $H_2S$, and VC are not to be equaled or exceeded. If the standard is for a 1-hour, 8-hour, or 24-hour average (i.e., all standards except for Pb and the $PM_{10}$ annual standard), then some measurements may be excluded. In particular, measurements are excluded that the ARB determines would occur less than once per year on the average. The Lake Tahoe CO standard is 6.0 ppm, a level one-half the national standard and two-thirds the State standard.

Table III.B-3 *continued*

[b] Federal standards other than for $O_3$, particulates, and those based on annual averages are not to be exceeded more than once a year. The 1-hour $O_3$ standard is attained if, during the most recent 3-year period, the average number of days per year with maximum hourly concentrations above the standard is equal to or less than one.

The 8-hour $O_3$ standard is attained when the 3-year average of the fourth highest daily concentrations is 0.08 ppm or less. The 24-hour $PM_{10}$ standard is attained when the 3-year average of the 99th percentile of monitored concentrations is less than 150 $\mu g/m^3$. The 24-hour $PM_{2.5}$ standard is attained when the 3-year average of 98th percentile is less than 65 $\mu g/m^3$.

Except for the national particulate standards, annual standards are met if the annual average falls below the standard at every site. The national annual particulate standard for $PM_{10}$ is met if the 3-year average falls below the standard at every site. The annual $PM_{2.5}$ standard is met if the 3-year average of annual spatially-averaged across officially designed clusters of sites falls below the standard.

[c] National air quality standards are set at levels determined to be protective of public health with an adequate margin of safety. Each state must attain these standards no later than 3 years after that State's implementation plan is approved by the EPA.

[d] A 2002 federal court ruling approved the implementation of the 8-hour $O_3$ standard.

[e] In August, 1998, the Bay Area was redesignated to nonattainment-unclassified for the national 1-hour $O_3$ standard.

[f] In April, 1998, the Bay Area was redesignated to attainment for the national 8-hour CO standard.

[g] Statewide VRP Standard (except Lake Tahoe Air Basin): Particles in sufficient amount to produce an extinction coefficient of 0.23 per kilometer when the relative humidity is less than 70 percent. This standard is intended to limit the frequency and severity of visibility impairment due to regional haze and is equivalent to a 10-mile nominal visual range.

Source: Bay Area Air Quality Management District, *Ambient Air Quality Standards & Bay Area Attainment Status*, January 2002.

does not monitor $NO_2$ and $PM_{10}$ levels. The Fremont-Chapel Way monitoring station monitors $NO_2$ and $PM_{10}$ levels.

Pollutant monitoring results for the years 1997 to 2001 at the Oakland and Fremont-Chapel Way stations indicate that air quality in the Richmond/Berkeley/Oakland area has generally been good. Table III.B-4 summarizes the last five years of published data from these monitoring stations. $SO_2$ data are not listed because no $SO_2$ exceedance has been recorded in the past 10 years.

Levels of suspended matter ($PM_{10}$) in the Bay Area exceed State standards as of 2001 and, therefore, the area is considered a nonattainment area for this pollutant. The Bay Area is unclassifiable (equivalent to an attainment designation) for the federal $PM_{10}$ standard. The Bay Area is designated as a nonattainment area for the State $O_3$ and $PM_{10}$ standards, and as an attainment area for the State CO standard.

As indicated in Table III.B-4, there have been fewer than two exceedances per year of State $PM_{10}$ standards and no exceedance for federal standards over the past 5 years at the Fremont-Chapel Way station. Federal and State CO standards were not exceeded at the Oakland monitoring station during the past 5 years. $O_3$ levels have fallen below the federal and State standards at the Oakland monitoring station. $NO_2$ concentrations monitored at the Fremont-Chapel Way station have been below federal and State standards.

The park project subregion of northern Alameda and western Contra Costa counties contains a variety of industrial air pollutant sources. Many of these industrial sources are in close proximity to residential uses. Frequently congested major freeways traverse the subregion. Traffic congestion and its associated motor vehicle emissions are increasing.

**Table III.B-4: Ambient Air Quality at Oakland and Fremont-Chapel Way Air Monitoring Stations**

| Year | Carbon Monoxide | | | | Ozone | | Suspended Particulate Matter[a] | | Nitrogen Dioxide[b] | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Maximum 1-Hour Concentration (ppm) | Number of Days Exceeded | Maximum 8-Hour Concentration (ppm) | Number of Days Exceeded | Maximum 1-Hour Concentration (ppm) | Number of Days Exceeded | Maximum 24-Hour Concentration ($\mu g/m^3$) | Number of Days Exceeded | Maximum 1-Hour Concentration (ppm) | Number of Days Exceeded |
| **State Standards[b]** | > 20 ppm/1-hour | | ≥ 9.1 ppm/8-hour[c] | | > 0.09 ppm/1-hour | | > 50 $\mu g/m^3$, 24-hour | | > 0.25 ppm/1-hour | |
| 2001 | 5.0 | 0 | 4.0 | 0 | 0.07 | 0 | 57.6 | 2 | 0.06 | 0 |
| 2000 | 5.4 | 0 | 3.3 | 0 | 0.07 | 0 | 58.1 | 1 | 0.08 | 0 |
| 1999 | 6.4 | 0 | 5.2 | 0 | 0.08 | 0 | 87.9 | 2 | 0.11 | 0 |
| 1998 | 6.3 | 0 | 4.6 | 0 | 0.06 | 0 | 62.7 | 1 | 0.10 | 0 |
| 1997 | 7.9 | 0 | 3.6 | 0 | 0.08 | 0 | 63.1 | 1 | 0.09 | 0 |
| **Maximum** | **7.9** | | **5.2** | | **0.08** | | **87.9** | | **0.11** | |
| **Federal Standards** | > 35 ppm/1-hour | | ≥ 9.5 ppm/8-hour[c] | | > 0.12 ppm/1-hour | | > 150 $\mu g/m^3$, 24-hour | | > 0.053 ppm, annual average | |
| 2001 | 5.0 | 0 | 4.0 | 0 | 0.07 | 0 | 57.6 | 0 | ND | ND |
| 2000 | 5.4 | 0 | 3.3 | 0 | 0.07 | 0 | 58.1 | 0 | 0.020 | 0 |
| 1999 | 6.4 | 0 | 5.2 | 0 | 0.08 | 0 | 87.9 | 0 | 0.022 | 0 |
| 1998 | 6.3 | 0 | 4.6 | 0 | 0.06 | 0 | 62.7 | 0 | 0.020 | 0 |
| 1997 | 7.9 | 0 | 3.6 | 0 | 0.08 | 0 | 63.1 | 0 | 0.020 | 0 |
| **Maximum** | **7.9** | | **5.2** | | **0.08** | | **87.9** | | **0.022** | |

Note: ND = No data available.

[a] Data taken from the Fremont-Chapel Way monitoring station.
[b] Data taken from the Fremont-Chapel Way monitoring station.
[c] Although State and federal CO standards were changed to 9ppm/8-hour average (appearing in Table III-B.1), air quality monitoring stations continue to classify data based on the State 9.1 ppm/8-hour standard and the federal 9.5 ppm/8-hour standard, appearing in this table.

Source: California Air Resources Board/Bay Area Air Quality Management District Data, 1997 to 2001.

**f. Regulatory Framework.** The BAAQMD has primary responsibility for regulating air pollution emissions from stationary sources (e.g., factories) and from indirect sources (e.g., traffic associated with new development) and for monitoring ambient pollutant concentrations. Indirect sources are facilities that do not have equipment that directly emits substantial amounts of pollution, but that attract large numbers of mobile sources of pollution. Direct emissions from motor vehicles are regulated by ARB and EPA.

**(1) Federal Clean Air Act (CAA).** The federal 1970 CAA authorized the establishment of national health-based air quality standards and also set deadlines for their attainment. The federal Clean Air Act Amendments of 1990 (1990 CAAA) made major changes in deadlines for attaining NAAQS. Under the CAA, State and local agencies in areas that exceed the NAAQS are required to develop State Implementation Plans (SIPs) to show how they will achieve the NAAQS for $O_3$ by specific dates.

**(2) California Clean Air Act (CCAA).** In 1988, the CCAA required that all air districts in the State endeavor to achieve and maintain CAAQS for $O_3$, CO, $SO_2$ and $NO_2$ by the earliest practical date. Plans for attaining CAAQS were submitted by regional air districts to the California ARB on a staggered time schedule on June 30, 1991, 1994, and 1997.

The CCAA mandates that districts give particular attention to reducing emissions from transportation and areawide emission sources, and provides districts with new authority to regulate indirect sources. Each district is to achieve a 5 percent annual reduction, averaged over consecutive 3-year periods, in districtwide emissions of each nonattainment pollutant or its precursors. Any additional development within the region could impede the reduction goals of the CCAA. A strict interpretation of the reduction goals suggests that any general development that increases traffic within the region, no matter how large or small, would have a significant project specific air quality impact unless the development-related emissions are offset by concurrent emission reductions elsewhere within the airshed.

## 2. Impacts and Mitigation Measures

This section analyzes air quality impacts that could result from implementation of the proposed project. The section begins with the criteria of significance, which establish the thresholds to determine whether an impact is significant. The latter part of this section presents the impacts associated with the proposed project and proposes mitigation measures where appropriate.

**a. Criteria of Significance.** The proposed *Draft General Plan* would have a significant effect on air quality if it would:

- Conflict with or obstruct implementation of an applicable air quality plan;
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation;
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard (including releasing emission which exceed quantitative thresholds for ozone precursors);

- Expose sensitive receptors to substantial pollutant concentrations; or
- Create objectionable odors affecting a substantial number of people.

Detailed thresholds of significance established by the BAAQMD are described below as they relate to both construction emissions and operational emissions.

**(1) Thresholds of Significance for Construction Emissions.** Air pollutant emissions associated with the project would occur over the short term for construction such as grading and vehicle/equipment exhaust. Long-term emissions would result from operation of recreational uses. There would be long-term regional emissions associated with the project-related vehicle trips; and long-term local carbon monoxide emissions associated with congested intersections or roadway segments affected by project traffic. In addition, long-term stationary source emissions could occur due to energy consumption, such as natural gas and electricity usage, by the proposed land uses; however, because of the nature of the project, a regional park, energy consumption would be very low.

Construction-related emissions are generally short-term in duration, but may still cause adverse air quality impacts. $PM_{10}$ is the pollutant of greatest concern with respect to construction activities. The BAAQMD's approach to CEQA analyses of construction impacts is to emphasize implementation of effective and comprehensive control measures rather than detailed quantification of emissions.

The BAAQMD has identified a set of feasible $PM_{10}$ control measures for construction activities, see Table III.B-5. The "Basic Measures" should be implemented at all construction sites, regardless of size. The "Enhanced Measures" should be implemented at larger construction sites (greater than 4 acres) where $PM_{10}$ emissions generally will be higher. The "Optional Measures" may be implemented if further emission reductions are deemed necessary by the Lead Agency.

In addition, the demolition, renovation, or removal of asbestos-containing building materials is subject to the limitations of BAAQMD Regulation 11, Rule 2: Hazardous Materials; Asbestos Demolition, Renovation and Manufacturing. The BAAQMD's Enforcement Division should be consulted prior to commencing demolition of a building containing asbestos building materials. Any demolition activity subject to, but not complying with, the requirements of District Regulation 11, Rule 2, would be considered to have significant project impacts.

**(2) Thresholds of Significance for Operational Emissions.** For many types of land use development, such as residential subdivisions, office parks, shopping centers, and other "indirect sources," motor vehicles traveling to and from projects represent the primary source of air pollutant emissions associated with project operations. Significance thresholds listed below address the impacts of these indirect source emissions on local and regional air quality.

*Local Carbon Monoxide Concentrations.* BAAQMD requires local CO concentrations to be estimated for projects in which:

- Vehicle emissions of CO would exceed 550 lbs/day;
- Project traffic would impact intersections or roadway links operating at level of service (LOS) D, E, or F or would cause LOS to decline to D, E, or F; or
- Project traffic would increase traffic volumes on nearby roadways by 10 percent or more.

**Table III.B-5: Feasible Control Measures for Construction Emissions of $PM_{10}$**

| |
|---|
| **Basic Control Measures - The following controls should be implemented at all construction sites.** |
| • Water all active construction areas at least twice daily.<br>• Cover all trucks hauling soil, sand, and other loose materials or require all trucks to maintain at least two feet of freeboard.<br>• Pave, apply water three times daily, or apply (nontoxic) soil stabilizers on all unpaved access roads, parking areas, and staging areas at construction sites.<br>• Sweep daily (with water sweepers) all paved access roads, parking areas, and staging areas at construction sites.<br>• Sweep streets daily (with water sweepers) if visible soil material is carried onto adjacent public streets. |
| **Enhanced Control Measures - The following measures should be implemented at construction sites greater than 4 acres in area.** |
| • All "Basic" control measures listed above.<br>• Hydroseed or apply (nontoxic) soil stabilizers to inactive construction areas (previously graded areas inactive for ten days or more).<br>• Enclose, cover, water twice daily or apply (nontoxic) soil binders to exposed stockpiles (dirt, sand, etc.)<br>• Limit traffic speeds on unpaved roads to 15 mph.<br>• Install sandbags or other erosion control measures to prevent silt runoff to public roadways.<br>• Replant vegetation in disturbed areas as quickly as possible. |
| **Optional Control Measures - The following control measures are strongly encouraged at construction sites that are large in area, located near sensitive receptors or which for any other reason may warrant additional emissions reductions.** |
| • Install wheel washers for all exiting trucks, or wash off the tires or tracks of all trucks and equipment leaving the site.<br>• Install wind breaks, or plant trees/vegetative wind breaks at windward side(s) of construction areas.<br>• Suspend excavation and grading activity when winds (instantaneous gusts) exceed 25 mph.<br>• Limit the area subject to excavation, grading, and other construction activity at any one time. |

Source: BAAQMD, 1996.

Estimated CO concentrations exceeding the California Ambient Air Quality Standard of 9 parts per million (ppm) averaged over 8 hours and 20 ppm for 1 hour would be considered a significant impact.

*Total Emissions.* BAAQMD requires total emissions from project operation to be compared to the thresholds provided below. Total operational emissions evaluated under this threshold should include all emissions from motor vehicle use associated with the proposed project.

- Reactive Organic Gases (ROG): 80 lbs/day; 36 kg/day; 15 ton/yr
- Oxides of Nitrogen ($NO_X$): 80 lbs/day; 36 kg/day; 15 ton/yr
- Fine Particulate Matter ($PM_{10}$): 80 lbs/day; 36 kg/day; 15 ton/yr
- Carbon Monoxide (CO): 550 lbs/day (see local CO concentrations and emissions thresholds)

Projects that emit criteria air pollutants in excess of the levels indicated above would be considered to have a significant air quality impact.

**b. Less-than-Significant Air Quality Impacts.** Implementation of the proposed project would result in the following less-than-significant air quality impacts. Appendix B of this document contains a compendium of all *Draft General Plan* guidelines for reference.

**(1) Stationary Source Impacts.** This analysis has been undertaken at the programmatic level. Based on this analysis, implementation of the proposed project would not result in any significant air pollutant emissions from stationary sources, such as natural gas and/or electricity consumption. Once specific project development plans are proposed, they will be required to undergo independent environmental review for project-specific air quality impacts related to stationary source emissions (see guidelines OPER-2 and CAPACITY-2).

**(2) Vehicular Traffic Emissions.** The proposed project would add 750 parking spaces to the park site. These parking spaces have the potential to result in 1,125 daily trips on weekdays and 3,750 daily trips on weekends based on travel and park use patterns relied upon for the traffic and circulation analysis for this EIR. Due to the characteristics of the park uses, it is anticipated that the summer season has a higher potential to completely fill the available parking spaces than the winter season. Table III.B-6 shows potential pollutant emissions associated with these vehicular trips. The data show that emissions, both in summer and winter seasons, associated with the proposed project would be below the daily emissions thresholds established by the BAAQMD. The associated increase in peak hour CO concentrations at affected intersections would be small or not measurable. Table III.B-7 shows the CO concentrations at eight intersections under the Existing Without Project and With Project conditions. Table III.B-8 shows the CO concentrations under the year 2025 Without Project and With Project conditions. The project would add 0.1 ppm or less to both 1-hour and 8-hour CO concentrations at all intersections analyzed. The total CO concentrations would remain well below the federal and State 1-hour and 8-hour CO standards. No significant air quality impacts related to vehicular traffic emissions from the implementation of the proposed project would occur. No mitigation is required.

**(3) Construction Emissions.** The proposed project is a program level evaluation. No specific construction schedule or activities are known at this stage of impact analysis. A more detailed construction air quality impact analysis will be conducted in the future when site specific construction information for individual projects is available (see *Draft General Plan* guidelines VISIT-1, OPER-1, OPER-2, and CAPACITY-2). The BAAQMD does not require construction emissions to be quantified. As long as adequate control measures drawn from the list in Table III.B-5 are implemented when specific development projects are proposed and evaluated, air quality impacts associated with construction are considered to be less than significant.

**c. Significant Impacts.** The proposed project would not result in any significant air quality impacts.

**Table III.B-6: Carbon Monoxide Concentrations – Existing Conditions**

| Intersection | Distance to Receptor Location from Roadway Centerline (meters) | Without Project CO Concentrations 1-hour/8-hour[a] (ppm) | With Project CO Concentrations 1-hour/8-hour (ppm) | Project Related Increase 1-hour/8-hour (ppm) |
|---|---|---|---|---|
| Frontage Road & | 8 | 6.7/4.8 | 6.7/4.8 | 0.0/0.0 |
| Gilman Street | 8 | 6.6/4.7 | 6.6/4.7 | 0.0/0.0 |
| | 8 | 6.4/4.6 | 6.4/4.6 | 0.0/0.0 |
| | 10 | 6.4/4.6 | 6.4/4.6 | 0.0/0.0 |
| I-80 westbound Ramps | 7 | 8.2/5.9 | 8.2/5.9 | 0.0/0.0 |
| & Gilman Street | 10 | 8.0/5.7 | 8.0/5.7 | 0.0/0.0 |
| | 10 | 8.0/5.7 | 8.0/5.7 | 0.0/0.0 |
| | 12 | 7.9/5.7 | 7.9/5.7 | 0.0/0.0 |
| I-80 eastbound Ramps | 7 | 9.3/6.6 | 9.3/6.6 | 0.0/0.0 |
| & Gilman Street | 10 | 9.2/6.6 | 9.2/6.6 | 0.0/0.0 |
| | 10 | 8.6/6.1 | 8.6/6.1 | 0.0/0.0 |
| | 12 | 8.6/6.1 | 8.6/6.1 | 0.0/0.0 |
| Frontage Road & | 8 | 8.0/5.7 | 8.0/5.7 | 0.0/0.0 |
| University Avenue | 8 | 7.8/5.6 | 7.9/5.7 | 0.1/0.1 |
| | 8 | 7.7/5.5 | 7.8/5.6 | 0.1/0.1 |
| | 8 | 7.7/5.5 | 7.7/5.5 | 0.0/0.0 |
| 6th Street & University | 14 | 9.2/6.6 | 9.2/6.6 | 0.0/0.0 |
| Avenue | 14 | 9.1/6.5 | 9.2/6.6 | 0.1/0.1 |
| | 14 | 9.0/6.4 | 9.0/6.4 | 0.0/0.0 |
| | 15 | 9.0/6.4 | 9.0/6.4 | 0.0/0.0 |
| Frontage Road & I-80 | 8 | 6.6/4.7 | 6.6/4.7 | 0.0/0.0 |
| westbound Ramps | 8 | 6.6/4.7 | 6.6/4.7 | 0.0/0.0 |
| | 8 | 6.5/4.7 | 6.6/4.7 | 0.1/0.0 |
| | 8 | 6.5/4.7 | 6.5/4.7 | 0.0/0.0 |
| I-80 eastbound Ramps | 7 | 8.6/6.1 | 8.6/6.1 | 0.0/0.0 |
| & Powell Street | 7 | 8.5/6.1 | 8.5/6.1 | 0.0/0.0 |
| | 14 | 8.3/5.9 | 8.3/5.9 | 0.0/0.0 |
| | 15 | 8.3/5.9 | 8.3/5.9 | 0.0/0.0 |
| Christie Avenue & | 13 | 8.6/6.1 | 8.6/6.1 | 0.0/0.0 |
| Powell Street | 14 | 8.5/6.1 | 8.5/6.1 | 0.0/0.0 |
| | 15 | 8.4/6.0 | 8.4/6.0 | 0.0/0.0 |
| | 15 | 8.4/6.0 | 8.4/6.0 | 0.0/0.0 |

[a] Include background concentrations of 5.4 ppm for the 1 hour CO average and 3.9 ppm for the 8 hour CO average.

Source: LSA Associates, Inc., April 2002.

**Table III.B-7: Carbon Monoxide Concentrations – Year 2025 Conditions**

| Intersection | Distance to Receptor Location from Roadway Centerline (meters) | Without Project CO Concentrations 1-hour/8-hour (ppm)[a] | With Project CO Concentrations 1-hour/8-hour (ppm) | Project Related Increase 1-hour/8-hour (ppm) |
|---|---|---|---|---|
| Frontage Road & | 8 | 6.4/4.6 | 6.4/4.6 | 0.0/0.0 |
| Gilman Street | 8 | 6.3/4.5 | 6.3/4.5 | 0.0/0.0 |
| | 8 | 6.2/4.5 | 6.2/4.5 | 0.0/0.0 |
| | 10 | 6.2/4.5 | 6.2/4.5 | 0.0/0.0 |
| I-80 westbound Ramps | 7 | 7.0/5.0 | 7.0/5.0 | 0.0/0.0 |
| & Gilman Street | 10 | 6.8/4.9 | 6.8/4.9 | 0.0/0.0 |
| | 10 | 6.8/4.9 | 6.8/4.9 | 0.0/0.0 |
| | 12 | 6.8/4.9 | 6.8/4.9 | 0.0/0.0 |
| I-80 eastbound Ramps | 7 | 7.5/5.4 | 7.5/5.4 | 0.0/0.0 |
| & Gilman Street | 10 | 7.5/5.4 | 7.5/5.4 | 0.0/0.0 |
| | 10 | 7.2/5.2 | 7.2/5.2 | 0.0/0.0 |
| | 12 | 7.1/5.1 | 7.1/5.1 | 0.0/0.0 |
| Frontage Road & | 8 | 6.9/5.0 | 6.9/5.0 | 0.0/0.0 |
| University Avenue | 8 | 6.8/4.9 | 6.9/5.0 | 0.1/0.1 |
| | 8 | 6.8/4.9 | 6.8/4.9 | 0.0/0.0 |
| | 8 | 6.8/4.9 | 6.8/4.9 | 0.0/0.0 |
| 6th Street & University | 14 | 7.3/5.2 | 7.3/5.2 | 0.0/0.0 |
| Avenue | 14 | 7.3/5.2 | 7.3/5.2 | 0.0/0.0 |
| | 14 | 7.3/5.2 | 7.3/5.2 | 0.0/0.0 |
| | 15 | 7.2/5.2 | 7.2/5.2 | 0.0/0.0 |
| Frontage Road & I-80 | 8 | 6.4/4.6 | 6.4/4.6 | 0.0/0.0 |
| westbound Ramps | 8 | 6.3/4.5 | 6.3/4.5 | 0.0/0.0 |
| | 8 | 6.3/4.5 | 6.3/4.5 | 0.0/0.0 |
| | 8 | 6.3/4.5 | 6.3/4.5 | 0.0/0.0 |
| I-80 eastbound Ramps | 7 | 7.6/5.4 | 7.6/5.4 | 0.0/0.0 |
| & Powell Street | 7 | 7.5/5.4 | 7.5/5.4 | 0.0/0.0 |
| | 14 | 7.4/5.3 | 7.4/5.3 | 0.0/0.0 |
| | 15 | 7.3/5.2 | 7.3/5.2 | 0.0/0.0 |
| Christie Avenue & | 13 | 7.4/5.3 | 7.4/5.3 | 0.0/0.0 |
| Powell Street | 14 | 7.4/5.3 | 7.4/5.3 | 0.0/0.0 |
| | 15 | 7.4/5.3 | 7.4/5.3 | 0.0/0.0 |
| | 15 | 7.4/5.3 | 7.4/5.3 | 0.0/0.0 |

[a] Include background concentrations of 5.4 ppm for the 1 hour CO average and 3.9 ppm for the 8 hour CO average.

Source: LSA Associates, Inc., April 2002.

# C. BIOLOGICAL RESOURCES

The following section describes biological resources that occur within the project site and the regulatory context for protecting biological resources. Potential impacts to biological resources that would result from implementation of the proposed project are identified, and mitigation measures are recommended, as appropriate.

## 1. Setting

The following discussion summarizes information contained in the Habitat Issues chapter of the *Eastshore Park Project Resource Inventory* (*Resource Inventory*) on biological resources in and around the project site and relevant biological resource policy considerations.[1]

**a. Plant Life.** The information on the plant life of the project site in this section is based on a review of existing information, interpretation of aerial photos, and three botanical field surveys by LSA Associates, Inc. (LSA) staff .[2]

**(1) Terrestrial Vegetation.** Historically, extensive salt marshes surrounded San Francisco Bay. Between 75 percent and 90 percent of these salt marshes are estimated to have been filled or diked since 1850[3]. The uplands and marshes of the project area are mostly located on manmade fill material that has extended the shoreline an average of 1,000 feet into San Francisco Bay. Due to the recent creation of the substrate, little is left of the historic, natural plant communities. Even with these changes, some marsh communities have survived or colonized the project area, and combined with the newly vegetated fill areas, form valuable shoreline habitats. As a result of human modification of the landscape, however, natural upland plant communities are largely absent in the project site. Wetland and upland vegetation of the project area is classified into seven plant communities, which are described below.

**(2) Wetland Plant Communities.** Wetland plant communities in the project area can be classified into three types: coastal salt marsh, brackish marsh, and non-tidal wetlands.

*Coastal salt marsh* is restricted to the upper intertidal zone of protected shallow bays, lagoons, and estuaries. The salt marsh plant community is composed of low-growing plants, ranging in height from a few inches to about 3 feet. Typically, tidal mudflats occupy the bayward edge of coastal salt marshes in the project area. The mudflats are bordered by pure stands of cordgrass that are replaced at the mean high water level by a dense cover of pickleweed. Characteristic species of the upper marsh zone include saltgrass, alkali heath, marsh gumplant, sand-spurrey and other salt-tolerant native and non-native plants. San Francisco Bay salt marshes support mostly native species (except at the upland edge), but an invasive species, smooth cordgrass, has been observed in marshes in the project area and has colonized many other portions of San Francisco Bay in the last decade.

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[1] The *Resource Inventory* is a public document that is available on the Eastshore Park Project website at www.eastshorestatepark.org.

[2] Field surveys were conducted by LSA Associates on February 28, March 6, and March 7, 2001.

[3] Association of Bay Area Governments, et. al., 1991. Status and Trends Report on Wetlands and Related Habitats in the San Francisco Estuary. San Francisco Estuary Project, Oakland, CA. December.

Extensive coastal salt marsh vegetation occurs at the Emeryville Crescent, Hoffman Marsh, and the South Richmond Marshes. Smaller salt marshes have formed along the shoreline of the Albany Mudflats and the northeastern shore of the Albany Bulb. Historically, salt marshes graded into brackish/freshwater marsh and then into grassland or scrub communities. The majority of the salt marshes within the project area, however, end abruptly at fill slopes, dikes, or rip-rapped shorelines.

A small *non-tidal salt marsh* is located at the south end of the Hoffman Marsh, where a low berm excludes tidal flows from this portion of the marsh. Its vegetation is similar to that of tidal salt marshes.

*Brackish marsh* occurs in shallow, standing or slow-moving water, where fresh water enters an area that is influenced by saline tidal waters. Brackish marsh has formed in a small drainage along the eastern portion of the Brickyard. A small brackish marsh was also observed at the northwestern corner of the Albany Bulb.

*Non-tidal wetland* vegetation occurs in areas where soils remain ponded and/or saturated for a prolonged period of time during the winter and, in some cases, well into the spring. Two types of non-tidal wetlands were located in the project area: seasonal wetlands and seeps (non-tidal salt marsh is discussed as a sub-type of coastal salt marsh, above). Many seasonal wetlands are present at the Berkeley Meadow, and smaller numbers were noted at the North Basin Strip, the Brickyard, and the Albany Plateau and Neck. Species known to occur in the Berkeley Meadow wetlands include rabbit's-foot grass, Italian wildrye, Mediterranean barley, nutsedge, fathen, cut-leaf plantain, and bristly oxtongue. Most of these plants are non-native species that have invaded wetlands in disturbed areas in California. Two small seeps have been recorded in the project area (at the Albany Bulb), with plant species similar to those in the seasonal wetlands.

**(3) Upland Plant Communities.** As most upland (non-wetland) vegetation in and adjacent to the project area occurs on fill material, native upland plant species were absent historically, except at Pt. Isabel, which is a highly disturbed remnant of the historic shoreline. Because the fill is relatively recent, and has been subject to repeated disturbance, the upland plant communities are weedy and support mostly non-native species. Upland plant communities in the project area can be classified into four types: northern foredunes, sandy beaches, ruderal scrub, and ruderal/non-native grassland.

*Northern foredunes* are typically dominated by perennial grasses and low, often succulent, perennial herbs and subshrubs. These plants, which provide a scattered to nearly complete vegetative cover, are adapted to moving sands and salt-laden winds. Typical northern foredunes vegetation with its characteristic native plant associations is absent from the project area. However two stretches of beach with some dune formation (Albany Beach and the beach north of Ashby Avenue) support two foredune indicator species: a relatively dense cover of bursage interspersed with sea-rocket, a non-native species. Invasive, non-native species such as ripgut brome, iceplant, Kikuyu grass, and a European daisy are present on, or are starting to invade the dunes.

*Sandy beaches* with foredunes and upland vegetation are located at Albany Beach and north of Ashby Avenue; and the beach at Brickyard Cove has both upland and wetland vegetation. Small sandy beaches with varying amounts of vegetation are present along the Emeryville and Berkeley

shorelines, at the outfalls of Strawberry Creek and Schoolhouse Creek, and just north of North Pt. Isabel.

*Ruderal scrub* is a plant community growing in disturbed areas and, in the project area, consists mostly of non-native shrubs, broad-leaved species, and grasses. An exception is coyote brush, a native species that dominates the ruderal scrub in large portions of the project area, including the Berkeley Meadow, Albany Neck and Bulb, Pt. Isabel, and upland areas adjacent to Hoffman Marsh and the South Richmond marshes. French broom, cotoneaster, and other non-native shrubs provide an extensive cover in some of these areas.

*Ruderal/non-native grassland* is typically composed of a dense cover of annual grasses and broad-leaved plants adapted to colonizing and persisting in disturbed areas. The vegetation is approximately three feet tall. This community is dominated by non-native species, but native grasses and wildflowers are present in varying densities. Ruderal/non-native grassland covers large areas at the Albany Plateau, North Basin Strip, and Brickyard, and smaller areas south of University Avenue and south of Powell Street.

*Trees* are present in small numbers, scattered throughout the project site, but woodland communities are absent. Most of the trees are non-native, but stands of arroyo willow (and potentially other native species of willow) are present in the Berkeley Meadow, along the marsh edge at Emeryville Crescent, in the southern portion of the North Basin Strip, and along the eastern boundary of the Brickyard. Willows and a few blue elderberry trees also occur on the steep sideslopes of the Albany Bulb, Neck, and Plateau.

**(4) Aquatic Vegetation.** Aquatic vegetation (as defined in this document) is characterized by plants that germinate and complete their life cycles submersed in water. The aquatic vegetation in the project area is found only in the marine environment, and thus is discussed in the *Marine Life and Ecology* section of this document.

**(5) Rare, Threatened, and Endangered Species.** This section discusses the rare, threatened, endangered, and other special-status plant species that could occur within the project site, based on their geographic ranges, their specific habitat requirements, and prior records in the general vicinity of the project. A special-status plant species, as defined here, meets one or more of the following criteria:

- Officially listed by the California Department of Fish and Game (CDFG) as rare, threatened, or endangered and/or by the USFWS as threatened or endangered, or proposed for listing.
- A federal or State candidate species for listing as threatened or endangered or State candidate for listing as rare. Such a species may become formally listed during the course of a project.
- Designated by the California Native Plant Society (CNPS)[4] as List 1A (presumed extinct in California), List 1B (rare, threatened or endangered in California and elsewhere), or List 2 (rare,

[4] Skinner, M.W. and B.M. Pavlik, Eds., 1994. Inventory of Rare and Endangered Vascular Plants of California. 5th edition. California Native Plant Society, Sacramento, California (and/or the Electronic Inventory of Rare and Endangered Vascular Plants of California).

threatened or endangered in California but more common elsewhere). These species may meet the definition of rare and endangered under the *California Environmental Quality Act* (CEQA).[5]

Based on a review of prior records, LSA identified eight special-status plant species that have previously been found in the general vicinity of the project site. None of the eight species is known to occur at the present time within the project site or vicinity. Based on the available information, and the habitat conditions observed in the project site, LSA determined that only three special-status plant species have the potential to occur in the project site: (1) soft bird's-beak (federally endangered, state-listed as rare, and on CNPS' List 1B); (2) Pt. Reyes bird's beak (on CNPS' List 1B); and (3) Contra Costa goldfields (federally endangered and on CNPS' List 1B). The two species of bird's-beak are restricted to salt marshes, and the Contra Costa goldfields occurs in seasonally ponded or other mesic areas.

**(6) Exotic (Non-native) Plants.** About 95 percent of the plant species observed during the March 2001 survey were exotic species. Exotic plants are dominant in grassland and shrub communities. Native species are dominant in salt marshes, and some native species were observed in sandy and rocky beach areas.

Two exotic plant species observed in the project area are of great concern because they are highly invasive and pose threats to wetlands: smooth cordgrass and perennial peppergrass. Of all the exotic plant species along the margins of San Francisco Bay, smooth cordgrass is perhaps the most important from an ecological perspective[6] due to its tenacity and ability to convert valuable mudflats and small tidal channels into areas with relatively low habitat value. Several other extremely invasive species are present in relatively localized portions of the project area (see the *Resource Inventory*).

**b. Animal Life.** This section describes the wildlife use of the uplands, tidal salt and brackish marshes, and non-tidal wetlands in the project area, while the *Marine Life and Ecology* section focuses on the tidal flats and open waters of the bay. This section is based on a review of previous studies pertaining to the project area and vicinity, a search of the *California Natural Diversity Data Base,*[7] and reconnaissance-level field surveys of the project site.[8] Additional information was obtained from selected observations by LSA biologists during the past 15 years.

**(1) Terrestrial Animal Life.** Terrestrial vegetation types within the project area (including both the uplands and the vegetated wetlands) are described in the *Plant Life* section of this document. No creeks are present in the project area, except for their outfalls; nor are there any lakes or permanent ponds.

C*oastal salt and brackish marshes*, commonly referred to as tidal marshes, provide habitat for invertebrates, birds, small mammals, and fish. Tidal salt and brackish marshes provide refuge, forage, and breeding habitat for many different organisms, including a number of threatened and

[5] CEQA Section15380.

[6] Goals Project, 1999. Baylands Ecosystem Habitat Goals. *A Report of Habitat Recommendations prepared by the San Francisco Bay Area Wetlands Ecosystem Goals Project.* First Reprint. U.S. Environmental Protection Agency, San Francisco, Calif./S.F. Bay Regional Water Quality Control Board, Oakland, California.

[7] CDFG, 2001. Op. cit.

[8] Field surveys for wildlife species were completed by LSA staff on February 28 and March 6, 2001.

endangered species. Birds are the most conspicuous members and include wading birds such as great blue heron, great egret, and snowy egret; shorebirds such as willet, marbled godwit, and American avocet; and other water birds such as American wigeon, mallard, American coot, and pied-billed grebe. Tidal salt marshes, particularly the larger ones (Emeryville Crescent, South Richmond Marshes, and Hoffman Marsh), provide known or potential habitat for many different organisms, including special-status species such as California clapper rail, Alameda song sparrow, and saltmarsh common yellowthroat. The non-tidal salt marsh at the south end of Hoffman Marsh probably supports a lower diversity of wildlife, due to lack of tidal flows or well-developed tidal channels.

*Sandy beaches and foredunes* are extensions of the marine environment but are not inhabited exclusively by marine species. Various terrestrial insects, especially flies, bees, butterflies, and beetles, are often present in these habitats. Reptiles such as garter snakes and western fence lizard, and mammals including several species of mice, black-tailed hare, and raccoon may also be present. Numerous birds such as water pipit, sparrows, gulls, and shorebirds often forage, rest, and preen in these habitats. The sandy beach and foredunes, especially at Albany Beach, Brickyard, and just north of Ashby Avenue, are rare habitat types in the Bay and, if not disturbed frequently, provide roost-sites that shorebirds require during high-tide periods.

*Ruderal/non-native grassland* vegetation provides refuge and foraging habitat for many animal species. Fewer species use the habitat for breeding or nesting. Amphibian and reptile species may include Pacific treefrog, western fence lizard, western terrestrial garter snake, and gopher snake. Birds, foraging primarily on seeds, include white-crowned sparrow, song sparrow, California towhee, and mourning dove. Savannah sparrow and western meadowlark may also nest within this habitat. The vegetation provides good foraging habitat for predatory birds, such as American kestrel, red-tailed hawk, northern harrier, white-tailed kite, and burrowing owl. Numerous small mammals inhabit the ruderal grasslands, including meadow vole, house mouse, California ground squirrel, and Botta's pocket gopher.

*Ruderal scrub* typically supports a higher diversity of animal species than ruderal grassland because the shrubs increase protective cover and provide potential nest-sites for birds, such as northern mockingbird, Brewer's blackbird, red-winged blackbird, Anna's hummingbird, American goldfinch, and lesser goldfinch. Loggerhead shrike, northern harrier, and even white-tailed kite may nest in ruderal scrub habitat. Within the project site, birds of prey are most likely to nest at the Berkeley Meadow and the Albany Bulb and Neck, where large patches of ruderal scrub habitat are present. Smaller areas of ruderal scrub occur at the Albany Plateau, North Basin Strip, Brickyard, and adjacent to the South Richmond Marshes and Hoffman Marsh.

*Trees*, which occur in small numbers in scattered locations, provide important perch-sites and potential nest-sites for raptors such as white-tailed kite, red-tailed hawk, red-shouldered hawk, and Cooper's hawk, and provide habitat for many other bird species. Trees, particularly the native willows, are important habitat features that enhance the wildlife values of other habitat types.

*Non-tidal wetlands* identified in the project area consist of numerous seasonal wetlands and two seeps (and a non-tidal salt marsh, discussed with coastal salt and brackish marshes, above). Seasonal wetlands provide drinking water to birds, raccoons, and other mammals, and foraging habitat for great blue herons, great egrets, mallards, and red-winged blackbirds. Depending on the amount of disturbance, some water birds and marsh birds may nest in or near some of the seasonal wetlands. Pacific

treefrog and western toad may breed in some of the seasonal wetlands, particularly those that pond water for longer periods of time. The abundance of smaller or juvenile amphibians and the moist conditions of seasonal wetlands provide suitable habitat for garter snakes. The isolated seeps may provide similar habitat values, depending on their salinity and the extent of ponded water.

*Artificial habitat features* such as abandoned piers, pilings, breakwaters, and remote levees provide important wildlife habitat values along the highly modified, urbanized shoreline of the project area. Water birds such as gulls, cormorants, pelicans, terns, and shorebirds use these features as perch-sites that are relatively free from disturbance by people, dogs, and other predators. These features (except the pilings) are particularly important for shorebirds, which require undisturbed roost-sites at high tide, when their foraging areas are inundated. Another artificial feature, the rip-rap and fill debris along much of the shoreline of the project area, serves as foraging habitat for several shorebird species, including black turnstone, ruddy turnstone, spotted sandpiper, black oystercatcher, and surfbird. Artificial habitat features are also important for marine mammals and fish (see the *Marine Life and Ecology* section).

**(2) Aquatic Animal Life.** For the purposes of this document, "aquatic" animals are defined as those organisms that are dependent upon freshwater aquatic habitats, such as lakes or ponds, for most or all of their life cycle. Those species that utilize freshwater aquatic habitats for only a limited amount of time each year and spend the majority of their time in uplands or marine habitats are described in the *Terrestrial Animal Life* section (above) or the *Marine Life and Ecology* section (below).

The absence of year-round aquatic habitats within the project site precludes the presence of most aquatic animal species. There are no lakes or permanent ponds within the project site that would provide aquatic habitat for fish and most aquatic invertebrates. However, some of the larger, deeper seasonal wetlands (which are ponded for longer periods) may support aquatic arthropods such as seed shrimp, mosquito larvae, water beetles, water fleas, and water midges, and may serve as breeding habitat for amphibians such as Pacific treefrog.

**(3) Rare, Threatened, and Endangered Species**. The following categories of special-status species are discussed in this section:

- Animals listed or proposed for listing as threatened or endangered under the federal Endangered Species Act, or identified as federal candidate species for possible future listing.
- Animals listed as threatened or endangered, or candidates for listing, under the California Endangered Species Act.
- Animals that meet the definitions of rare or endangered under the California Environmental Quality Act.
- Animal species of special concern to the California Department of Fish and Game.
- Animals fully protected in California.
- Nesting raptors, which are protected by the California Fish and Game Code.

Based on the habitat types present within the project site, a preliminary review of the available literature, and a search of the California Natural Diversity Database (CNDDB), LSA identified 18

special-status wildlife species that are known to occur, or have the potential to occur, at the site. Table III.C-1 summarizes the status and potential for occurrence of these species within the project site. Those special-status species groups that primarily occur in the marine environment, that is, fish and marine mammals, are addressed in the *Marine Life and Ecology* section of this document.

LSA identified 7 of the 18 species listed in Table III.C-1 as "key resource species" for consideration in the Eastshore Park planning process. The selection of these species as key resources is based on their potential for occurrence in the park, their legal or protective status, the possibility of project-related impacts affecting them, or the possibility that restoration activities within the project site could substantially benefit the species.

The key resource species are California clapper rail, California black rail, California least tern, white-tailed kite, northern harrier, burrowing owl, and salt-marsh harvest mouse. In 2000, the endangered California least tern nested on one of the artificial islands at the north side of the Albany Mudflat (just outside the project area), a significant event, as least terns nest in only a few locations in northern California. Three threatened or endangered species, the California clapper rail, California black rail, and salt marsh harvest mouse, are found primarily in tidal marshes. Both the clapper rail and the black rail have been observed at Emeryville Crescent; the clapper rail probably nests in the South Richmond marshes; and the salt marsh harvest mouse is considered possible but unlikely to occur in the salt marshes in the project area. Three other key resource species (the burrowing owl, white-tailed kite, and northern harrier) have been observed repeatedly in ruderal scrub and grasslands of the project area. A pair of northern harriers nested in the Berkeley Meadow in 2001, and a pair of white-tailed kites nested near the Berkeley Meadow (and foraged in the Meadow) in 2001.

**(4) Special Interest Species.** In addition to the special-status species, described above, a number of special interest animal species and species groups have been identified within or near the project site, including:

- The great abundance and diversity of shorebirds and waterfowl (see the *Marine Life and Ecology* section); and
- The noteworthy abundance and diversity of other wildlife species (including many birds of prey), given the isolation of the project site within a highly urbanized area.

**(5) Invasive Exotic Species.** Norway rats, black rats, and feral cats are considered to be the primary pest species within the project site. Both rats and cats cause considerable impacts to native wildlife, particularly songbirds and ground-nesting birds, including their eggs and young. All three pest species have the potential to adversely affect several of the special-status wildlife species in the project site, including clapper rails, black rails, Alameda song sparrow, saltmarsh common yellowthroat, and possibly burrowing owls. In addition, rats are vectors of a number of serious diseases.

**Table III.C-1: Special-Status Wildlife Species Known to Occur or Potentially Occurring at the Eastshore Park Project Site**

| Species | Status* (Federal/State) | Potential For Occurrence |
|---|---|---|
| California Brown Pelican (*Pelecanus occidentalis californicus*) | FE/SE,CFP | Observed.[a,c] Known to forage in the shallow subtidal portions of the project site. May occasionally roost on the piers and breakwaters but no nesting colony is present.[b] |
| Double-crested Cormorant (*Phalacrocorax auritus)* | --/CSC | Observed.[a,c] Often present in the shallow nearshore and offshore portions of the project site. No nesting colony is present.[b] |
| Western Snowy Plover (*Charadrius alexandrinus nivosus)* | FT/CSC | Possible. Could forage on tidal flats in project site. No suitable nesting habitat is present. |
| California Least Tern (*Sterna antillarum browni*) | FE/SE | Nested in 2000 on a recently-created, shell-covered island just south of Central Avenue.[a] Forages in the open water areas in and around Albany Mudflat, South Richmond Marshes, and Brooks Island, and potentially at Emeryville Crescent and other portions of the project site. |
| Northern Harrier (*Circus cyaneus)* | --/CSC | Observed.[a,c] Nested near the northwest corner of the Berkeley Meadow in 2001.[d] Suitable foraging and nesting habitat present within ruderal (scrub and grassland) plant communities, particularly at Albany Bulb, Neck, and Plateau; Berkeley Meadow and North Basin; and the Brickyard. Suitable foraging habitat present at Emeryville Crescent and other areas. |
| White-tailed Kite (*Elanus leucurus)* | --/CFP | Observed.[a,c] Suitable foraging and nesting habitat is present within ruderal (scrub and grassland) plant communities. (In the same general areas as the northern harrier). |
| American Peregrine Falcon (*Falco peregrinus anatum*) | –/SE, CFP | Known to feed at the Emeryville Crescent and Albany Mudflat.[a,c] No nest sites within the project site,[b] but nests nearby on the Bay Bridge. |
| Osprey *(Pandion haliaetus)* | --/CSC | Observed.[c] Probably forages, at least occasionally, in the shallow subtidal portions of the project site. |
| California Black Rail *(Laterallus jamaicensis coturniculus)* | –/ST,CFP | Reported in 1999 at Emeryville Crescent.[b] Suitable habitat also present in other areas of tidal marsh habitat, particularly in the South Richmond Marshes and Hoffman Marsh. |
| California Clapper Rail *(Rallus longirostris obsoletus)* | FE/SE,CFP | Probably nested in 2000 in tidal marsh habitat of South Richmond Marshes.[a,e] Also known to occur at Emeryville Crescent.[b] |
| Burrowing Owl *(Athene cunicularia hypugea)* | --/CSC | Known to occur at the Albany Bulb and along the North Basin Strip although the breeding status is unknown.[a,c] Recorded south of University Avenue, near the Berkeley Meadow[f] and along the south shoreline of the North Basin.[d] Suitable habitat occurs in portions of the Berkeley Meadow and Albany Plateau. |
| Short-eared Owl *(Asio flammeus)* | --/CSC | Previously reported from the Hoffman Marsh.[g] Suitable foraging and nesting habitat occurs in marsh and ruderal/grassland areas. |
| Loggerhead Shrike *(Lanius ludovicianus)* | --/CSC | Probable. Nesting and foraging habitat within the ruderal scrub communities in the project site. |

Table III.C-1 *continued*

| Species | Status* (Federal/State) | Potential For Occurrence |
|---|---|---|
| California Horned Lark *(Eremophila alpestris actia)* | --/CSC | Possible in ruderal/non-native grassland areas. |
| Saltmarsh Common Yellowthroat *(Geothlypis trichas sinuosa)* | –/CSC | Occurs at Emeryville Crescent[h] and along the Albany shoreline.[i] Previously reported to occur in Hoffman Marsh although breeding status was unknown.[g] Suitable nesting habitat present within tidal marsh and scrub habitats. |
| Alameda Song Sparrow *(Melospiza melodia pusillula)* | --/CSC | Occurs at Emeryville Crescent.[h] Suitable nesting habitat is present within tidal marsh, non-tidal salt marsh, and adjacent upland habitats. |
| Salt-marsh Wandering Shrew *(Sorex vagrans halicoetes)* | --/CSC | Possible, but unlikely due to the limited extent of transitional and upland habitat adjacent to tidal and non-tidal salt marsh in the project site. |
| Salt-marsh Harvest Mouse (*Reithrodontomys raviventris*) | FE/SE,CFP | Possible but unlikely despite presence of suitable pickleweed habitat in the tidal and non-tidal salt marsh areas. |

* Status:

| Federal | State |
|---|---|
| FE = Federally Endangered Species | SE = State Endangered Species |
| FT = Federally Threatened Species | ST = State Threatened Species |
| | CSC = California Species of Special Concern |
| | CFP = California Fully Protected Species |

[a] Observed by LSA biologists.
[b] California Department of Fish and Game (CDFG), 2001. *California Natural Diversity Database* (CNDDB). The Resources Agency, Department of Fish and Game, Natural Heritage Division, Sacramento, CA.
[c] City of Albany, 1995. *A Proposal for the Albany Portion of the Eastshore Park.* Submitted to the East Bay Regional Park District, Oakland, CA. June 1995. City of Albany, Albany, CA.
[d] Greenberg, Corinne, 2001. Golden Gate Audubon Society. Personal communication.
[e] Based on observation of courtship and copulation during breeding season, April 2000.
[f] Donald, Patti, 2001. Shorebird Nature Center, Berkeley. Personal communication.
[g] Western Ecological Services Company (WESCO), 1990. *Liquid Gold Site/Hoffman Marsh; Biological Investigations, Final Report.* Prepared for Kennedy/Jenks/Chilton, San Francisco, CA.
[h] Caltrans, 1995. *ALA-80 High Occupancy Vehicle Lane Project. Final Biological Mitigation Report*. Prepared in support of ACE Permit # 16686S49. Caltrans District 4, Office of Environmental Planning, North.
[i] Near the Codornices Creek outfall, 2000-2001 (Ohlson, Kristin, 2001. Personal communication.)

Source: Compiled by LSA Associates, Inc., 2002.

**c. Marine Life and Ecology**. Information on marine life and ecology of the project site was obtained from a review of previous studies pertaining to the project site and vicinity, a search of the *California Natural Diversity Data Base,*[9] and reconnaissance-level field surveys of the project site.[10] Additional information was obtained from selected observations made by LSA biologists during the last 15 years.

**(1) Marine Flora and Fauna.** Seven different marine habitats have been identified in the project area: rocky intertidal; tidal flats; tidal salt marsh; sandy beach; shallow subtidal; piers, pilings, and breakwaters; and eelgrass beds. A large proportion of the project area is comprised of shallow subtidal (open water) and tidal flats (including mudflats and sand flats).

*Rocky intertidal zone* is comprised mostly of rip-rap and occurs along a large portion of the shoreline. In some locations, such as the east side of the North Basin, the rocky intertidal zone is strewn with fill debris. No naturally occurring rocky shoreline is present in the project area. The predominant plant species within the rocky intertidal habitat are macro-algae ("seaweeds") such as green algae and red algae. The rip-rap, pebbles, cobbles, and miscellaneous debris also provide substrate and refuges for invertebrate species. Mussels and barnacles were observed throughout the rocky intertidal zone, along with beach hoppers and shorecrabs. Birds prey on rocky intertidal invertebrates at low tide, while nearshore fish prey on these species at high tide. American crow, western gull, black oystercatchers, ruddy turnstones, and black turnstones were observed in the project area foraging among the cobbles and pebbles, feeding on mussels and crabs.

*Tidal flats* lie between the vegetated tidal marshes (or rocky intertidal) and the permanently submerged subtidal habitat further offshore. Vegetation is usually limited to seasonal blooms of microscopic algae such as diatoms, golden browns, and blue-greens, and scattered patches of green macro-algae. Invertebrates are abundant and include annelid worms, bivalves, tube-dwelling crustaceans, shrimp, crabs, and gastropods. Tidal flats are a prominent habitat type at low tide and are well-developed at Albany Mudflats, Emeryville Crescent, and the South Richmond Marshes. Less extensive, yet still important tidal flats also occur in the smaller, protected embayments at the Brickyard and in the North Basin. Collectively, the tidal flats of the project area are valuable, productive areas that support an abundance and diversity of organisms.

At low tides, large concentrations of shorebirds forage on tidal flats during July through early May, and especially during fall and spring migrations. Thousands of western and least sandpipers, dunlins, dowitchers, marbled godwits, willets, curlews, plovers, and avocets forage in the mud for worms, small crustaceans, and bivalves. Peregrine falcons (a state endangered species) sometimes forage over the tidal flat areas. Various species of gulls also gather on tidal flats, and wading birds such as snowy egrets and great blue herons search for small fish that occur at the water's edge. During high tides, when the muddy substrate is submerged, birds such as grebes, loons, cormorants, and terns (including the endangered California least tern) feed on nearshore fish. Diving ducks (e.g., scaup, ruddy duck, bufflehead, goldeneyes, redhead, and canvasback) and dabbling ducks (e.g., American wigeon, mallard, and gadwall) rest or feed on the vegetation and small invertebrates of the tidal flats.

[9] CDFG, 2001. Op. cit.

[10] Reconnaissance-level surveys of the project site marine environment were conducted by LSA staff on March 6 and 7, 2001.

*Tidal salt marshes*, particularly the larger ones (Emeryville Crescent, South Richmond Marshes, and Hoffman Marsh), are ecologically very important because they provide habitat for several special-status species; a variety of shorebirds, marsh birds, and small mammals; and numerous invertebrate species. They also contribute valuable nutrients to the Bay ecosystem. More details are provided in the *Animal Life* and *Plant Life* sections of this document.

*Sandy beach* is an intertidal habitat that merges at the upper limit with northern foredunes or rocky, rip-rap habitat and at the lower limit with shallow subtidal habitat. Invertebrate organisms burrow deeply into the sediment to avoid displacement by passing waves, permanent burial by moving sediment, desiccation, or predation. Crustaceans (especially sand crabs, beach hoppers, and sow bugs), polychaete worms, and bivalve mollusks are present. At low tide, foraging shorebirds, such as sanderlings, black-bellied plovers, and willets, prey on intertidal invertebrates. At high tide, nearshore fish prey on intertidal species. The sandy beaches within the Eastshore Park, especially at Albany Beach, Brickyard, and north of Ashby Avenue, are important habitats because of their limited distribution within the East Bay and potential use by roosting shorebirds.

*Shallow subtidal zone* is seaward of the intertidal zone and is continually submerged. Although the subtidal plant community is limited, this habitat harbors a diversity of animal species. Crustaceans, tube-dwelling polychaetes, clams, and gastropods have been collected during benthic sampling. Fish species such as American shad, bat ray, brown rockfish, chinook salmon, leopard shark, striped bass, white croaker, smelt, northern anchovy, shiner perch, starry flounder, and speckled sanddab are present. Thousands of waterfowl occur during the non-breeding season (primarily October through April) in the nearshore subtidal zone, especially at the Emeryville Crescent, South Sailing Basin, North Basin, Albany Mudflats, and South Richmond Marshes. These waters are also used (primarily during the non-breeding season) by many other water birds, including loons, grebes, cormorants, coots, gulls, terns, and California brown pelicans. Marine mammals, primarily harbor seal and California sea lion, also occur in the shallow subtidal zone of the park.

*Artificial habitat features* such as abandoned piers, pilings, and breakwaters provide substrate for many species of algae and invertebrates. Fish, especially perch, are also members of the "piling community." California sea lions may occasionally haul out on the breakwaters near the South Richmond Marshes. These artificial habitat features are also important for many species of water birds (see the *Animal Life* section, above).

*Eelgrass beds* are highly productive systems that provide nutrients to the Bay ecosystem as well as food and shelter for numerous species of marine invertebrates and fish. Eelgrass is a rooted, flowering plant that occurs in sparse to dense patches ("beds") in the shallow subtidal and lower intertidal zones. The Pacific herring, a commercially important fish species, often spawns in eelgrass beds. Eelgrass beds also contribute to the stabilization of bottom sediments, thereby reducing erosion and ultimately improving water quality. Four eelgrass beds have been observed in the project area (off the Albany Beach, in the North Basin, south of Brickyard Cove, and in the Emeryville Crescent), and a fifth is near the project area (west of Pt. Isabel).

**(2) Rare, Threatened, and Endangered Species**. The categories of special-status species discussed in this section are the same as for the *Animal Life* section of this document. In addition, this section addresses animals protected by the Marine Mammal Protection Act of 1972.

Six special-status marine species have been observed, or could occur, in the project area (in addition to the rare water birds and tidal marsh birds discussed in the *Animal Life* section and the rare tidal marsh plants discussed in the *Plant Life* section). The chinook salmon and steelhead are anadromous fish species that may transit through the project area during their seasonal migrations.[11] The tidewater goby, a federally endangered fish species, formerly occurred in the vicinity, but is now thought to be extirpated in San Francisco Bay. Harbor seals and California sea lions have been observed in the project area,[12] and a southern sea otter was observed in January, 2002 near the western tip of the Albany Bulb.[13]

**(3) Special Interest Species and Habitats**. In addition to the special-status species noted above, several marine species and habitats were identified as having special educational, scientific, or management interest within the Eastshore Park project site:

- *Shorebird Diversity and Abundance*. The project site is particularly noteworthy for its abundance of shorebirds. The Albany Mudflats and Emeryville Crescent are the most important mudflat areas for shorebirds in North San Francisco Bay (between the Bay Bridge and the Richmond-San Rafael Bridge), based on 13 comprehensive Bay-wide shorebird censuses conducted by Point Reyes Bird Observatory in 1988 to 1993.[14] Albany Mudflat supported, on average, the largest number of shorebirds per census (6,761 shorebirds), and Emeryville Crescent the next highest number (6,156 shorebirds). Together, the two sites supported, on average, 60 percent of the shorebirds in North San Francisco Bay.
- *Shorebird Roost-sites*. Suitable, undisturbed roost-sites are critical habitat elements for shorebirds. Shorebirds require such roost-sites at high tide, when their foraging areas (primarily the tidal mudflats) are inundated. Important shorebird roost-sites documented within the project site are listed on page M-9 of the *Resource Inventory.*
- *Diving Ducks*. Three species of diving ducks—canvasback, redheads, and common goldeneyes—are more common in the project site than at most other regions within the Bay. These species raft and forage within the shallow subtidal and intertidal zone throughout much of the project site,[15] along with large flocks of scaups, ruddy ducks, and buffleheads.
- *Eelgrass Beds*. Eelgrass beds are ecologically important habitats that are utilized by many different species of invertebrates and fish, and are often used as a spawning substrate by Pacific herring. Four eelgrass beds have been identified in the project area.

[11] Two varieties of chinook salmon potentially occur in the project area: the California Central Valley Spring-run ESU (federally and state-listed as threatened) and the winter-run (federally and state-listed as endangered). The steelhead that potentially occurs in the project area is the California-Central Valley ESU (federally listed as threatened).

[12] Harbor seals and California sea lions are protected by the federal Marine Mammal Protection Act.

[13] Southern sea otters are federally listed as threatened.

[14] Stenzel, Lynne, 2001. Point Reyes Bird Observatory. Personal communication with LSA Associates, Inc. April 2.

[15] NOAA/CDFG-OSPR, 1998. Op. cit.

- *Marine Invertebrates*. Pacific rock crab and red rock crab are of special interest from a sportfishing standpoint. These species of crustaceans are likely to be present near rocky and man-made shores within the project site[16] and therefore may merit special management consideration.

**d. Regulatory Context.** Biological resources on the site may be subject to numerous agency jurisdictions and regulations, which are described below.

**(1) U.S. Fish and Wildlife Service (USFWS)**. The USFWS has jurisdiction over species that are formally listed as threatened or endangered under the federal Endangered Species Act (ESA). The ESA protects listed wildlife species from harm or "take." The term "take" is broadly defined as to "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct." An activity is defined as a "take" even if it is unintentional or accidental. Project-related impacts to federally-listed, proposed, and candidate species or their habitats are considered "significant" under CEQA guidelines (discussed below).

**(2) California Department of Fish and Game (CDFG)**. The CDFG has jurisdiction over threatened or endangered species that are formally listed by the State under the California Endangered Species Act. The California Endangered Species Act is similar to the federal ESA both in process and substance; it is intended to provide protection to threatened and endangered species in California. The California Endangered Species Act prohibits the take of any plant or animal listed or proposed as threatened, endangered, or rare (applies only to plants). The California Endangered Species Act does not supersede the federal ESA, but operates in conjunction with it. Species may be listed as threatened or endangered under both acts (in which case the provisions of both State and federal laws would apply) or under only one act.

Under the State Fish and Game Code, the CDFG also has jurisdiction over species that are designated as "fully protected." These species are protected against direct impacts. The CDFG maintains informal lists of "species of special concern." These species are broadly defined as plants and wildlife that are of concern to the CDFG because of population declines and restricted distributions, and/or they are associated with habitats that are declining in California. Project-related impacts to species on the State lists of endangered or threatened species, "fully protected" species, and species of special concern are considered "significant" under *CEQA Guidelines* (discussed below). The CDFG also exerts jurisdiction over the bed, banks, and channels of watercourses according to the provisions of Section 1601 to 1603 of the Fish and Game Code. CDFG requires a Streambed Alteration Permit for the fill or removal of any material from any natural drainage. The jurisdiction of the CDFG extends to the top of bank and often includes the adjacent riparian vegetation.

**(3) U.S. Army Corps of Engineers (Corps)**. Under Section 404 of the Clean Water Act, the Corps is responsible for regulating the discharge of fill material into waters of the United States. Waters of the United States and their lateral limits are defined in 33 CFR (Code of Federal Regulations) Part 328.3 (a) and include tidal waters, streams that are tributary to navigable waters, and their adjacent wetlands. Wetlands that are not adjacent to waters of the United States are termed "isolated wetlands" and are subject to Corps jurisdiction under certain circumstances.

[16] Ibid.

In general, a Corps permit must be obtained before placing fill in wetlands or other waters of the U.S. The type of permit depends on the amount of acreage and the purpose of the proposed fill and is subject to discretion from the Corps. Corps authorizations are usually granted under either a nationwide permit or an individual permit. To qualify for a nationwide permit, a project must meet certain conditions and have no more than a minimal adverse effect on the aquatic ecosystem. The Corps typically interprets this condition to mean that impacts are minor and there will be no net loss of either wetland acreage or wetland habitat value, and this process usually results in the need to provide mitigation for project-related fill of any tidal water, creek, or wetland.

An individual permit is usually required where a nationwide permit is not applicable. The consideration of an individual permit includes, but is not limited to, factors such as significant acreage of wetlands or waters of the U.S., areas of high biological or unique value, or length of watercourse affected. Individual permits require review of the project by the public, an alternatives analysis that demonstrates that wetland impacts have been avoided or minimized to the extent possible, and appropriate compensatory mitigation for unavoidable impacts.

**(4) Regional Water Quality Control Board (RWQCB)**. Pursuant to Section 401 of the Clean Water Act, projects that apply for a Corps permit for discharge of dredged or fill material into wetlands or other waters of the U.S./State, must obtain water quality certification from the RWQCB. This certification ensures that the project will uphold State water quality standards. Alternatively, the RWQCB may elect to notify an applicant that the State may issue Waste Discharge Charge Requirements in lieu of a Section 401 certification for a project.

**(5) CEQA Guidelines, Section 15380.** Although threatened and endangered species are protected by specific federal and State statutes, CEQA *Guidelines*, Section 15380(b) provides that a species not included on the federal or State lists of protected species may be considered rare or endangered if the species can be shown to meet certain specified criteria. These criteria have been modeled after the definitions in the federal ESA and the California Fish and Game Code. This section was included in the guidelines primarily to deal with situations in which a public lead agency is reviewing a project that may have a significant effect on a species that has not yet been listed by either the USFWS or CDFG. Thus, CEQA provides a lead agency with the ability to protect a species from a project's potential impacts until the respective government agencies have an opportunity to designate the species as protected, if warranted.

**(6) California Native Plant Society (CNPS)**. The CNPS, a non-governmental conservation organization, has developed lists of plants of special concern in California.[17] A CNPS List 1A plant is a species, subspecies, or variety that is considered to be extinct. A List 1B plant is considered rare, threatened, or endangered in California and elsewhere. A List 2 plant is considered rare, threatened, or endangered in California but is more common elsewhere. A List 3 plant is a species for which CNPS lacks necessary information to determine if it should be assigned to a list or not. A List 4 plant has a limited distribution in California.

All of the plant species on List 1 and List 2 are considered to meet the requirements of Section 1901, Chapter 10 (Native Plant Protection Act) or Sections 2062 and 2067 (California Endangered Species Act) of the California Fish and Game Code, and thus are considered eligible for State listing.

[17] Skinner, M.W., and B.M. Pavlik, eds. 1994. op. cit.

Therefore, plants appearing on List 1 or 2 are considered to meet CEQA's Section 15380 criteria, and effects to these species are considered "significant" in this document. Species on CNPS List 3 and List 4 are not addressed in this EIR.

**(7) Other Statutes, Codes, and Policies Affording Species Protection**. The federal Migratory Bird Treaty Act (16 U.S.C., Sec. 703, Supp. I, 1989) prohibits killing, possessing, or trading in migratory birds except in accordance with regulations prescribed by the Secretary of the Interior. This act encompasses whole birds, parts of birds, and bird nests and eggs. The federal Bald and Golden Eagle Protection Act prohibits persons within the United States (or places subject to U.S. jurisdiction) from "possessing, selling, purchasing, offering to sell, transporting, exporting or importing any bald eagle or any golden eagle, alive or dead, or any part, nest, or egg thereof." Additionally, birds of prey (hawks, eagles, falcons, and owls) are protected in California under the State Fish and Game Code, Section 3503.5). Section 3503.5 states that it is "unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto." Disturbance that causes nest abandonment and/or loss of reproductive effort is considered "taking" by the CDFG and would be considered a significant impact.

## 2. Impacts and Mitigation Measures

This section analyzes impacts related to biological resources that would result from implementation of the proposed project. The section begins with the criteria of significance, which establish the thresholds to determine whether an impact is significant. The latter part of this section presents the impacts associated with the proposed project and proposes mitigation measures, if required.

**a. Criteria of Significance.** The proposed *Draft General Plan* would have a significant impact on biological resources if it would:

- Result in substantial reduction in numbers of, restriction in range for, or loss of habitat for a population of any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or USFWS;
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or USFWS;
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act through direct removal, filling, hydrological interruption, or other means;
- Create substantial interference with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- Conflict with the provisions of an approved local, regional or State policy or ordinance protecting biological resources, such as a tree preservation policy or ordinance; or
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional or State Habitat Conservation Plan.

**b. Less-than-Significant Biological Resources Impacts.** Less-than-significant impacts associated with implementation of the *Draft General Plan* are discussed below. Appendix B of this document contains a compendium of all *Draft General Plan* guidelines for reference.

No major wildlife movement corridors pass through upland portions of the site, because the project is surrounded by either urban development or the waters of San Francisco Bay. Nor do any major movement corridors of fish or marine mammals pass through the aquatic portions of the site. Therefore, implementation of the *Draft General Plan* would not interfere substantially with the movement of established, native resident or migratory fish or wildlife species, nor would it impede the use of native wildlife nursery sites. Additionally, the *Draft General Plan* would not conflict with provisions for protecting biological resources as outlined in any approved local, regional, or State policy, ordinance, or Habitat Conservation Plan.

In developing the proposed *Draft General Plan,* it was recognized that implementation of the plan could have the potential to adversely affect biological resources, including wetlands and special-status species, that are known to occur, or potentially occur, within the project area. Therefore, the *Draft General Plan* has incorporated numerous policies (including the designation of preservation areas and conservation areas) that would avoid, minimize, or compensate for these effects, and would thus reduce them to a less-than-significant level.

The following discussion describes and evaluates the potential for adverse effects on biological resources and summarizes the land use designations and management guidelines in the *Draft General Plan* that would avoid these impacts or reduce them to a less-than-significant level. The land-use designations are presented in Section B (*Classification and Management Zones*) and the management guidelines are described in Section C (*General Project-Wide Management Goals and Guidelines*) and Section D (*Specific Area Goals and Guidelines*) of the *Draft General Plan.*

**(1) Special-status Plant Species.** Special-status plant species are considered unlikely to occur in the park, but two species (soft bird's beak and Point Reyes bird's beak) potentially occur in relatively undisturbed tidal salt marsh. In addition, the Contra Costa goldfields could occur in seasonally ponded or other moderately moist areas in the park, such as those in the Berkeley Meadow and elsewhere. The *Draft General Plan* incorporates specific management guidelines (which are referenced below) and land-use designations (described below) that would avoid, minimize, or compensate for possible impacts on special-status plant species:

1. Designating all of the tidal marshes in the park as preservation areas (including the Emeryville Crescent, Albany Mudflat, and Hoffman/South Richmond Marshes).

2. Designating most of the seasonal wetlands in the park as conservation areas (including the Berkeley Meadow, the southern portion of the North Basin Strip, and the Albany Neck and Bulb).

3. Incorporating protection measures for special-status plant species in the Maintenance Plan for the park (see guideline OPER-4).

4. Requiring protection measures as part of the Specific Project Plans to be prepared prior to developing park facilities in various areas. These measures include pre-construction surveys for

special-status plant species, modification of development plans to avoid or minimize impacts, protection measures during construction, and appropriate measures to offset any unavoidable impacts (see guidelines PLANTS-12, -13, -14, and -15).

**(2) Nesting Raptors and Shrikes.** The upland and seasonal wetland habitats in the park provide known or potential nesting habitat for northern harriers, white-tailed kites, short-eared owls other raptors (e.g., red-tailed hawk), and loggerhead shrike. A pair of northern harriers nested in the Berkeley Meadow in 2001, and white-tailed kites have been recorded nesting near the Meadow in recent years. Suitable nesting habitat for raptors is present at the Berkeley Meadow; North Basin Strip; Albany Bulb and Neck; the southern and western portions of the Brickyard; Hoffman Marsh; and South Richmond Marshes. Raptors are considered unlikely to nest at the Albany Plateau under present conditions, due to the relative lack of vegetative cover in most of this area and the relatively high use by visitors and dogs. Portions of the Plateau (mostly near the northern and eastern perimeter) provide potential nesting habitat for loggerhead shrikes, as do most of the upland areas in the park.

Park development could have adverse effects on nesting raptors and shrikes due to establishment of trails and other facilities within and adjacent to suitable nesting and foraging habitat, and increased use of these areas by visitors and dogs. Additionally, park development could substantially reduce the area of suitable upland foraging habitat for raptors and shrikes, primarily in the Recreation Areas at the Albany Plateau and the North Basin Strip. The *Draft General Plan* incorporates specific management guidelines (which are referenced below) and land-use designations (described below) that would avoid, minimize, or compensate for these effects by:

1. Designating the park areas with the highest quality nesting and foraging habitat for raptors and shrikes as conservation areas (including the Berkeley Meadow, southern portion of North Basin Strip, Albany Neck and Bulb, northern and eastern perimeter of the Albany Plateau, and southern and western portion of the Brickyard).

2. Incorporating protection measures for raptors, shrikes, and other wildlife species in the Maintenance Plan for the park (see guideline OPER-4).

3. Requiring the following protection measures for raptors and shrikes, and their habitats, as part of the Specific Project Plans to be prepared prior to developing park facilities in various areas:

    a. Requiring pre-construction surveys for raptors and shrikes, and establishing construction buffers to protect any active nests until nesting activities are completed (see guidelines WILDLIF-4, -5, -6, and Appendix A in the *Draft General Plan*).

    b. Providing long-term protection for upland and seasonal wetland habitats within preservation areas and conservation areas, and minimizing impacts on these habitats due to development of trails and other park facilities (see guideline WILDLIF-1).

    c. Minimizing disturbance to upland habitat during removal of safety hazards at the Albany Bulb and Neck (see guideline A-13).

d. Minimizing disturbance of raptors and shrikes in conservation areas at the Berkeley Meadow/North Basin Strip, Albany Neck and Bulb, and Brickyard by appropriate trail design and by prohibiting off-leash dogs (see guidelines WILDLIF-1 and OPER-5).

e. Providing additional protection for raptors and shrikes in the Berkeley Meadow by (1) designating a large area in the central portion of the Meadow as off-limits to public access, and (2) installing fencing and signs as necessary to prevent off-trail access by visitors and dogs and to minimize disturbance to wildlife (see guidelines BM/NB-1 and -6).

**(3) Burrowing Owls.** Wintering burrowing owls have been observed in the park at North Basin Strip, the northern perimeter of the Berkeley Meadow, the shoreline area south of University Avenue, and the Albany Bulb. These and other upland areas of the park provide foraging habitat and potential nesting habitat for burrowing owls.

Park development could substantially reduce the area of suitable upland foraging habitat for burrowing owls, as described above for other raptors. Park development could also substantially reduce the availability of suitable nesting and roosting sites for burrowing owls (such as ground squirrel burrows, rip-rap, and concrete rubble piles). Potential nesting and roosting sites could be lost due to removal or disturbance of rip-rap along the northern perimeter of the Berkeley Meadow and in other areas; removal of concrete rubble piles to reduce safety hazards at the Albany Bulb and Neck; and development of park facilities in upland areas occupied by ground squirrels. The *Draft General Plan* incorporates specific management guidelines (which are referenced below) and land-use designations (described below) that would avoid, minimize, or compensate for these effects by:

1. Implementing the protection measures described above for raptors and shrikes, including protection of upland and seasonal wetland habitat and protection from disturbance by visitors and dogs.

2. Requiring the following additional protection measures for burrowing owls and their nesting and roosting habitats, as part of the Specific Project Plans to be prepared prior to developing park facilities in various areas:

   a. Requiring pre-construction surveys for burrowing owls and establishing construction buffers to protect any occupied burrows. During the breeding season, such buffers will be protected until nesting activities are completed. During the non-breeding season, if such buffers cannot be protected, the burrowing owls will be passively relocated, subject to prior approval by CDFG (see guidelines WILDLIF-4, -5, -6, and Appendix A in the *Draft General Plan*).

   b. To the extent feasible, preserving suitable burrowing owl den-sites (rodent burrows, rip-rap, and rubble piles) that are present in conservation areas and preservation areas, and allowing ground squirrel populations to persist (as a source of burrows) (see guideline WILDLIF-2).

   c. Minimizing disturbance to rubble piles that provide suitable nest- or roost-sites for burrowing owls, during removal of safety hazards at the Albany Bulb and Neck (see guideline A-13).

**(4) Tidal Salt Marsh, Non-tidal Salt Marsh, and Associated Special-status Species.** The tidal marsh habitat within the project area is considered a sensitive natural community and provides known or potential habitat for special-status species such as California clapper rail, California black rail, short-eared owl, saltmarsh common yellowthroat, Alameda song sparrow, and salt marsh harvest mouse. The non-tidal salt marsh provides potential habitat for short-eared owl and salt marsh harvest mouse. Within the project site, tidal marsh habitat is present at the South Richmond Marshes, Hoffman Marsh, Albany Mudflats, Emeryville Crescent, and a small lagoon at the northeast corner of the Albany Bulb. Non-tidal salt marsh is present at the south end of the Hoffman Marsh.

No park facilities are planned in tidal or non-tidal salt marshes, but adverse effects on these habitats, and associated special-status species, could result from (1) marsh restoration activities (temporary effects); (2) construction activities adjacent to tidal marshes; and (3) disturbances due to substantially increased use of the park area by visitors and dogs. Tidal marsh species such as California clapper rails are vulnerable to disturbance by construction activities, people and dogs, especially at high tides, when they may be forced to the upper edge of the marsh and into adjacent uplands. The *Draft General Plan* incorporates specific management guidelines (which are referenced below) and land-use designations (described below) that would avoid, minimize, or compensate for these effects by:

1. Designating all of the tidal and non-tidal salt marsh areas in the park as preservation areas (including the Emeryville Crescent, Albany Mudflat, Hoffman/South Richmond Marshes, and the northeast lagoon at the Albany Bulb).

2. Incorporating protection measures for tidal and non-tidal salt marshes and associated special-status species as part of the Operations and Maintenance Manual for the park (see guideline OPER-4).

3. Requiring protection measures for tidal and non-tidal salt marshes and associated special-status species, if construction will occur in or within 100 feet from these habitats, as part of the Specific Project Plans to be prepared prior to developing park facilities in various areas. Specific protection measures include:

    a. Requiring pre-construction surveys for special-status bird species that could occur in these habitats (see guideline WILDLIF-4).

    b. If such species are present (or assumed to be present, in lieu of doing surveys), minimizing adverse effects by: (1) modifying the project to avoid or minimize impacts on special-status bird species; (2) establishing construction buffers to protect any active nests until nesting activities are completed; or (3) scheduling construction activities during the non-breeding season (see guidelines WILDLIF-5, -6, and Appendix A in the *Draft General Plan*).

    c. Consulting with USFWS and CDFG regarding potential effects on salt marsh harvest mouse, and conducting surveys and/or implementing protection measures as required (see guidelines WILDLIF-4 and Appendix A in the *Draft General Plan*).

d. Prohibiting the planting of trees within 200 feet of tidal and non-tidal salt marsh areas that may support special-status wildlife species. Trees provide perches for avian predators that prey on these species (see guideline WILDLIF-10).

e. Limiting access to tidal and non-tidal salt marshes by visitors and dogs, by means of trail design, buffers, and fencing, as needed to minimize adverse effects, and prohibit off-leash dogs in these marshes (see guidelines WILDLIF-11, OPER-5, A-14, and PI/SR-8).

**(5) Shorebirds, Waterfowl, and Other Water Birds.** The park area is noteworthy for its abundance of water birds, especially shorebirds and waterfowl. During the non-breeding season (primarily August through April), thousands of shorebirds forage in the shallow waters and mudflats of the park area. The Albany Mudflats and Emeryville Crescent have been identified as the most important mudflat areas for shorebirds in the north San Francisco Bay (between the Bay Bridge and the Richmond-San Rafael Bridge), and the mudflats at Brickyard Cove and the South Richmond Marshes are also important as shorebird foraging areas. The project area also contains several important high-tide shorebird roost-sites, which are critical habitat elements for these species. In addition to shorebirds, thousands of waterfowl and other water birds occur during the non-breeding season (primarily October through April) in the nearshore waters of the park.

Development of the park could increase disturbance of shorebirds, waterfowl, and other water birds by park visitors and dogs. Such disturbances could have adverse effects on shorebirds and waterfowl that are roosting or feeding along the shoreline. Additionally, waterfowl and other water birds are vulnerable to disturbance by boating and windsurfing. The *Draft General Plan* incorporates specific management guidelines (which are referenced below) and land-use designations (described below) that would avoid, minimize, or compensate for these effects by:

1. Designating most of the tidal mudflat areas in the park as preservation areas (e.g., Emeryville Crescent, Albany Mudflats, and South Richmond Marshes) or conservation areas (e.g., Brickyard Cove), and designating selected subtidal areas as conservation areas (e.g., at the western part of the Emeryville Crescent and the west end of the Albany Bulb).

2. Incorporating protection measures for water birds in the Maintenance Plan for the park (see guideline OPER-4).

3. Requiring the following protection measures for shorebirds, waterfowl, and other water birds as part of the Specific Project Plans to be prepared prior to developing park facilities in various areas:

   a. Conducting pre-construction surveys to identify important high-tide shorebird roosts; establishing construction buffers (to the extent feasible) to protect the roosts until construction is completed; and implementing appropriate measures to offset unavoidable impacts (see guidelines WILDLIF-4, -5, -6, and Appendix A in the *Draft General Plan*).

   b. Protecting important shorebird roost-sites and other important water bird habitats from disturbance by means of trail design, buffers, fencing, and signs (see guidelines WILDLIF-11, EC-4, A-9, A-10, A-21, A-22, and PI/SR-4).

c. Developing guidelines for the use of non-motorized vessels in the North Basin and Brickyard Cove, before constructing water access improvements adjacent to these waters, as necessary to minimize disturbance of water birds. The guidelines may include seasonal closures to boating, restrictions on the types or numbers of watercraft, restrictions on the areas open to boating, or other measures (see guidelines MARINE-3, BM/NB-12, and SB/NE-5).

d. Prohibiting motor boats and motorized personal watercraft in the park, to the extent permitted by federal and State law, and developing measures to discourage such use (see guidelines MARINE-1 and MARINE-4).

e. Prohibiting non-motorized boats and sailboards in all aquatic preservation areas, to the extent permitted by federal and State law (see guideline MARINE-2).

**(6) Wetlands and Other Aquatic Habitats.** Wetlands present in the project area consist of tidal salt marshes (discussed above), brackish marshes, and non-tidal wetlands. The non-tidal wetlands consist of a non-tidal salt marsh (discussed above), as well as freshwater seasonal wetlands and seeps. Other aquatic habitats in the park include the rocky intertidal zone (composed of rip-rap and fill debris); tidal mudflats and sandflats; sandy beaches; the shallow subtidal zone; artificial habitat features; and eelgrass beds.

Potential effects on tidal and non-tidal salt marsh, and protection measures for these habitats, are described above. The project could also have adverse effects on seasonal wetlands, brackish marshes, and seeps, due to trail construction, construction of other park facilities, and temporary effects during wetland restoration projects. Some of the artificial habitat features could be altered or removed, which could have adverse effects on shorebird roost-sites (discussed above). Substantial areas of rip-rap will be removed, but this is not considered a significant impact, due to the low value of this habitat. No construction activities are proposed in tidal mudflats, sandflats, the subtidal zone, or eelgrass beds. The *Draft General Plan* incorporates specific management guidelines (which are referenced below) and land-use designations (described below) that would avoid, minimize, or compensate for these effects by:

1. Designating the most important wetland and aquatic habitat areas as preservation areas or conservation areas. These include all of the tidal and non-tidal salt marshes (see above), as well as substantial areas of seasonal wetlands, brackish marshes, and seeps at the Berkeley Meadow, southern portion of the North Basin Strip, Albany Neck and Bulb, and the Brickyard.

2. Protecting aquatic habitats and important shorebird roost-sites from disturbance (see *Shorebirds, Waterfowl, and Other Water Birds*, above).

3. Incorporating protection measures for wetlands in the Maintenance Plan for the park (see guideline OPER-4).

4. Requiring the following protection measures for wetlands and other aquatic habitats as part of the Specific Project Plans to be prepared prior to developing park facilities in various areas:

a. Conduct a delineation (map) of wetlands and other aquatic habitats that are subject to U.S. Army Corps of Engineers jurisdiction (see guideline PLANTS-5).

b. Modify the development plans to avoid or minimize impacts on wetlands and other aquatic habitats (see guideline PLANTS-6).

c. If some disturbance to wetlands is unavoidable, implement appropriate measures to ensure that the project does not result in a net loss of wetland acreage or habitat value (see guideline PLANTS-7).

d. Provide long-term management to ensure the persistence and health of preserved and restored wetlands (see guideline PLANTS-9).

**(7) Eelgrass Beds.** Eelgrass beds occur in tidal flats and shallow subtidal habitats, and five eelgrass beds have been located in or near the park. Eelgrass beds are vulnerable to adverse effects from increased traffic by motor boats and motorized personal watercraft. The *Draft General Plan* incorporates specific management guidelines (which are referenced below) and land-use designations (described below) that would avoid, minimize, or compensate for these effects by:

1. Establishing an aquatic conservation area in the western portion of the Emeryville Crescent, which supports one of the known eelgrass beds in the park.

2. As part of the Specific Project Plans to be prepared before developing park facilities in various areas, prohibiting motor boats and motorized personal watercraft in the park (to the extent permitted by federal and State law), and developing measures to discourage such use (see guidelines MARINE-1 and MARINE-4).

**c. Significant Biological Resources Impacts**. No potentially significant biological impacts would occur with implementation of the *Draft General Plan*.

# D. CULTURAL RESOURCES

This section discusses the historical context of the Eastshore Park project site and its vicinity, describes existing cultural resource conditions within the project site, and briefly summarizes the regulatory context pertaining to cultural resources. The setting information contained in this section is summarized from information contained in the *Eastshore Park Project Resource Inventory* (*Resource Inventory*). Potential impacts to cultural resources that would result from implementation of the proposed project are identified, and mitigation measures are recommended, where appropriate.

## 1. Setting

The following section summarizes the cultural history of the project site, and describes prehistoric, historical, and other cultural resources found within or adjacent to the project site. Relevant cultural resource policies are also discussed. Please refer to the Cultural Resources section of the *Resource Inventory* for a more comprehensive discussion of cultural history and resources within the project site.[1]

**a. History of the Project Site.** The following discussion summarizes the human history of the project site from approximately 7,000 years ago to the present day.

**(1) Native Groups.** Human occupation of the Bay Area began between about 7,000 and 4,000 years ago as post-Pleistocene glacial melt flooded the coastal valley which was in the process of becoming San Francisco Bay.[2] Native groups settled around the Bay shore at places close to marsh resources with sources of fresh water, such as at the mouths of perennial creeks. The descendants of these native groups prefer to be called Ohlone although they are often referred to by the name of their linguistic group, Costanoan.[3] The project site is within the former ethnographic territory of the Huichiun tribelet of Ohlone, who occupied a large area along the East Bay shore. The Huichiun spoke Chochenyo, one of eight Costanoan languages. Ohlone culture was rapidly transformed when European settlers moved into northern California. These settlers set up the mission system and exposed the Ohlone to diseases to which they had no immunity. After the secularization of the missions in 1834, native people in the Bay Area moved to ranchos, where they worked as manual laborers.[4]

**(2) Non-Indigenous Groups.** Hispanic exploration along the California coast began in the sixteenth century, but it was not until the Portolá expedition trekked north from San Diego in 1769 that Europeans saw San Francisco Bay. Spanish settlement in the Bay Area focused around missions and presidios at Monterey, Santa Cruz, San Juan Bautista, San Jose, Santa Clara, San Francisco, San Rafael, and San Francisco Solano. No missions were established in the northern East Bay, despite its

[1] The *Resource Inventory* is a public document that is available on the Eastshore Park website: www.eastshorestatepark.org.

[2] Moratto, Michael J., 1984. *California Archaeology*.

[3] Margolin, Malcolm, 1978. *The Ohlone Way: Indian Life in the San Francisco-Monterey Bay Area*.

[4] Levy, Richard, 1978. "Costanoan." In *Handbook of North American Indians, Volume 8: California.* Smithsonian Institution, Washington, D.C.

agricultural fertility and large native population. The Spanish referred to the East Bay as *Contra Costa* – the "opposite" or "other" coast – and considered it a backwater.[5]

Given the generally negative Spanish impression of the East Bay, it is unsurprising that Luis Peralta, 1820 grantee of a 50,000-acre tract encompassing the modern cities of Oakland, Berkeley, Alameda, Albany, Emeryville, Piedmont, and parts of San Leandro, was disappointed with his grant. Peralta, a retired sergeant with 40 years in the service of the Spanish crown, had hoped for lands closer to San José, his final post. Nevertheless, the 50,000-acre Rancho San Antonio was an impressive grant, and it elevated Peralta and his family into the ranks of the *Californio* aristocracy. The rancho immediately north of San Antonio, San Pablo, included portions of Pt. Isabel which are now within the project site. Rancho San Pablo was granted to Francisco María Castro in 1823. The Castro family lived in an adobe near what is now the El Cerrito Plaza shopping center and used Pt. Isabel as a shipping point for cattle hides and other agricultural products.[6]

The discovery of gold at Sutter's Mill in 1848 brought thousands of new residents to northern California and dramatically increased settlement in the East Bay. But the East Bay's gold rush development was unlike San Francisco's and its raucous Barbary Coast; instead, the "other coast" was known as a quiet area settled by shopkeepers, farmers, and their families.[7] The recipients of Spanish land grants lost their property to Yankees, who founded the towns of Oakland, Emeryville, and Ocean View (later incorporated into the City of Berkeley).

Industry developed along the Bay shoreline in response to the construction of local shipping facilities and the inexpensive cost of East Bay land. Factories and warehouses were built along the waterfront, including the Standard Soap Company at the foot of University Avenue; the West Berkeley Planing Mill, which processed lumber; and companies which produced noxious or explosive products. Fleming Point became the location first of an explosives company, then of the San Francisco Chemical Company, which manufactured various acids for industrial and laboratory use. The Vigorite Powder Works on Pt. Isabel manufactured explosives. Farther north, at Stege, was the California Cap Company, a major explosives manufacturer during the late 19th and early 20th centuries.[8] The California Cap Company's shipping pier survives west of the shoreline trail which runs through the northern portion of the project site. The company's facilities were purchased by the University of California in 1950 and developed into the Richmond Field Station. Many of the company's buildings and structures remain on-site,[9] and the Cap Company is a listed Contra Costa County Historic Resource.[10]

[5] Wollenberg, Charles, 1985. *Golden Gate Metropolis: Perspectives on Bay Area History*. Institute of Governmental Studies, University of California, Berkeley.

[6] Hoover, Mildred Brooke, Hero Eugene Rensch, Ethel Rensch, and William N. Abeloe, 1990. *Historic Spots in California*. 4th edition, revised by Douglas E. Kyle.

[7] Johnson, Marilynn S., 1993. *The Second Gold Rush: Oakland and the East Bay in World War II*.

[8] California Cap Company, 1922. "The California Cap Company: A Story of the Development of the Blasting Cap Industry, with Sidelights on Manufacturing." In *The Detonator*, July 1922:26-28.

[9] Bell, Larry, 2001. Facilities Manager, Richmond Field Station. Interview with Sara Palmer, Historian, LSA Associates, Inc.

[10] Contra Costa County Planning Department, 1976. *Preliminary Historic Resources Inventory*.

The City of Berkeley used its shoreline for municipal waste disposal. By 1923, Berkeley residents had approved a plan to bury their garbage in a "fill and cover" landfill along the shoreline.[11] Fill was also placed along the Albany Neck and Bulb and in Emeryville. Filling along the East Bay shoreline ceased in the 1980s. The waterfront remained an industrial area through much of the 20th century, but recent years have seen a gradual decline in manufacturing businesses. Industry is generally being replaced by retail operations, including the Costco discount store on Pt. Isabel, the Berkeley Fourth Street retail district, and Emeryville's shopping centers.

**b. Cultural and Historic Resources.** Several existing and potential cultural resources within and adjacent to the project site are recorded in the files of the Northwest Information Center of the California Historical Resources Inventory System,[12] the California State Lands Commission, and the California Native American Heritage Commission. These resources include prehistoric archaeological sites and historic shipwrecks.

**(1) Prehistoric Sites.** Between 1906 and 1908, N.C. Nelson conducted the first intensive survey of archaeological sites in the San Francisco Bay region.[13] Nelson documented 425 "earth mounds and shell heaps" on the San Francisco Bay shoreline and the Pacific coast between the Russian River and Half Moon Bay.[14] A number of these resources have since been investigated by archaeologists. Although the prehistoric Bay shore shell mounds have generally been classified as habitation and resource processing sites, among their predominant archaeological features are the skeletal remains of native Californians.

No known prehistoric sites are located within the areas surveyed for the *Resource Inventory*. Sites have been identified near, and in areas environmentally similar to, the project site. A number of prehistoric sites have also been identified within a ½-mile radius of the project site, primarily along the former Bay shoreline and near sources of fresh water. Because of the proximity of known and recorded prehistoric sites, the project site is likely to contain additional undocumented prehistoric cultural resources. Areas where creeks historically flowed into the Bay are particularly sensitive.

**(2) Historical Archeological Sites.** No historical archaeological sites are recorded within the project site, nor were any sites identified during the survey described above. However, several locations within the project site are likely to contain historical archaeological sites, and are listed below:

- California State Lands Commission files indicate that three maritime cultural resources may be within the project site.
- Pt. Isabel is listed in the *Contra Costa County Historic Resources Inventory* as the site of the Rancho San Pablo landing. If remains of this landing still exist, they could be historically

[11] Pettitt, George A., 1973. *Berkeley: The Town and Gown of It*.

[12] The Northwest Information Center is an affiliate of the State of California Office of Historic Preservation and is the official state repository of cultural resources reports and records for 16 northern California counties, including Alameda and Contra Costa Counties.

[13] Moratto, Michael J., 1984. *California Archaeology*.

[14] Nelson, Nels C., 1909. "Shellmounds of the San Francisco Bay Region." In *University of California Publications in American Archaeology and Ethnology* 7(4):309-356.

significant for their associations with the economic development of the East Bay during the Spanish and Mexican periods.

- Buried historical archaeological remains from the area's past industrial development may exist within the boundaries of the project site from Pt. Isabel south to the Bay Bridge.
- Municipal refuse deposits which are more than 50 years old and have been used as fill along the shoreline could constitute significant archaeological resources.

**(3) Standing Structures and Features.** One pier within the project site and one adjacent to it, both of which are at least 50 years old, were identified and recorded on Department of Parks and Recreation Form 523 cultural resource records during the *Resource Inventory* survey. One pier is located at the shoreline adjacent to the project area just southwest of the University of California Richmond Field Station (formerly the site of the California Cap Company) and the other is located immediately west of Golden Gate Fields at Fleming Point, within the project area. These piers have not been evaluated for their eligibility for inclusion on the California or National registers. The piers, in isolation, appear to lack the historical associations with notable events or people, the engineering qualities, and the data potential necessary to meet the criteria of either the National or California registers. However, if the complexes with which the piers are associated meet Register criteria, then the piers could be considered contributing historical features.

Portions of the Bay Bridge, immediately south of the project site, are eligible for listing on the National Register of Historic Places. The Bay Bridge is also listed in *Historic Civil Engineering Landmarks of San Francisco and Northern California*[15] and in Caltrans' *Historic Highway Bridges of California*.[16]

**(4) Possible Cultural Resources.** This class of resources within and in the vicinity of the project site can be divided into two groups. The first group consists of six cultural resources of indefinite age, including:

- A group of pilings in the water north of Fleming Point, just north of the recorded Fleming Point Pier (inside project area);
- A V-shaped line of pilings to the north side of the Albany Neck (inside project area);
- A lamp post set on a concrete block on the northeastern edge of the Albany Neck, across from the mouth of Cordonices Creek (inside project area);
- A concentration of shells and shell fragments along the pedestrian path through Hoffman Marsh (inside project area);
- The berm which has been converted from a railroad track bed into the shoreline path (i.e., Bay Trail inside project area); and
- A partially submerged boat in the Richmond mudflats north of Pt. Isabel (inside project area).

[15] Myers, William A., Editor, 1977. *Historic Civil Engineering Landmarks of San Francisco and Northern California*. The History and Heritage Committee, San Francisco Section, American Society of Civil Engineers, San Francisco.

[16] Mikesell, Stephen D., 1990. *Historic Highway Bridges of California*. State of California Department of Transportation.

The second group of possible resources is an informal collection of "plop" or "wild" art. The northern East Bay waterfront has a tradition, which involves individuals building and depositing impromptu "art" installations along the shoreline. This "wild art" has been a part of the waterfront scene since at least the late 1960s, and is manifested in a variety of forms throughout the project area.[17] During recent years, State and local agencies have removed many "wild art" objects from the Emeryville Crescent, in the interest of protecting environmental values and maintaining the public's health, safety and welfare. "Wild art" objects visible in the vicinity of the project site during the summer of 2001 included a metal butterfly in the waters south of the Brickyard area and a driftwood bench on Fleming Point. A visual survey of the Albany Bulb identified many "wild art" objects within this area of the project site (see the *Resource Inventory* for additional information*)*.

None of the "wild art" objects located within the park project are very old. Most are ephemeral in nature, and have not been constructed to endure. The installations are interesting and unique to the area. As such, the General Plan requires that appropriate review be conducted by a cultural resource professional prior to any disturbance. As part of this review, State Parks will determine whether the practice of art making along the East Bay shoreline warrants consideration as a cultural resource (see following discussion of Regulatory Context for criteria).

**c. Regulatory Context.** A variety of regulations may apply to cultural resources within the project site, depending on funding sources and permitting constraints. Major regulations are described below.

**(1) California Environmental Quality Act.** The California Environmental Quality Act (CEQA) applies to all discretionary projects undertaken or approved by the state's public agencies, and mandates public involvement in the planning of any project which may have a significant effect on the environment. Under the provisions of the act, "A project with an effect that may cause a substantial adverse change in the significance of a historical resource is a project that may have a significant effect on the environment."[18] CEQA defines a "historical resource" as a resource that is eligible for listing on the California Register of Historical Resources (California Register), listed in a local register of historical resources (as defined in Public Resources Code Section 5020.1(k)), identified as significant in a historical resource survey meeting the requirements of Section 5024.1(g) of the Public Resources Code, or determined to be a historical resource by a project's lead agency.[19] A historical resource consists of "Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California . . . Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing on the California Register of Historical Resources."[20]

[17] Pitcher, Don, and Malcolm Margolin, 1989. *Berkeley Inside/Out: A Guide to Restaurants, Entertainment, People and Politics*.

[18] CCR §15064.5(b).

[19] CCR §15064.5(a).

[20] CCR §15064.5(a)(3).

**(2) California Register Criteria.** Per the California Register, a cultural resource is evaluated under four criteria to determine its historical significance. These criteria require that the resource be significant at the local, state, or national level under one or more of the following:

1. It is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States;

2. It is associated with the lives of persons important to local, California, or national history;

3. It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master, or possesses high artistic values; or

4. It has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation.

In addition to meeting one or more of the above criteria, California Register regulations require that sufficient time has passed since a resource's period of significance to "obtain a scholarly perspective on the events or individuals associated with the resource." The time needed to develop this perspective and permit a legitimate understanding of the resource's significance is estimated at 50 years.[21]

Finally, the California Register requires that a resource possess integrity, which is defined as "the authenticity of an historical resource's physical identity evidenced by the survival of characteristics that existed during the resource's period of significance."[22] To retain integrity, the original location, design, setting, materials, workmanship, feeling, and association of the resource should be intact. Which of these factors are most important will depend on the particular criteria under which the resource is considered eligible for listing.[23]

Resources which are significant, meet the age guidelines, and possess integrity will generally be considered eligible for listing on the California Register.

In the event that implementation of the General Plan involves federally funded, regulated, or permitted projects, the requirements and criteria of Section 106 of the National Historic Preservation Act (NHPA) would also be applicable to the park project.

**(3) California Public Resources Code Section 5024.** Section 5024 of the Public Resources Code mandates that State agencies preserve and maintain, when prudent and feasible, all State-owned resources under their jurisdiction. The California Office of Historic Preservation maintains a master list of state-owned historic resources, and agencies may not "alter the original or significant historical features or fabric, or transfer, relocate, or demolish historical resources on the master list maintained pursuant to subdivision (d) of Section 5024 without, early in the planning processes, first giving notice and a summary of the proposed action to the [state historic preservation] officer who shall have 30 days after receipt of the notice and summary for review and comment. . . ." Section 5024.5 also

[21] CCR 4852 (d)(2).

[22] California Office of Historic Preservation, 1999. *California Register and National Register: A Comparison.* Technical Assistance Series 6. Office of Historic Preservation, Sacramento.

[23] Ibid.

states that "until such time as a structure is evaluated for possible inclusion in the inventory pursuant to subdivisions (b) and (c) of Section 5024, state agencies shall assure that any structure which might qualify for listing is not inadvertently transferred or unnecessarily altered."

## 2. Impacts and Mitigation Measures

This section analyzes impacts related to cultural resources that could result from implementation of the proposed project. The section begins with the criteria of significance, which establish the thresholds to determine whether an impact is significant. The latter part of this section presents the impacts associated with the proposed project and proposes mitigation measures, where appropriate.

**a. Criteria of Significance.** The *Draft General Plan* would have a significant effect on cultural resources if it would:

1. Cause a substantial adverse change in the significance of a *historical* resource as defined in the California Code of Regulations Section 15064.5;

2. Cause a substantial adverse change in the significance of an *archaeological* resource pursuant to California Code of Regulations Section 15064.5;

3. Directly or indirectly destroy a *unique paleontological* resource or *unique geologic feature*; or

4. Disturb any human remains, including those interred outside of formal cemeteries.

**b. Less-than-Significant Cultural Resources Impacts.** Less-than-significant impacts associated with implementation of the *Draft General Plan* are discussed below**.** Appendix B of this document contains a compendium of all *Draft General Plan* guidelines for reference.

Although much of the park project's upland area has formed as a result of 20th century landfill practices, the *Resource Inventory* identifies a number of areas within the proposed park project which may contain cultural resources. Protection and interpretation of these resources, as proposed in the *Draft General Plan*, will avoid impacts while preserving the remains of the proposed park's prehistoric and historic past.

**(1) Ground-disturbing Activities.** Ground-disturbing activities, which may occur as part of park facility development, maintenance, and habitat restoration, may disturb known or unknown cultural resources. The *Draft General Plan* incorporates specific management guidelines, referenced below, which would avoid, minimize, or compensate for these effects by

- Requiring a qualified cultural resource professional to conduct appropriate record reviews and fieldwork prior to ground-disturbing activities (see guideline CULT-1);
- Designing proposed activities to avoid cultural resources (see guideline CULT-2); and
- Identifying and implementing measures to mitigate impacts to cultural resources which cannot be avoided by proposed activities (see guideline CULT-3).

**(2) Removal of Art Installations**. Cleanup efforts at the Albany Bulb and along the East Bay shoreline would adversely affect the unregulated practice of creating ephemeral art along the waterfront from the detritus that litters the shoreline area. While it is unknown whether the existing works or the practice meet the criteria established by the California Register, or the significance criteria of the EIR, the *Draft General Plan* incorporates guidelines to ensure that all possible cultural resources will be evaluated prior to any disturbance and, if determined to be significant, that appropriate mitigation measures will be developed prior to area-specific project implementation (see guidelines CULT-1 and CULT-2).

**(3) Potential to Unearth Human Remains.** Ground-disturbing activities within the project area have the potential to unearth human remains interred outside of formal cemeteries. Given that the majority of the upland area is landfill, the most likely areas for finding human remains would be along historic stream corridors, where creeks historically flowed into the Bay or along historic shorelines. Excavation in these areas, such as to daylight Schoolhouse Creek, could potentially unearth human remains, even though these areas have also been subject to substantial change to the historic alignment of the creeks and the installation of drainage improvements (i.e., pipes and culverts).

Implementation of guideline CULT-1, which requires cultural resources review of area-specific projects, will minimize the possibility that such disturbance will occur. If, despite this review, human remains are encountered, work shall halt within 50 feet of the find and the County Coroner shall be notified immediately. A qualified archaeologist shall also be contacted to evaluate the situation. If the human remains are of Native American origin, the Coroner must notify the Native American Heritage Commission within 24 hours of this identification. Pursuant to Section 5097.98 of the Public Resources Code, the Native American Heritage Commission will identify a Native American Most Likely Descendent to inspect the site and provide recommendations for the proper treatment of the remains and associated grave goods. Section 7050.5 of the California Health and Safety Code states that in the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the coroner of the county in which the human remains are discovered has determined whether or not the remains are subject to the coroner's authority.

**c. Significant Cultural Resources Impacts.** Implementation of the *Draft General Plan* would not result in significant impacts to cultural resources within the project site.

# E. GEOLOGY AND SOILS

This section describes existing geotechnical conditions at the project site and its vicinity, summarizing information contained in the *Eastshore Park Project Resource Inventory* (*Resource Inventory*).[1] Potential geology and soils-related impacts are identified and mitigation measures are recommended, as necessary.

## 1. Existing Setting

This EIR section incorporates information from a site reconnaissance and a review of files and previous studies regarding geologic, hydrogeologic, and seismic conditions in the project area. No subsurface investigations were performed as part of this assessment. Please refer to the Geology and Soils section of the *Resource Inventory* for more detailed information.

**a. Regional Geology**. The project site is located in the Coast Ranges Geomorphic Province of California, which is characterized by northwest-trending ranges and valleys that are sub-parallel to the San Andreas Fault. Two main bedrock units have been distinguished in this zone: the Franciscan Assemblage and the Great Valley Sequence. Both units are Jurassic to Cretaceous in age (about 90 to 180 million years old). During the interval between the Cretaceous and Quaternary time periods, the tectonic and depositional regime of the region evolved into the present day San Andreas rift zone system. The present system involves the Pacific Plate moving to the northwest, relative to the North American Plate, along numerous northwest trending faults.

The dominant fault of the system is the San Andreas Fault, which is southwest of the project site. The geologic structure of the San Francisco Bay (Bay) was formed in late Pliocene or Pleistocene time by depression of a large tectonic block west of the Hayward Fault, one of the northwest-trending faults. This structural block rotated to the east; the uplifted western edge formed the San Francisco and Marin Hills, and the depressed eastern edge formed the asymmetric depression in which the Bay now lies. The fault block east of the Hayward fault formed the steep westward-facing front of the Berkeley Hills.

Deposition from the Pleistocene (1.85 million years ago) to the present time has been closely related to global fluctuations in sea level primarily related to glaciations, in addition to erosion of landforms. In the vicinity of the project site, bedrock is locally overlain by marine deposits, sediments of Pleistocene and Holocene age, and, more recently, by artificial fills. The marine and Holocene age and older deposits include alluvial (deposited by water) and colluvial (deposited by gravity) soil deposits and Bay and marsh deposits. Subsequent erosion and deposition of sediments from the Berkeley Hills formed the alluvial plain of the East Bay shoreline.

**b. Site Geology**. The project site is located along the east shore of the Bay, extending north from Oakland to Richmond. East of the project site, the historic shoreline consists of alluvial fan deposits of the Temescal Formation, comprising interfingering lenses of clayey gravel, sandy silty clay and

[1] The *Resource Inventory* is a public document that is available on the Eastshore Park website at www.eastshorestatpark.org.

sand-clay-silt mixtures.[2] A geologic map of the project site vicinity is presented in Figure G-2 of the *Resource Inventory*.[3]

The land portions of the project site consist primarily of artificial fill placed to the west of the historic shoreline. The deposition of artificial fill has extended the shoreline by as much as 1,000 feet into the Bay from its original (1850s) location.[4] The historical progress of Bay filling along the east shore of the Bay is shown in Figure G-1 of the *Resource Inventory*. The location of mudflats and marsh areas has changed significantly as a result of fill placement activities at the project site.

The artificial fill is underlain by soft, compressible, young Bay Mud of variable thickness. Bay Mud generally consists of clayey, sandy silt with shells and other organic material and lenses of fine sand.[5] A report prepared by 3E Engineering for the Cesar Chavez Park area[6] indicates that the young Bay Mud is underlain by remnants of the Pleistocene to Recent Merritt Sand, which is reported to be up to 30 feet thick. The Merritt Sand is a silty, clayey fine-grained sand with lenses of sandy clay and clay. The Bay Mud and Merritt sand are underlain by the Pleistocene Alameda Formation that includes several hundred feet of sediment underlying the Bay and Bay shore plain. The Pleistocene Alameda Formation is made up of continental and marine gravels, sands, silts, and clays, with some shells and organic materials. The Pleistocene Alameda Formation is underlain by Mesozoic Franciscan Assemblage bedrock consisting of fractured and sheared arkosic to greywacke sandstone with some shells.

**c. Site Soils.** Soil is generally defined as the unconsolidated mixture of mineral grains and organic material that mantles the land surfaces of the earth. The following section presents a discussion of soil conditions within specific portions of the project site, moving from south to north.

**(1) Emeryville Crescent and Emeryville Peninsula.** Much of the Emeryville Crescent consists of open water, mud flats, and marshland. The Emeryville Peninsula was created by filling mud flats and open water between the early 1940s to the mid 1970s.[7]

The tidal marsh and mud flat areas that constitute the majority of the Emeryville Crescent have been expanded considerably due to the Emeryville Peninsula and the Bay Bridge approach fills, which altered water flow patterns, resulting in the entrapment of sediment within this area.[8]

The Emeryville Peninsula consists of fill placed over soft and compressible marsh and young Bay deposits that are subject to settlement. The fill in the vicinity of Powell Street between the

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[2] Radbruch, Dorothy, H., 1957, *Arial and Engineering Geology of the Oakland West Quadrangle, California*, United States Geologic Survey Miscellaneous Geologic Investigations Map I-239.

[3] Wagner, D.L., Bortugno, E.J., and McJunkin, R.D. 1991. *Geologic Map of the San Francisco-San Jose Quadrangle, California, 1:250,000*. California Division of Mines and Geology Regional Map Series, Map No 5a (geology sheet 1 of 5).

[4] Turner, Allison, 1983. *Historical Shoreline Changes: Natural and Artificial*. Chapter 2.

[5] Radbruch, op. cit.

[6] 3E Engineering, 1989. *Request for Proposals, Environmental Testing Program, North Waterfront Park at the City of Berkeley Landfill*. December.

[7] Turner, op. cit.

[8] Ibid.

Emeryville Police and Fire Stations to the west and Frontage Road to the east ranges from approximately 10 to 25 feet thick, generally increasing in thickness westward towards the Bay. About 10 to 30 feet of soft Bay Mud underlies the fill material. Stiffer soils are suggested to lie below the Bay Mud.[9]

No shoreline erosion issues have been identified for the Emeryville Crescent and Peninsula. Future development in the area would be constrained by the presence of construction material fill, loose hydraulically placed sand fill and the underlying soft sediments due to potential site settlement, and static and seismic stability. Limited geotechnical information is available regarding the type, distribution, and quality of surficial soils that are present at the project site. The presence or absence of surficial soils that are appropriate for the intended use of the project site could impact future development. The presence of near-surface construction debris could also impact the depth of excavation for future improvements and structure foundations.

Portions of the project site along the southeastern side of the Emeryville Peninsula are settling due to the weight overlying the fill.[10] Future ground settlement (as of 1984) is expected to be less than 1 foot. Additional settlement on the order of ½ to 2 inches would be expected for each foot of additional fill added to the existing fill. Additional settlement would also be expected to occur as a result of new building loads.

**(2) Berkeley Brickyard, Meadow, and North Basin Strip.** The Berkeley Brickyard, Meadow, and North Basin Strip were developed by filling open water and mud flats from the early 1900s to the 1950s. Strawberry Creek historically emptied into the Bay near the Southern Pacific Railroad underpass at the University Avenue I-80/I-580 overpass. Land reclamation and land alterations at various times have since channelized the creek along University Avenue to a small mud flat in the Brickyard.[11]

Tetra Tech[12] investigated the geotechnical conditions in and in the vicinity of the Berkeley Peninsula, including the Brickyard, Meadow, and North Basin Strip. Tetra Tech's assessment indicated that this portion of the project site consists of relatively level fields at elevations ranging between 10 to 15 feet above mean sea level. Subsurface conditions consist of approximately 5 to 10 feet of inert fill (soil, concrete, gravel, and brick fragment) on top of 5 to 15 feet of refuse fill (decomposed wood fragments, tires, nails, glass, metal, household garbage, and paper). The refuse fill is indicated to exist across the entire project site and is underlain by Bay Mud. Groundwater ranges between 5 to 15 feet below the ground surface (bgs), in fill areas, and is expected to fluctuate due to tidal and seasonal effects.

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[9] Harding Lawson Associates, 1984a. *Preliminary Geotechnical Study, Santa Fe Land Improvement Company, Albany Waterfront Project, Albany California, HLA Job No. 13127,001.04.*

Levine-Fricke, 1989a. *Geotechnical and Earthquake Engineering Report, Santa Fe Albany Waterfront Project, Albany, California. L-F 1616*. January.

[10] Ibid.

[11] Sowers, Janet, 1995. *Creek and Watershed Map of Oakland and* Berkeley. Oakland Museum of California.

[12] Tetra Tech. 1994a. *Work Plan, Phase II Site Investigation, Berkeley Peninsula Properties, Berkeley, California.*

Borings in the eastern portion of the North Basin Strip generally indicate 3 to 11 feet of soil fill overlying 3 to 8 feet of refuse fill (brick, metal, and organic material).[13] Subsurface exploration at the site indicates a total fill depth of approximately 6 to 19 feet (12 to 13 feet average). Native soil below the fill was found to consist of dense sand and gravel with varying amounts of clay and silt. Boring logs indicate the presence of localized, potentially liquefiable fine to medium grained sand. Free water was encountered at depths ranging between approximately 4.5 to 11 feet bgs. Water depth is expected to fluctuate with tidal and seasonal variations.

The fill near the eastern and northeastern portion of the North Basin may be underlain by tidal marsh and an historic slough that ran along the current alignment of I-80/I-580 from Virginia Street north towards Golden Gate Fields (see Figure G-2 of the *Resource Inventory*).[14] Outboard of the marsh area, an historic beach (circa 1850) is shown to have existed between the vicinity of the University Avenue/I-80/I-580 interchange and the southern side of Fleming Point.[15]

Future development of the Berkeley portion of the project site could be limited by potential site settlement and static and seismic stability constraints due to the presence of construction material fill and underlying soft sediments. Limited geotechnical information is available regarding the type, distribution, and quality of surficial soils that are present in this area. The presence or absence of surficial soils that are appropriate for the intended use of a facility could impact development. The presence of near-surface construction debris could also restrict the depth of excavation for future improvements and building foundations.

**(3) Albany Plateau and Bulb.** The Albany Plateau is part of a peninsula composed of fill that extends westward out to the Albany Bulb. The Albany Neck connects the Plateau to the Bulb. The Buchanan Street extension is situated along the southern portion of the Albany Plateau and separates the Plateau from the Golden Gate Fields parking lots. The Albany Mud Flats extend to the northeast from the Plateau, Neck, and Bulb.

The fill that makes up the Plateau, Neck, and Bulb consists primarily of construction debris, although the Bulb also contains paper and vegetation waste from street sweeping, landscape maintenance and similar activities.[16] Filling the Plateau created an elevated area (relative to the adjacent property to the south), with a level top and side slopes as steep as 1.3:1. Reinforcing steel is readily observable protruding from the fill surface.

Albany Plateau fill is thought to be about 30 to 40 feet thick. Soil boring and well logs suggest that the near-surface soils consist of about 1 to 2 feet of sand, gravel, and clay fill overlying the debris fill, although there is evidence of debris fill at the ground surface.[17] Soft to medium stiff Bay Mud is reported to exist beneath the Plateau, Neck, and Bulb. At the Plateau, Bay Mud thickness gradually increases in a northwesterly direction from 0 feet thick near the grandstand area of Golden Gate

[13] Geo/Resource Consultants, Inc., 1992. *Site Characterization Report, Department of Transportation, T.O. number: 04-180111-01, West Frontage Road, Berkeley, California.*

[14] Sowers, op. cit.

[15] Ibid.

[16] Levine-Fricke, 1989, op. cit.

[17] Ibid.

Fields (adjacent to the project site)[18] to approximately 25 feet thick near the Buchanan Street extension. The Bay Mud is underlain by stiff to very stiff clays, silts, and medium-dense to dense sands and gravels.[19]

Soil borings and well data indicate that groundwater ranges from approximately 20 to 30 feet bgs in the Plateau area and about 4.5 to 5.5 feet bgs in the parking lot at Golden Gate Fields, immediately adjacent to the project site.

The steep slopes located to the north of the Plateau are subject to erosion from both stormwater flows across the slope face and tidal forces along the toe of slope. The surface of the Plateau is also subject to erosion from stormwater runoff. The Bay Mud underlying the Albany Bulb is about 20 to 40 feet thick.[20]

Future development on the Albany Plateau, Neck, and Bulb would be affected by settlement of the landfill materials and underlying soft sediments, presence of the landfill cap, presence of a variety of landfill materials, static and seismic stability of steep side slopes, and slope stability of the landfill containment dikes. Limited geotechnical information is available regarding the type, distribution and quality of surficial soils that are present in this area. The presence or absence of surficial soils that are appropriate for the intended use of the project site could impact future development. The presence of near surface construction debris could also restrict the depth of excavation for future improvements and building foundations. Surface erosion is expected to be an ongoing geotechnical issue on the Plateau.

Settlement at the Plateau and Bulb is expected to occur based upon two separate mechanisms: compression of debris fill and consolidation of Bay Mud. The compression of the fill is expected to occur due to raveling (movement of fine particles into voids), decomposition, chemical reactions, and compaction and consolidation due to self-weight of the fill. The consolidation of underlying Bay Mud is expected to occur due to the weight of the overlying fill.[21] Settlement would most likely manifest itself as undulations on the ground surface.[22]

It is estimated that the Plateau area will settle between 2 to 2.75 feet over the period from 1989 to 2039. Additional settlement could occur in the Plateau area due to new loads (additional fill or building loads) imposed on the underlying Bay Mud layer.

**(4) Pt. Isabel and Hoffman Marsh.** Pt. Isabel consists of fill, Bay Mud, and Franciscan bedrock. The Bay fill consists of crushed battery casings overlying compressible Bay and marsh sediments. Some dredging of the compressible sediments may have been performed prior to placement of the battery casings. A clay liner was placed to cap the battery casings by 1987. A 2001 study

[18] The grandstand area is situated on a Franciscan Formation rock outcrop that has been cut down in areas and used as fill for the parking lot and racetrack areas of Golden Gate Fields (HLA 1984a).

[19] Levine-Fricke, 1989a, op. cit.

[20] Goldman, Harold B., 1969. *Geologic and Engineering Aspects of San Francisco Bay Fill*. Special Report 97, California Division of Mines and Geology.

[21] Levine-Fricke, 1989a, op. cit.

[22] Ibid.

of Pt. Isabel indicates that some battery fragments are visible during inspection. A 2-foot-deep erosional cut is present in the landfill cap but did not appear to change from its previous condition, as indicated in earlier reports. However, the main walk-up area in the southeast corner of the cap is slowly eroding.[23]

As noted previously, soft Bay Mud poses considerable challenges to site development. In addition, the static and seismic stability of the existing fill slopes at Pt. Isabel are not currently known. The slopes are subject to erosion from both surface water flows along the face of slopes and tidal forces along the toe of slopes. In addition, the landfill cap would be vulnerable to disturbance from construction activity.

Franciscan Bedrock underlies a portion of Pt. Isabel. Excavation within the bedrock may be difficult and may restrict the depth of excavation for future improvements and building foundations.

As in the other portions of the project site, limited geotechnical information is available regarding the type, distribution and quality of surficial soils that are present in the Richmond portion of the project site. The presence or absence of surficial soils that are appropriate for the intended use of the project site could impact future development. Surface erosion may be an ongoing geotechnical issue.

Hoffman Marsh is a remnant of the former marsh area where several creeks, most notably Cerrito Creek and Middle Creek, converged near San Pablo Avenue to the southwest of the El Cerrito Plaza Building along the Contra Costa and Alameda county border. Much of this area was filled at various times from the early 1900s to about 1970 to create the current I-580 freeway alignment and existing Pt. Isabel fill.[24] Soil conditions are anticipated to be similar to Pt. Isabel, consisting of soft marsh and young Bay Mud deposits overlying Franciscan sandstone bedrock.

**d. Seismicity.** The project site, like the rest of the Bay Area, is located in one of the most seismically active regions in the United States. The project site's seismic setting is dominated by the Hayward fault, about 2 to 4 miles northeast of Pt. Isabel and the Emeryville Crescent, respectively. The San Andreas fault is about 14 miles southwest of the project site. The Healdsburg-Rogers Creek fault (which may be an extension of the Hayward fault) lies about 18 miles northeast of the project site. The maximum credible earthquakes for the Hayward, San Andreas, and Healdsburg-Rogers Creek faults are 7.5, 8.3, and 7.2 (Richter Magnitude), respectively. The project site could be affected by strong ground shaking due to movement along any one of a number of active faults in the region (see Figure G-3 of the *Resource Inventory*).

The project site is likely to experience ground shaking from a major earthquake during the project's lifespan. The U.S. Geological Survey has estimated that there is a 70 percent probability that there will be one or more earthquakes of magnitude 6.7 or greater in the Bay Area in the next 30 years.[25]

[23] Tetra Tech. 2001, East Shore Park Annual Inspection Letter to East bay Regional Park District, March 9.

[24] Turner, op. cit.

[25] Working Group on California Earthquake Probabilities, 1990, Probabilities of large earthquakes in the San Francisco Bay region, California; USGS Circular 1053.

There are four major hazards associated with earthquakes: fault surface rupture, ground shaking, ground failure, and inundation due to earthquake-generated waves or dam failures. These hazards are discussed below.

**(1) Fault Surface Rupture.** The project site is not within an Alquist-Priolo Special Studies Zone as designated by the State of California. There are no active or potentially active faults that are known to cross the project site. Therefore, the potential for fault surface rupture at the project site is remote.

**(2) Ground Shaking.** Because it affects a much broader area, ground shaking, rather than surface fault rupture, is the cause of most damage during earthquakes. Four major factors affect the severity (intensity) of ground shaking at a site during an earthquake: the size (magnitude) of the earthquake; the distance to the fault that generated the earthquake; the depth of the earthquake; and the geologic materials that underlie the project site. Thick, soft soils, such as Bay Mud, tend to amplify and prolong ground shaking. Because the project site is underlain by Bay Mud, ground shaking will be more intense at the project site than at nearby areas underlain by bedrock.

**(3) Ground Failure.** Ground failure hazards of potential concern at the project site include liquefaction, earthquake-induced settlement, and lurching. All of these hazards involve a displacement of the ground surface resulting from a loss of strength or failure of the underlying materials due to ground shaking.

Liquefaction is the sudden loss of strength of loose, saturated ground materials (predominantly sands) during an earthquake, resulting in temporary fluid-like behavior. Liquefaction typically occurs in areas where groundwater is shallow, and materials consist of clean, poorly consolidated, fine sands. Dredge sand fill, which is susceptible to liquefaction, was used to fill the Bay in the 1950s as part of I-80/I-580 construction. Liquefaction Susceptibility Maps of the Bay Area[26] show that the entire upland portion of the project site may have very high susceptibility to liquefaction depending on the type of material and placement methods used to create the landfill. The State of California has identified the southern portion of the Emeryville Crescent and the Bay Bridge approach fills as being a liquefaction hazard zone where the soils have a potential for permanent ground displacement such that mitigation as defined in the Public Resource Code Section 2693a would be required.[27] Seismic events can also induce settlement of loose granular soils above the water table.

Evidence of liquefaction and ground settlement was observed after the 1989 Loma Prieta earthquake along the Frontage Road south of University Avenue, along the Emeryville Crescent and Bay Bridge approach.[28]

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[26] Knudsen, K.L, et al., 1997, *Quaternary Geology and Liquefaction Susceptibility Maps, San Francisco, California 1:100,000 Quadrangle*, United States Geological Survey Open File Report 97-715, Sheet 2 of 2.

[27] State of California, Seismic Hazard Zone Preliminary Review Map. (California)1999, Parts of the Oakland West Quadrangle, Division of Mines and Geology, released September 30.

[28] Seed, R.B., et al., 1990. *Preliminary Report on the Principal Geotechnical Aspects of the October 17, 1989 Loma Prieta Earthquake*. Report No. UCB/EERC-90/05. Earthquake Engineering Research Center, College of Engineering, University of California, Berkeley.

A 1990 report[29] does not indicate any evidence of seismic-related damage within the North Basin Strip, The Meadow, or the Brickyard from the Loma Prieta Earthquake of 1989. Boring logs indicate some loose to medium dense zones of fine to medium grained sand and clayey sand below the water table between a depth of about 5 to 15 feet bgs that could be susceptible to the occurrence of liquefaction.[30]

Evidence of lateral spreading and pavement damage was recorded along I-80/I-580 and Frontage Road from the Powell Street Interchange to the southern boundary of the Brickyard. Some areas were noted to have longitudinal cracks running parallel to the Bay that were less than about 1 inch wide but continuous for over 100 feet.[31]

The side slopes in the Plateau area appear to be stable under static conditions. It is possible that slope deformation could occur in the event of a moderate to large earthquake.[32] A 1990 report did not indicate any evidence of liquefaction-related damage in the Plateau area following the 1989 Loma Prieta Earthquake.[33]

Lurching, or lurch cracking, is the cracking of soft, saturated ground surface as a result of earthquake-induced ground shaking. The Bay Mud that underlies the project site is susceptible to lurching, particularly in places that are bordered by steep channel banks or adjacent hard ground.

**(4) Earthquake-Induced Inundation.** Earthquakes can cause inundation due to tsunamis (commonly known as "tidal waves"), seismic seiches (oscillating waves in enclosed water bodies), or dam failure.

Tsunamis are sea waves produced by large-scale seismic disturbances of the ocean floor. Tsunamis can be generated by local offshore seismic events, as well as by seismic events thousands of miles away. Based upon a report from the U.S. Corps of Engineers, a probable maximum tsunami wave height of 7 feet above mean sea level has a 100-year occurrence interval within most of the project site.[34]

Seismic seiches may be generated in tidal marsh ponds, like those that currently exist at the Hoffman Marsh. Berryman Reservoir, located on Euclid Avenue in the City of Berkeley, has been identified as posing an inundation risk during seismic events.[35] An inundation map for the project site prepared by the Association of Bay Area Governments (ABAG)[36] indicates the inundation area for the Berryman reservoir to be primarily east of I-80/I-580, except for a portion of the Berkeley North Basin and Meadow.

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[29] Ibid.

[30] Geo/Resource, Inc., op. cit.

[31] Seed, op. cit.

[32] Ibid.

[33] Ibid.

[34] Harding Lawson Associates, 1984b, op. cit.

[35] Berkeley Planning Commission (BCP) , 1976. *Berkeley Master Plan*. December.

[36] ABAG 1995, Hazard Map, Dam Failure Inundation Areas, Association of Bay Area Governments.

## 2. Impacts and Mitigation Measures

This section analyzes impacts related to geology and soils that could result from implementation of the proposed project. The section begins with the criteria of significance, which establish the thresholds to determine whether an impact is significant. The latter part of this section identifies the impacts associated with the proposed project and presents mitigation measures, where appropriate.

**a. Criteria of Significance**. A potentially significant environmental impact related to geologic and seismic hazards would result if implementation of the Eastshore Park Project *Draft General Plan* would:

- Expose significant numbers of people or structures to rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault;
- Expose people or structures to major geologic hazards that could result in loss, injury or death related to strong seismic ground shaking or seismic-related ground failure, including liquefaction or landslides;
- Result in substantial soil erosion or the loss of topsoil;
- Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse;
- Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property; or
- Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water.

**b. Less-than-Significant Geologic Impacts**. The following section identifies less-than-significant impacts related to geology and soil conditions that could result from the implementation of the *Draft General Plan*. Appendix B of this document contains a compendium of all *Draft General Plan* guidelines for reference.

**(1) Fault Rupture, Landslides, Soil Conditions.** Because no known active faults cross the project site, impacts associated with fault rupture are less than significant. The project site is not located on a historical landslide, or in a hilly area; therefore, implementation of the proposed project would not subject people or structures to landslides. Surface conditions throughout the project site would be considered by the design team during the conceptual design phase of any specific project to evaluate the potential for soil loss by erosion and to develop means (by grading, structural measures and/or other improvements) to control erosion (see guideline OPER-11). No septic tanks or wastewater disposal systems that would require a leach field are proposed for the project site. Implementation of the *Draft General Plan* would require either a structural hook-up to the existing sewer systems or the use of portable, fully-enclosed, "pump out" sanitation facilities. Therefore, the presence of soils that are incapable of supporting a septic system would not constitute a significant impact. Soil erosion and the loss of top soil during grading activities, which is a potentially significant impact, is further discussed in Section III.G, Hydrology and Water Quality, of this EIR.

**(2) Seismic Shaking.** Seismic shaking at the project site during expected earthquakes and the potential liquefaction of subsurface soil and sediments at some locations could cause structural and nonstructural damage in the project site. Although the damage by seismic shaking to structures built in compliance with the Uniform Building Code (UBC) requirements for seismic design would not likely cause collapse of proposed structures, damage could be extensive, endangering the health and safety of building occupants. In addition to potential structural damage, nonstructural damage could also be expected. Nonstructural damage to buildings could include breakage of windows, doors, piping, ducts, and light fixtures, collapse of walls, partitions, ceilings, and stairways, or damage to building contents (e.g., appliances, computer equipment, and furnishings). Damage to nonstructural elements can often account for the majority of a building's replacement cost following a major earthquake. The potential for damage during strong seismic shaking cannot be eliminated, only reduced.

The *Draft General Plan* includes the following guidelines that would avoid or minimize to a less-than-significant level effects associated with seismic shaking:

1. Requiring the preparation of Specific Project Plans prior to initiation of major development or enhancement projects. The Specific Project Plans would establish the nature, scale, and location of new development (see guidelines VISIT-1, OPER-1).

2. Requiring environmental review and the identification of potential negative impacts associated with site-specific development projects for the implementation of the *Draft General Plan* in accordance with the California Environmental Quality Act (CEQA) (see guidelines OPER-2, CAPACITY-2, HYDRO-6).

3. Requiring the consideration of surface soil conditions and the performance of site specific geotechnical investigations during the design phase of individual projects (see guidelines OPER-11, OPER-12).

4. Requiring a comprehensive and detailed geotechnical study including slope geometries, performance of a geotechnical review of final design documents (see guidelines OPER-13, OPER-14).

**(3) Shrink Swell Potential, Slope Stability, Soil Settlement.** Many of the soils underlying the project site have moderate to high shrink-swell potential and are subject to the occurrence of liquefaction and settlement potentially resulting in on- or off-site landslide, lateral spreading, subsidence, liquefaction,, or collapse. Structural damage, warping, cracking of roads and sidewalks, and rupture of utility lines may occur if expansive soils and ground settlement are not considered during design and construction of improvements. Existing and proposed shoreline and landfill features would be subject to potential damage from slope failure.

The *Draft General Plan* includes the following guidelines that would avoid or minimize to a less-than-significant level effects associated with shrink and swell conditions, slope failure, and soil settlement:

1. Requiring environmental review and the identification of potential negative impacts associated with site-specific development projects for the implementation of the *Draft General Plan* in accordance with the California Environmental Quality Act (CEQA) (see guidelines OPER-2, CAPACITY-2, HYDRO-6).

2. Requiring the consideration of surface soil conditions and the performance of site specific geotechnical investigations during the design phase of individual projects (see guidelines OPER-11, OPER-12).

3. Requiring a comprehensive and detailed geotechnical study including slope geometries, performance of a geotechnical review of final design documents, and provision of oversight by a geotechnical engineer during construction (see guidelines OPER-13, OPER-14).

4. Requiring the use of California native species and plants with low-water needs, to the degree practical, in all landscaped plantings (see guidelines AESTH-4, OPER-16, OPER-17). The California native species endemic to the East Bay shoreline generally have low-water needs and using them will minimize the potential for damage to pavements, utilities, and structures associated with expansive soils which can react to excessive landscape irrigation.

**c. Significant Geologic Impacts**. No significant impacts relating to geology and soil conditions would result from implementation of the *Draft General Plan.*

# F. HAZARDS

This section describes existing hazardous materials at the project site and the regulatory framework related to hazards, summarizing information contained in the *Eastshore Park Project Resource Inventory* (*Resource Inventory*).[1] Less-than-significant and potentially significant impacts related to hazards that could result from implementation of the proposed project are identified, and mitigation measures are recommended as necessary.

## 1. Setting

Hazardous materials have historically been used, stored, and disposed of at the project site and are known to be present in areas of surface and subsurface soils at the project site as a result of historical filling activities. The setting section discusses the presence of potentially hazardous materials at the project site and regulatory framework related to hazards. Please refer to the Hazardous Materials section of the *Resource Inventory* for more detailed information.[2]

**a. Hazardous Materials.** Most of the land along the project site shoreline comprises varying amounts of fill material overlying bay mud. Before filling was started in the late 1800s to the early 1900s, the original shoreline was a few hundred feet east of Interstate 80 (I-80).

In 1998, under the terms of the March 1997 land transfer agreement between Catellus Development Corporation (Catellus), the East Bay Regional Park District (EBRPD), and the California Department of Parks and Recreation (State Parks), the Regional Water Quality Control Board (RWQCB) issued Order No. 98-072 adopting Site Cleanup Requirements for portions of the project site, including the Berkeley Brickyard, Berkeley Meadow, Berkeley North Basin, Albany Plateau, Pt. Isabel, and Hoffman Marsh. Order No. 98-072 indicated that sediment, soil and groundwater at the listed sites were adequately investigated. The RWQCB also issued Order No. 97-069 adopting Site Cleanup Requirements for the Emeryville Crescent Property.

As part of the transfer agreement, Catellus completed remediation work at 19 locations, where detected chemicals of potential concern (COPCs) exceeded site-specific action levels established for upland soil in the project site. Those action levels are referred to as Regional Park Preliminary Remediation Goals (PRGs). Details regarding the development of those action levels are described in the May 1998 *Remediation and Risk Management Plan* (RRMP) prepared for Catellus.

Typically, COPCs included elevated concentrations of lead and to a lesser degree arsenic, zinc, extractable lead, and petroleum hydrocarbons resulting from slag, refuse, used battery casings, and/or aerial deposition of vehicular emissions. Landfill gases were also of concern at the former landfill areas, including the Berkeley Meadow, North Basin Strip, and Albany Plateau. Accordingly, certain

[1] The California Health and Safety Code defines a hazardous material as "any material that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety, or to the environment. Hazardous materials include, but are not limited to, hazardous substances, hazardous waste, radioactive materials, and any material which a handler or the administering agency has a reasonable basis for believing that it would be injurious to the health and safety of persons or harmful to the environment if released into the workplace or the environment." (Health and Safety Code Section 25501)

[2] The *Resource Inventory* is a public document that can be found on the Eastshore Park website at www.eastshorestatepark.org.

contaminated soils were remediated by excavating the upper 1 to 1.5 feet of soil for off-haul, as well as by placing a 2-foot cap on the surface to reduce potential exposure to the contaminated area. Remediation activities were conducted in the Emeryville Crescent, Berkeley Meadow, North Basin, and Albany Plateau. The RWQCB issued a Certificate of Completion for the remediation activities completed at the project site.[3] The RWQCB's Certification is subject to ongoing risk management measures that include annual inspection of remediation areas.

Offshore concerns included concentrations of petroleum hydrocarbons, polychlorinated biphenyls (PCBs), DDT, and several metals. Results of previous studies concluded that sediments at the project site were typical of sediments encountered in the San Francisco Bay and did not present a probable risk to potential biological receptors. There was also no evidence of significant upland COPCs being discharged into the San Francisco Bay from present land uses; however, past activities have contributed significantly to COPCs identified in San Francisco Bay sediments.

A summary of reported hazardous material concerns at the project site are described below.

**(1) Emeryville Crescent.** Approximately 10 percent of the Emeryville Crescent is above mean sea level. This part of the project site is bounded by Powell Street to the north and the police and fire station to the immediate west.[4] This area was filled from the historic shoreline, approximately 700 feet east of the current I-80 in the early 1900s. Approximately 5 feet of fill material including rubble and debris from building demolition, steel mill slag, industrial waste, and imported sand and clay fill overlies Bay Mud.[5] Review of the Slag Characterization Investigation report[6] indicates that the Emeryville Crescent consists of a man-made shoreline, which extends into the Bay from the Emeryville shoreline.

The COPCs in soil and groundwater identified during site assessment activities included lead, zinc, arsenic, chromium, total recoverable petroleum hydrocarbons (TRPH), benzene, total petroleum hydrocarbons as diesel (TPHd), total petroleum hydrocarbons as gasoline (TPHg), oil-and-grease, PCBs, and volatile organic compounds (VOCs). Based on analytical results and the findings of the RRMP, the RWQCB required soil remediation for lead in surficial soil where concentrations of those analytes were above Regional Park PRGs.

The Emeryville Crescent has been extensively studied since 1989. Investigations conducted by Tetra Tech and others included soil borings, test pit excavations, soil and groundwater analyses, landfill gas investigation, and a magnetometer survey.

The magnetometer survey showed low to high densities of ferromagnetic material throughout the site. The low to medium results were interpreted to be concrete and metal debris and construction fill; the high densities of ferromagnetic material were interpreted to be slag, ash, concrete and metal construction debris, and soil fill.

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[3] RWQCB, 1998. Certificate of Completion, East Shore State Park Properties, Alameda and Contra Costa Counties. December 18.

[4] Catellus Resources Group, 1996. East Shore Park Transaction Proposal. May.

[5] Tetra Tech, 1993. Technical Evaluation of Environmental Assessment – Emeryville Crescent Property, August.

[6] Tetra Tech, 1994. Slag Characterization Investigation – Northern Portion Emeryville Crescent Property. October.

Approximately 180 soil and 25 groundwater samples have been taken from this site. Lead concentrations were detected in the soil up to 518 milligrams per kilogram (mg/kg). Elevated lead concentrations were widespread throughout the site, with the highest concentrations occurring near the I-80 curve.[7]

Excavation and disposal of surface soil with elevated levels of lead and zinc was recommended. Soil remediation was conducted in 1998, and documented in a report by ERM.[8] The location of this Remediation/Risk Management Area is illustrated on Figure HM-3 in the *Resource Inventory*.

Previous analytical testing on the slag material encountered during the investigation is composed mainly of iron and manganese. None of the soil samples tested for metals exceeded the total threshold limit concentrations (TTLC) and soluble threshold limit concentrations (STLC) levels, although STLC and TTLC levels are not published for iron and manganese. A composite of weathered slag material reportedly contained 560,000 mg/kg of iron, and 73,000 mg/kg of manganese. The unweathered and weathered slag material was also tested for toxicity using the fish bioassay. The results indicated that neither pulverized samples of the weathered or unweathered slag material exhibited toxicity. Two soil samples were collected during investigations, at depths of approximately 1.0 foot below ground surface (bgs), which emitted an oily odor. These soil samples contained up to 175 mg/kg of TPHg, and 490 mg/kg of TPHd. These results exceed State of California leaking underground fuel tank (LUFT) soil cleanup standards of 10 mg/kg and 100 mg/kg respectively. Samples of ash contained low levels of toluene and meta para xylenes, at 8 micrograms per kilogram (µg/kg) and 9 µg/kg, respectively. The extent of this contamination is unknown.

Between July and September 1998, remediation was completed at four areas to remove elevated lead concentrations in soil. This work was completed in response to the RWQCB Order No. 97-069. Figure HM-3 in the *Resource Inventory* illustrates the locations of Areas A through D in the Emeryville Crescent site. From these areas, 1 to 2 feet of soil was excavated. A total of 800 tons was excavated and disposed of off-site as Class I and II waste; the resulting excavation was backfilled and capped with 2 feet of clean fill.[9]

Remediation has been completed and approved by the RWQCB in their letter dated December 18, 1998.[10] Post-closure monitoring is conducted annually on behalf of EBRPD and includes site inspections to check the remediation areas and shoreline erosion. Results of the recent inspection conducted in February 2001 concluded that the remediation areas are showing moderate revegetation and the shoreline rip-rap condition was unchanged from the previous inspection.[11]

[7] Tetra Tech, 1993., op. cit.

[8] ERM, 1998. Soil Remediation Closure Report – East Shore Properties. November.

[9] Ibid.

[10] RWQCB, 1998., op. cit.

[11] Tetra Tech, 2001. Draft letter regarding the East Shore State Park Annual Inspection. March 9.

**(2) Berkeley Brickyard.** The Berkeley Brickyard was filled from the 1930s to the 1960s using construction debris and riprap.[12] Strawberry Creek empties into the Bay in the northern portion of the Brickyard.
The COPCs in soil and groundwater identified during site assessment activities included lead, zinc, arsenic, chromium, TRPH, benzene, TPHd, and TPHg. COPCs in soil gas samples include methane, methylene chloride, chloroform, vinyl chloride, benzene, toluene, tetrachloroethylene (PCE), trichloroethylene (TCE), and 1,1,1-trichloroethane (1,1,1-TCA). Based on analytical results and the findings of the RRMP, one semi-volatile organic compound (SVOC) in soil and one metal analyte in groundwater exceeded the Regional Park PRGs.

Previous investigations by others have included a magnetometer and scintillation surveys, and soil and groundwater sampling.[13] Seven of 22 soil samples contained TRPH above 1,000 mg/kg. Lead and TRPH were found in significant quantities in subsurface soil samples. One sample contained lead above TTLC criteria (1,000 mg/kg), one of the criteria used to classify a material as hazardous. Analyses detected up to 15,000 mg/kg of TRPH. Six grab groundwater samples contained detectable levels of TRPH up to 5.7 milligrams per liter (mg/l). Landfill gas samples collected during a 1995 investigation contained methane, methylene chloride, chloroform, vinyl chloride, benzene, toluene, PCE, TCE, and 1,1,1-TCA.

No remediation was required for the Berkeley Brickyard site. Annual monitoring is conducted on behalf of EBRPD and includes site inspections of surface conditions and shoreline erosion. Results of the recent inspection conducted in February 2001 concluded that no issues of environmental concern were identified for this site and that the shoreline rip-rap condition was unchanged from the previous inspection.[14]

**(3) Berkeley Meadow.** The Berkeley Meadow was filled from the 1930s to the 1940s using construction debris and municipal waste.[15]

The COPCs in soil and groundwater identified during site assessment activities included lead, zinc, arsenic, chromium, TRPH, benzene, TPHd, TPHg, oil-and-grease, VOCs, and PCBs. COPCs in soil gas samples methane, methylene chloride, chloroform, vinyl chloride, benzene, toluene, PCE and 1,1,1-TCA.[16] Based on analytical results and the findings of the RRMP, the RWQCB required soil remediation for lead and benzo(a)pyrene concentrations in surficial soil where concentrations of those analytes were above Regional Park PRGs.

Environmental investigations identified a large area of slag with metal levels below PRG levels established by EPA Region 9 for industrial soil. Investigations have included a magnetometer survey, scintillation survey, and soil and groundwater sampling. The magnetometer survey indicated moderate to high levels of magnetic anomalies, which are believed to be associated with slag known

[12] Catellus Resources Group, 1996. East Shore Park Transaction Proposal. May.

[13] Ibid.

[14] Tetra Tech, 2001., op. cit.

[15] RWQCB, 1998. Site Cleanup Requirements for Catellus Properties in Berkeley and Albany, Order No. 98-072. July.

[16] Catellus Resources Group, 1996., op. cit.

to be present in the area. Reports and analytical data suggest that this material did not contain metals above the TTLC criteria (1,000 mg/kg). In general, surface soil samples did not indicate significant environmental impacts.[17] Lead and arsenic were each detected at concentrations greater than the EPAs PRGs. One surface sample had hydrocarbon levels greater than 1,000 mg/kg. Benz(a)pyrene was found above the PRG in some surface samples. Sampling at the property included about 187 soil samples, and 34 grab groundwater samples.[18]

Subsurface investigations found one sample contained TRPH up to 54,000 mg/kg, PCB-1260 at 1.0 mg/kg, and arsenic in excess of the PRG in one sample. Nine of ten grab groundwater samples contained detectable levels of TRPH, up to 580 mg/l.

Landfill gas samples collected during a 1995 investigation contained methane, methylene chloride, chloroform, vinyl chloride, benzene, toluene, PCE and 1,1,1-TCA.

The RRMP identified three areas requiring remediation to remove elevated lead and benzo(a)pyrene concentrations in soil. Figure HM-2 in the *Resource Inventory* illustrates the locations of Areas C, D, and E in the Berkeley Meadow site. From these three areas, approximately 210 cubic yards of soil were disposed of off-site as Class I and II waste; the resulting excavation was backfilled and capped with 2 feet of clean fill.[19]

Remediation has been completed and approved by the RWQCB in their letter dated December 18, 1998. Post-closure monitoring is conducted annually on behalf of EBRPD and includes site inspections to check the remediation areas and shoreline erosion. Results of the recent inspection conducted in February 2001 concluded that the remediation areas are showing moderate revegetation and the shoreline rip-rap condition was unchanged from the previous inspection.[20]

**(4) Berkeley North Basin.** The Berkeley North Basin was filled from the 1930s to the 1950s using construction debris and municipal waste.[21] The uplands consist of grasslands and bare ground. Non-uplands consist of mudflats and open water. Slag and glass fragments have been reported along the shoreline.

The COPCs in soil and groundwater identified during site assessment activities included lead, zinc, arsenic, mercury, chromium, TRPH, benzene, TPHd, TPHg, PCBs, and VOCs. COPCs in soil gas samples include methane, vinyl chloride, benzene, PCE, and 1,1,1-TCA have been detected in soil gas samples.[22] Based on analytical results and the findings of the RRMP, the RWQCB required soil remediation for arsenic, chromium, cobalt, nickel, zinc, and PCBs in surficial soil where concentrations of those analytes were above Regional Park PRGs.

[17] Ibid.

[18] RWQCB, 1998., op.cit.

[19] ERM, 1998., op. cit.

[20] Tetra Tech, 2001., op. cit.

[21] Catellus Resources Group, 1996., op.cit.

[22] Ibid.

Numerous studies have been conducted at the North Basin. A groundwater study conducted in 1984 concluded that levels of pollutants were not present in the groundwater at significant levels.[23] Sampling at the site included approximately 135 soil samples, 10 groundwater samples, and one sediment sample. An investigation for Caltrans on the east edge of the strip included installation of soil borings and monitoring wells. Detected metal and petroleum hydrocarbons in soil showed no discernable pattern.[24]

Two types of slag, one described as metallic, the other described as sandy, have been identified in the areas along the shoreline. The metallic slag was shown to be non-hazardous. The sandy slag, with some containing a rubber core, contained up to 23.3 mg/kg of di-n-butylphthalate, and 14 mg/kg of soluble lead.[25]

Surface soil samples generally contained low levels of lead and arsenic, typically below the EPA Region 9 PRGs for industrial soil. However, in some areas lead concentrations of up to 5,600 and 6,300 mg/kg were detected in surface and subsurface samples, respectively. Subsurface soil samples also contained up to 7,000 mg/kg of TPH, and low levels of benzene.

Groundwater samples collected contained low levels of metals, and petroleum hydrocarbons (up to 18,000 mg/l of TRPH).

Landfill gas samples collected in 1995 identified methane, vinyl chloride, benzene, PCE and 1,1,1-TCA. Methane levels exceeded the lower explosive limit in all four of the probes tested.[26] No conclusions or recommendations were presented for soil gas results.

The RRMP identified four areas requiring remediation to remove arsenic, chromium, cobalt, lead, nickel, zinc, and PCBs in soil. From these four areas, approximately 1,750 cubic yards of soil were disposed of off-site as Class I and II waste; the resulting excavation was backfilled and capped with 2 feet of clean fill.[27]

Remediation has been completed and approved by the RWQCB in their letter dated December 18, 1998.[28] Post-closure monitoring is conducted annually on behalf of EBRPD and includes site inspections to check the remediation areas and shoreline erosion. Results of the recent inspection conducted in February 2001 concluded that the remediation areas are showing moderate revegetation and the shoreline appears to be stabilizing with no major shoreline erosion identified.[29]

[23] Ibid.

[24] Geo/Resource Consultants, Inc., 1992. Site Characterization Report – West Frontage Road. July.

[25] Catellus Resources Group, 1996., op.cit.

[26] Ibid.

[27] ERM, 1998., op. cit.

[28] RWQCB, 1998., op. cit.

[29] Tetra Tech, 2001., op. cit.

**(5) Albany Plateau.** Based on available information, the Albany Plateau appears to have been filled from the early 1950s to the early 1980s. Fill material at the site consists primarily of construction debris, such as concrete, reinforcing steel, wood, asphalt, rubber and plastic.[30]

The COPCs in soil and groundwater identified during site assessment activities included arsenic, lead, and nickel, TRPH, BTEX, TPHd, TPHg, oil and grease, PCBs, and basic/neutral extractable compounds (BNA). Concentrations of methane, vinyl chloride, hydrogen sulfide, and benzene were detected in soil gas samples. Based on analytical results and the findings of the RRMP, the RWQCB required soil remediation for arsenic, chromium, mercury, and molybdenum in surficial soil where concentrations of those analytes were above Regional Park PRGs.

Sampling at this site has included approximately 244 soil samples, four groundwater grab samples, multiple samples from 11 monitoring wells, and one sediment sample.[31] Environmental investigations conducted for this site included two Solid Waste Assessments Tests (SWATs), one in 1988 and 1989, test pits, soil borings and monitoring wells. Free phase hydrocarbons were also detected in one monitoring well. Levine-Fricke concluded that significant quantities of hazardous material did not appear to be present, and that the low concentrations of chemicals were limited to a few localized areas.[32]

Recently, a brown colored liquid was observed seeping from the northern shoreline during low tide events. The seep is reportedly located approximately 20 yards westward of the Codornices Creek outfall. Based on conversations with representatives at the RWQCB, the liquid comprises fresh water with minor concentrations of dissolved weathered hydrocarbons.

The RRMP identified six areas requiring remediation to remove arsenic, chromium, mercury, and molybdenum in soil. Figure HM-2 in the *Resource Inventory* illustrates the locations of Areas A, C, D, E, F, and G in the Albany Plateau site. From these six areas, approximately 2,100 cubic yards of soil were disposed of off-site as Class I and II waste; the resulting excavation was backfilled and capped with 2 feet of clean fill.[33]

Remediation has been completed and approved by the RWQCB in their letter dated December 18, 1998.[34] Post-closure monitoring is conducted annually on behalf of EBRPD and includes site inspections to check the remediation areas and shoreline erosion. Results of the recent inspection conducted in February 2001 concluded that the remediation areas are showing moderate revegetation and that no shoreline erosion was identified.[35]

**(6) Albany Bulb (aka Albany Landfill).** The Albany Landfill was operated for the City of Albany from 1963 to 1983. The landfill was intended to accept demolition debris. From circa 1966

[30] Levine-Fricke, 1989. Final SWAT Investigation Report, Santa Fe Pacific Albany Landfill Site. December.

[31] RWQCB, 1998., op.cit.

[32] Catellus Resources Group, 1996., op.cit.

[33] ERM, 1998., op. cit.

[34] RWQCB, 1998, op. cit.

[35] Tetra Tech, 2001, op. cit.

to 1975, wastes accepted also included street sweeping waste, wood and vegetation waste from landscape maintenance, and similar materials. In 1985, the RWQCB issued Order No. 84-89, which named the City of Albany, the Albany Landfill Company, and Santa Fe Land Improvement Company (now Catellus) as dischargers. Order 84-89 required clearing and disposing of existing vegetation, filling of the Bay to flatten landfill sideslopes, grading to facilitate water drainage, import and placement of relatively impermeable capping soil, and re-establishment of vegetative surface cover.[36] Although Order 84-89 required capping of the landfill, remedial alternatives have been proposed, including monitoring of soil, sediment and leachate on a semi-annual basis. Documents reviewed by Subsurface Consultants Incorporated (SCI) to date do not indicate which remediation activities have been implemented.

The COPCs in soil and groundwater identified during site assessment activities included metals, VOCs, SVOCs, pesticides, PCBs. COPCs identified in leacheate samples included ammonia, nitrate, sulfate.[37]

Numerous environmental and geotechnical tests have been completed on the site since 1969. Investigations included soil borings, sediment samples, installation of monitoring wells, seep studies, ground and surface water collection and testing.

It has been reported that ammonia is generated within the landfill due to bacterial decomposition of wood and plant debris.[38] Seep and surface water samples were collected twice in 1999. Analytical results of pH, total ammonia do not appear to present significant aquatic risks to aquatic life in San Francisco Bay.[39]

A Conceptual Plan for Reclamation of the West and East Lagoons was prepared for the City of Albany.[40] Reportedly, the west lagoon is a cell of the former landfill that was never filled, but is surrounded by dikes. The east lagoon is a portion of the former landfill that was partially filled. Years ago, the dike was partially breached. The sediment within the west lagoon has been sampled, analyzed, and reportedly found to contain chemicals in similar concentrations to the sediment in the surrounding Bay.[41]

As discussed in the Landfill Closure Plan, methane gas controls are reportedly unnecessary as long as the proposed surface treatment will allow for the natural escape of gases in nonharmful amounts in the atmosphere. If future construction or paving is contemplated, methane gas control systems should be considered.

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[36] Streamborn, 1997. Evaluation of Public Health and Environmental Risks Potentially Posed by the Albany Landfill and Evaluation of Capping to Mitigate the Potential Risks. April.

[37] Ibid.

[38] Streamborn, 1999. Letter Report Surface Water Monitoring Albany Landfill. May.

[39] Harlan Tate Associates, 1990. Seep Study – Albany Landfill. October.

[40] Streamborn, 1999, op. cit.

[41] Streamborn, 1997, op. cit.

RWQCB issued Order No. 99-068 on September 15, 1999. This Order updated waste discharge requirements and rescinded Order No. 84-089, adopted on December 18, 1984. Order No. 99-068 establishes requirements for a revised closure plan in the event of future development at the site, and focuses monitoring efforts on periodic visual inspections of the site. Current waste discharge requirements include: 1) quarterly inspections to confirm the integrity of the landfill; and 2) submittal of a revised closure/post-closure plan if significant development is proposed for the landfill.[42]

**(7) Pt. Isabel.** Pt. Isabel consists of uplands comprising grassland and bare ground, rip-rap as an erosion control measure along portions of the existing shoreline, and mudflats and open water. Review of information indicates that Pt. Isabel was filled from the early 1950s to the late 1960s. Fill included concrete rubble, asphalt, and miscellaneous construction debris. Lead-acid battery casings and fragments were apparently also disposed at the property.[43,44]

The COPCs in soil identified during site assessment activities included lead, zinc, and TPHd. The COPCs in groundwater identified during site assessment activities included TPHd and TPHg. Based on analytical results and the findings of the RRMP, the RWQCB required soil remediation for lead in surficial soil where concentrations of those analytes were above Regional Park PRGs.

Numerous investigations have been completed for this property between 1985 and 1992. These investigations included an extensive number of samples for analyses. This property was subject to Waste Discharge Requirements, outlined by the RWQCB in their Order No. 87-14, February 18, 1987.

Santa Fe Land Improvement Company conducted remedial investigations and activities in the 1980s with oversight from the RWQCB. Remediation reportedly included removing highly impacted soil and sediment and capping the less impacted soils in the on-site upland area. Remediation activities were completed, and the site was reportedly closed in 1987.[45]

Subsequent testing was performed on samples collected from the south side of the Hoffman Canal. Analyses detected lead concentrations above Regional Park PRGs. Catellus completed remediation activities to remove affected soil. Approximately 15 cubic yards of soil were excavated and disposed off-site; the resulting excavation was backfilled and capped with 2 feet of clean fill.[46] The location of this Remediation/Risk Management Area at Pt. Isabel is illustrated on Figure HM-1 in the "*Resource Inventory*."

Remediation has been completed and approved by the RWQCB in their letter dated December 18, 1998.[47] Post-closure monitoring is conducted annually on behalf of EBRPD and includes site

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[42] RWQCB, 1999. Albany Landfill: Transmittal of Final Order No. 99-068, Updating Water Discharge Requirements and Rescinding Order No. 84-089. September.

[43] Catellus Resources Group, 1996, op. cit.

[44] RWQCB, 1998, op. cit.

[45] Catellus Resources Group, 1996, op. cit.

[46] ERM, 1998, op. cit.

[47] RWQCB, 1998, op. cit.

inspections to confirm that the clay cap, overlying soil, and rip-rap along the Hoffman Canal remains intact and competent. Results of the recent inspection conducted in February 2001 concluded that some battery fragments were visible north of the northernmost rip-rap and the southeast corner of the cap continues to erode slowly.[48]

**(8) Hoffman Marsh.** Approximately 45 percent of the Hoffman Marsh consists of upland area; the remainder of Hoffman Marsh consists of tidelands. This land was filled circa 1940 to the 1950s for the Atchison, Topeka, and Santa Fe (ATSF) railroad with unknown materials.

Remediation activities conducted for the nearby Liquid Gold facility included removal of tanks and other facilities, removal of soil, and sediments, including sediments in portions of Hoffman Marsh. The State of California Department of Toxic Substances Control (DTSC) certified completion of remediation of the Liquid Gold site in 1996.[49]

Site characterization was completed in conjunction with work at the Pt. Isabel site. The COPCs in soil and groundwater identified during site assessment activities included metals, TPHd, TPHg, and PCBs. Additional remediation in the Hoffman Marsh was not required by the RWQCB because sediment toxicity and bioaccumulation were not observed in studies done in the non-uplands as part of the Liquid Gold Site investigation.[50,51]

**(9) Submerged Lands.** Since a majority of the project site is fully or partially submerged, the environmental condition of these lands was assessed by gathering historical information from previous investigations. For the purpose of this assessment, all the data from the properties were evaluated as one. This data was compared to regional and local conditions, as derived from previous RWQCB investigations performed for the San Francisco Estuary and the East Bay.[52] Chemicals that were detected were compared with Effects Range Low (ER-L) and Effects Range Medium (ER-M) criteria.

Sediment samples were analyzed for a combination of metals, hydrocarbons, PCBs, and pesticides. Based on the review of the analytical results the project site sediments appear to be representative of similar sediment in the Bay and/or the shore sediments. No East Bay data was available for mercury. Further comparison to ER-M screening criteria indicates that chemicals do not generally appear to be present in project site sediments at levels that would pose a probable risk to potential biological receptors. Based on these findings and the potential significant short-term adverse environmental impacts associated with dredging of Bay sediments, no further remediation is recommended for submerged or tidal lands associated with this land. The RWQCB Regional Monitoring Program

[48] Tetra Tech, 2001, op. cit.

[49] RWQCB, 1998. Site Cleanup Requirements for Catellus Properties in Berkeley and Albany, Order No. 98-072. July.

[50] Ibid.

[51] Western Ecological Services Company (WESCO), 1990. *Liquid Gold Site/Hoffman Marsh Biological Investigation Final Report.* December 7.

[52] Catellus Resources Group, 1996, op. cit.

noted that even in areas where mercury concentrations were elevated, toxicity tests conducted using sediment collected from these areas did not indicate toxicity.[53]

Other than specific areas discussed as part of the Hoffman Marsh and Pt. Isabel sites, documents reviewed do not indicate submerged properties that are part of a regulatory oversight program.

**b. Regulatory Framework.** The existing setting relating to hazardous materials involves a complex framework of federal, State, and local agencies, laws, regulations, and policies. Relevant regulatory agencies and corresponding laws, regulations, and policies are summarized below. The EPA is the primary federal agency responsible for the implementation and enforcement of hazardous materials regulations. California EPA (Cal/EPA) is the primary State agency. In most cases, enforcement of environmental laws and regulations established at the federal and State levels are delegated to regional and local agencies, such as the RWQCB. Descriptions of agency jurisdiction are summarized below.

**(1) Federal Agencies.** Three federal agencies are responsible for laws and regulations pertaining to hazardous materials.

*U.S. Environmental Protection Agency (EPA).* The EPA is responsible for enforcement and implementation of federal laws and regulations pertaining to hazardous materials. Federal regulations are codified primarily in Title 40 of the Federal Code of Regulations (40 CFR). The primary legislation includes the Resource Conservation and Recovery Act of 1976 (RCRA), the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), and amended by the Superfund Amendments and Reauthorization Act (SARA). These laws and associated regulations include specific requirements for facilities that generate, use, store, treat, transport, and/or dispose of hazardous materials. The EPA provides oversight for federal Superfund investigation/remediation projects, evaluates remediation technologies, and develops hazardous materials disposal restrictions and treatment standards.

*U.S. Department of Transportation (DOT).* The DOT is responsible for enforcement and implementation of federal laws and regulations regarding the transportation of hazardous materials. Parts 100-1085 of 49 CFR cover most hazardous materials transportation regulations. These include regulations for permitting, training, labeling, and placarding.

*U.S. Coast Guard (USCG).* The USCG acts as the lead agency for spills in the San Francisco Bay and any oil spill clean up that may impact the shoreline.

**(2) State and Regional Agencies.** Six State and regional agencies play a part in regulating or monitoring hazards.

*Regional Water Quality Control Board (RWQCB).* Within Cal/EPA, the RWQCB is authorized by the Porter-Cologne Water Quality Control Act of 1969 to protect the waters of the State. The RWQCB may act as lead agency and provide oversight for sites where the quality of groundwater or surface waters is threatened. Based on the RWQCB's previous involvement and the nature of landfill and water quality concerns for the project, the RWQCB will likely act as the lead agency for this

[53] Ibid.

project on matters of hazardous materials. A water quality certification from the RWQCB would be required for site improvements that have the potential to impact water quality, such as daylighting creeks, marsh restoration, or certain shoreline improvement activities. The RWQCB would also have jurisdiction of discharge of contaminated water (including contaminated groundwater from investigation/remediation activities or dewatering during construction) to storm drains, surface water, or land. A permit from the local sanitary treatment facility would be required if water were discharged to the sanitary sewer.

*Department of Toxic Substances Control (DTSC).* In California, the DTSC within Cal/EPA is authorized by EPA to enforce and implement federal hazardous waste laws and regulations. California regulations pertaining to hazardous materials equal or exceed federal regulations. Most State hazardous materials regulations are contained in Title 22 of the California Code of Regulations (CCR). DTSC provides cleanup and action levels for subsurface contamination; these levels are equal to, or more restrictive than, federal levels. DTSC has developed land disposal restrictions and treatment standards for hazardous waste disposal in California.

*California Air Resources Board (ARB).* The California Toxic "Hot Spots" Information and Assessment Act of 1987 requires that industry provide information to the public on emissions of toxic air contaminants and their impact on public health. The Act requires the ARB and local air quality districts to inventory sources of over 200 toxic air contaminants, to identify high priority emission sources, and to prepare a health risk assessment for each of these priority sources.

*Bay Area Air Quality Management District (BAAQMD).* The project site area is under the jurisdiction of the BAAQMD. The BAAQMD is the local enforcement agency for air quality regulations, including air quality regulations addressing asbestos abatement activities (BAAQMD Regulation 11, Rule 2) and the management of excavated contaminated soils (BAAQMD Regulation 8, Rule 40).

*California Department of Fish and Game (CDFG).* The CDFG responds to surface water pollution incidents, among other responsibilities.

*California Office of Emergency Services (OES).* The OES State Warning Point acts as the Governor's 911 Dispatch Center. The State Warning Point, under federal SARA Title III requirements, must be notified as soon as possible of spills and releases. OES compiles Statewide statistics on spills and releases, and will dispatch other regional, State, and federal agencies to the scene, if necessary.

**(3) Local Agencies.** Alameda County, Contra Costa County, City of Oakland, City of Emeryville, City of Berkeley, City of Albany, and City of Richmond have a role in regulating or responding to hazards incidents. Local fire departments also have a role in responding to hazardous materials spills and commonly are involved with underground storage tank (UST) oversight and removals.

## 2. Impacts and Mitigation Measures

The following section analyzes the impacts related to hazards that could result from the implementation of the proposed *Draft General Plan*. This section identifies the criteria of significance that establish the thresholds to determine whether an impact is significant. The latter part of this section

presents the less-than-significant and potentially significant impacts from the *Draft General Plan* and mitigation measures, where appropriate.

**a. Criteria of Significance.** The proposed *Draft General Plan* would have a significant effect on public health and safety if it would:

- Create a significant hazard to the public or the environment as a result of routine transport, use, production, upset or disposal of hazardous materials;
- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment;
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within ¼ mile of an existing or proposed school;
- Bring people into direct contact with hazardous materials on a listed hazardous materials site compiled pursuant to Government Code section 65962.5;
- Impair the implementation or interfere with an emergency response or evacuation plan; or
- Expose people or structures to a significant risk of loss, injury, or death involving wildland fires.

**b. Less-than-Significant Hazardous Materials Impacts.** The following section identifies less-than-significant impacts associated with hazardous materials that could result from implementation of the *Draft General Plan*. Appendix B of this document contains a compendium of all *Draft General Plan* guidelines for reference.

**(1) Hazardous Materials Release.** Construction of *Draft General Plan* improvements at the project site could potentially include excavation, transport, and reuse of soil containing concentrations of potentially hazardous materials. These activities would be required to comply with federal, State, and local requirements for managing hazardous materials described previously. Although these requirements can not completely eliminate the potential for hazardous materials releases, adherence to current regulations would reduce the potential effects of a release to a less-than-significant level. Once the project construction period is over, no routine transport, use, production, upset, or disposal of hazardous materials would occur during normal operation of the park. Similarly, although the project site may be within ¼ mile of a school, potential effects to schools from hazardous emissions or the handling of hazardous materials associated with construction or operation of the proposed park would be less-than-significant.

**(2) Emergency Response.** Construction or operation of the proposed project would not impair the implementation or interfere with an emergency response or evacuation plan.

**(3) Wildland Fires.** Construction or operation of the proposed project would not expose people or structures to a significant risk of loss, injury or death involving wildland fires. On the contrary, the construction, operation, maintenance and security provisions envisioned for the park would generally reduce any existing potential for wildland fires at the park site. Implementation of *Draft General Plan* guideline OPER-4 requiring the preparation of a Maintenance Plan that would include procedures, techniques, and timing of fuel modification and fire prevention activities would reduce potential impacts associated with wildland fire to a less-than-significant level.

**(4) Contaminated Soils and Landfill Gases.** Construction workers and future site users may come into contact with contamination in near-surface soil and/or fill materials. Development activities, such as daylighting creeks, marsh restoration, construction of boat ramps, and shoreline improvements could result in exposure to soil containing chemicals of potential concern (COPCs). Surface and near-surface soil (up to 1-foot bgs) has been previously investigated, and surface/near-surface areas comprising concentrations of COPCs exceeding RBSLs established for the Park have been remediated by Catellus. However, subsurface soil and/or fill materials have the potential to contain COPCs throughout the project site.

During implementation of the proposed project, construction workers could come into contact with potentially explosive landfill gases, such as hydrogen sulfide ($H_2S$) and methane ($CH_4$). Exposure to these gases could pose potential health risks.

The *Draft General Plan* includes the following guidelines that would avoid or minimize to a less-than-significant level effects associated with exposure to contaminated soils and landfill gases by:

1. Requiring the preparation of Specific Project Plans for each management zone or sub-zone and prior to initiation of major development or enhancement projects. The Specific Project Plans would establish the nature, scale, and location of new development such as visitor facilities and service uses (see guidelines VISIT-1, OPER-1).

2. Requiring site specific analysis, environmental review and the identification of potential negative impacts associated with site-specific development projects, management plans, and Specific Project Plans for the implementation of the *Draft General Plan* in accordance with the California Environmental Quality Act (CEQA) (see guidelines OPER-2, CAPACITY-2, HYDRO-6).

3. Requiring the review of available site specific chemical data, consideration of the potential presence of Chemicals of Potential Concern (COPCs) and landfill gases, and additional testing as necessary during the design of Specific Project Plans, resource enhancement projects or other development plans (see guidelines OPER-6, OPER-7).

4. Requiring the review of available chemical data, additional testing and consideration of Regional Park Preliminary Remediation Goals if design, improvement or development plans involve on-site reuse or off-site disposal of soil (see guideline OPER-8).

5. Requiring the review of available chemical data, additional testing and consideration of sediment screening and beneficial reuse criteria established by the Regional Water Quality Control Board (RWQCB) if design, improvement or development plans involve wetland creation or restoration (see guideline OPER-9).

6. Requiring notification and concurrence by RWQCB if design, improvement or development plans involve work in the risk remediation and landfill cap areas described in the *Resource Inventory* (see guideline OPER-10).

**(5) Contaminated Leachate.** Surface and landscape improvements and irrigation may increase water infiltration into landfill areas generating excess leacheate containing chemicals from

landscaped areas or oily water from automobile use areas. Potential impacts to water quality are further described in Section III.G, Hydrology and Water Quality.

The *Draft General Plan* contains guidelines that would reduce potential impacts associated with contaminated leachate to water quality to less-than-significant levels by:

1. Requiring the preparation of Specific Project Plans that would include project area monitoring and identification of stormwater drainage plans as necessary (see guidelines VISIT-1, OPER-1).

2. Requiring preparation of a Maintenance Plan to guide maintenance and operations procedures and practices to allow for coordination of monitoring and implementation of operational activities such as irrigation as necessary (see guideline OPER-4).

3. Conserving water and producing water quality (see guideline OPER-17).

4. Requiring environmental review and the identification of potential negative impacts associated with site-specific development projects, management plans, resource enhancements and Specific Project Plans for the implementation of the *Draft General Plan* in accordance with the California Environmental Quality Act (CEQA) (see guidelines OPER-2, CAPACITY-2, HYDRO-6). Implementation of appropriate mitigation measures, such as preparation of a Health and Safety Plan and a Soil Management Plan, would also be identified as part of the subsequent CEQA analysis and evaluation.

5. Requiring the use of California native species, to the degree practical, in all landscaped plantings (see guidelines AESTH-4, OPER-17). The California native species endemic to the East Bay shoreline generally have low-water needs and using them will minimize the potential for excessive landscape irrigation which could increase water infiltration into landfill areas.

**c. Potentially Significant Hazardous Materials Impacts.** No potentially significant impacts associated with hazardous materials would occur with implementation of the *Draft General Plan*.

# G. HYDROLOGY AND WATER QUALITY

This section describes existing hydrologic and water quality conditions at and in the vicinity of the project site, summarizing information contained in the *Eastshore Park Project Resource Inventory* (*Resource Inventory*).[1] Potential impacts to hydrologic resources and water quality that could result from implementation of the proposed project are identified. Mitigation measures are recommended, as necessary.

## 1. Setting

The following discussion summarizes major hydrologic features, water quality conditions, stormwater system facilities, and regulatory standards at and in the vicinity of the project site. Please see the Hydrology and Topography section of the *Resource Inventory* for more detailed information.

**a. Hydrologic Features.** The major hydrologic features at and in the vicinity of the project site, further described below, are:

- Nearshore Zone: Subtidal and Intertidal Flats
- Shoreline
- Upland
- Creeks and Channels
- Linked Off-site Aquatic Systems.

**(1) Nearshore Zone: Subtidal and Intertidal Flats.** Much of the project site (approximately 85 percent) consists of the nearshore subtidal (always submerged) and intertidal (periodically exposed) tidal flats. These shallow areas are formed and shaped by the balance between the erosional wave processes propagating from the west across the San Francisco Bay (Bay), and the depositional processes that bring fine-grained sediment down from the Sacramento River and deposit the material in the more protected areas around the Bay. For additional information on the Nearshore Zone see pages H-9 to H-10 of the *Resource Inventory.*

**(2) Shoreline.** The shoreline represents the edge or interface between the Bay and uplands, and extends for about 8½ miles along the project site. Much of the current shoreline was created as a result of fill placement west of the historic shoreline. It includes a diversity of forms, including natural systems (e.g., the tidal marshes in the Emeryville Crescent, the Albany Mudflats, and the South Richmond Marshes) and various treated reaches (e.g., engineered rock revetment, dumped concrete and debris). In protected areas without material to "armor" the shoreline, wave action has developed sand and/or gravel beaches (e.g., Brickyard Cove Beach and Albany Beach). For additional information on the Shoreline Zone see pages H-10 to H-11 of the *Resource Inventory.*

*Shoreline Conditions*. General types of shoreline conditions are summarized below; please refer to the *Resource Inventory* for a more detailed description of the shoreline conditions and hydrologic processes within the project site:

[1] The *Resource Inventory* is a public document that is available on the Eastshore Park Project website at www.eastshorestate park.org.

- *Rock Revetment (engineered).* Shoreline protection constructed of large rock. Revetment for shoreline protection and alignment has been designed and installed based on standard engineering practice.
- *Construction Debris.* Shoreline protection constructed of dumped concrete, bricks, and other construction debris.
- *Gravel Beach.* Coarse sediment on a sloping beach, formed from natural or (more likely) fill material accumulating along the shoreline.
- *Sand Beach.* Natural or artificial sand beach formed in zones where the wave energy is intermediate in scale: greater than that which allows tidal marsh deposition, but low enough to not remove the sand.
- *Mudflats/Sandflats.* Shallow subtidal (submerged) and intertidal (exposed during some tide elevations) flats located west of the shoreline.
- *Tidal Marsh.* Vegetated salt marsh populated by a number of native and non-native plant species; tidal marshes in the project area are relatively small in size as a result of the exposed nature of the shoreline.
- *Creek Outfall.* The area where a historic creek emptied into the Bay.
- *Other.* Several other unique conditions include both natural and human made features that occur on a limited scale within the Eastshore Park project boundary (e.g., iron debris along the Powell Street shoreline and the roosting islands at Pt. Isabel.)

A variety of factors are responsible for the different shoreline conditions found in the project site. Orientation of the shoreline to areas of open water is a critical factor in determining shoreline condition. Beaches, for example, are typically oriented perpendicular to the predominant wave direction. Wind and wave action affect the shoreline and directly influence both shoreline protection requirements and applications. Together exposure and orientation to areas of open water are major influences, which dictate local wave climate and ultimately shoreline condition. The placement and content of fill material are other important factors. Shoreline exposure to wind and wave action are generally classified as follows:

- *Protected.* Shoreline is not exposed to the open Bay and significant wave action. Beach, mudflat, and tidal marsh conditions could be expected to persist in this context.
- *Semi-Protected.* Shoreline is indirectly exposed to the open Bay and receives moderate wave action. These areas are more susceptible to erosion and other geomorphic change than the protected areas.
- *Exposed.* Shoreline is exposed to the open Bay and receives significant and consistent wave action. These areas are vulnerable to erosion and impacts from wave action.

Currently, the shoreline within the project site is characterized by extensive reaches of engineered rock revetment and non-engineered, dumped concrete construction debris designed to protect the shoreline from erosion. Typically, landfill areas were first defined by dumping concrete and other unwanted construction material to provide a base for other material. In more recent years, the use of engineered revetment has become the typical condition along the project site shoreline.

In general, the shoreline within the project site is stable with areas of localized erosion. As a result of shoreline treatments such as engineered rock revetments, the shoreline is generally protected against erosion from tidal and wave action. Individual segments of the shoreline are described below based on several site reconnaissance and field survey visits conducted by staff from the EIR team's hydrology and water quality technical subconsultant, Philip Williams & Associates (PWA). A literature search and review supplemented these visits. Figure H-2 in the *Resource Inventory* provides a diagram of the important hydrologic processes and elements which directly affect the project site shoreline. Figure H-3 in the *Resource Inventory* identifies areas of shoreline exposure. Figures H-4, H-5, and H-6 in the *Resource Inventory* generally identify the location and provide a description of the existing shoreline conditions within the project site. Summaries of the physical conditions along important or notable shoreline areas within the project site follow.

- *Emeryville Crescent*. The Emeryville Crescent consists of approximately 100 acres of stable tidal marsh, extensive mudflats and the outfall for Temescal Creek. The southern and central portions of the Emeryville Crescent are semi-protected, north and west facing tidal marsh and mudflats. The northern portion of the Emeryville Crescent is a semi-protected, south facing shoreline consisting of gravel and sand beaches. The gravel and sand beaches appear to be relatively stable. The far northwestern corner of the Emeryville Crescent is armored with construction debris. The tidal marsh and mudflats continue to the south and west towards the Bay Bridge Toll Plaza and Radio Beach. The marsh appears to have been created by sediment deposition occurring in response to the construction of the Bay Bridge terminus and the landfill for the City of Emeryville marina and high rise buildings. This combination of features creates tidal circulation patterns that allow restricted wave action and sediment deposition. In addition, the circulation pattern traps floating debris from the Bay, resulting in the accumulation of extensive amounts of flotsam/jetsam and necessitating periodic cleanup efforts.
- *Powell Street Shoreline*. A majority of the Powell Street shoreline in Emeryville is a south facing shoreline armored with rock revetment. Several small reaches of gravel and sand beaches are located further east in the Emeryville Crescent. An unusual area of dumped iron debris was also placed as shoreline protection.
- *Emeryville Frontage Shoreline.* The Emeryville shoreline along the Frontage Road and Bay Trail is recently constructed rock revetment. This section of shoreline is semi-protected from the Bay's wave action.
- *Brickyard*. The Brickyard is a large area of Bay fill forming an arm that extends south into the Bay. The outer west face of the Brickyard is a semi-protected shoreline armored with concrete and asphalt construction debris. The eastern edge of the Brickyard's shoreline consists almost entirely of bricks, which gives this area its distinctive name. The Brickyard protects an interior shoreline zone (Brickyard Cove) including a large mudflat and sand beach. The Brickyard Cove is protected from significant wave action.
- *Berkeley Meadow*. The north and south shorelines of the Berkeley Meadow are both armored with rock revetment and concrete debris. Small discreet sections of rock revetment are found throughout the matrix of concrete debris. Cesar Chavez Park protects the north facing shoreline from significant wave action. The south facing shoreline adjacent to University Avenue is more exposed to wave action. The shoreline is armored with alternating sections of rock revetment and concrete debris.

- *North Basin Strip*. A relatively steep, coarse gravel beach, similar to the one found at Pt. Isabel, defines the shoreline along the North Basin. A scarp at the back of the beach appears to be the result of ongoing erosion of the fill material. The shoreline is protected to semi-protected from the wave action of the Bay. Schoolhouse Creek outfalls through a large reinforced concrete culvert at the southern end of the gravel beach.
- *Albany Mudflats*. The Albany Mudflats consists of a broad area of intertidal mudflats and a stable linear tidal marsh covering approximately 5 acres. This section of the project site's shoreline has limited exposure to the Bay, but defines the edge of a large inlet. Two major creeks, Cerrito and Codornices, outfall into the Albany Mudflats. Historically a narrow band (approximately 200 acres) of tidal marsh characterized what is now Pt. Isabel including the Albany Mudflats and Buchanan Marsh. This marsh connected the mouths of Cerrito Creek, Central Creek and Baxter Creek.
- *Pt. Isabel*. Pt. Isabel is a large developed landfill site. This section of the project site varies from semi-protected to exposed and includes a variety of shoreline conditions. The exposed west face of the point is armored with concrete debris and rock revetment. The north face of the point is protected by a sea wall constructed of rock revetment. The back of the interior north facing shoreline is armored with asphalt debris. Two coarse gravel beaches have established along an interior section of this shoreline between sections of asphalt debris and rock revetment. A large armored channel linking Hoffman Marsh with the Bay bisects Pt. Isabel. The north bank of this channel is armored with rock revetment while the south bank is primarily unconsolidated concrete debris.
- *Outer Hoffman Marsh*. The outer Hoffman Marsh has developed in the past 40 years as a result of the construction of an offshore seawall. This southwest facing shoreline consists of gravel beaches in the more exposed southern sections, and tidal marsh to the north behind the seawall. This marsh is an interesting example of tidal marsh establishment and provides an interesting model for future planning and design efforts.

**(3) Upland.** The project site uplands result primarily from the placement of fill over former tidal marsh or tidal flats. Topographically, the fill forms a relatively flat plain extending west from Interstates 80 and 580 (I-80 and I-580). Both the initial fill placement and subsequent non-uniform subsidence have resulted in a series of surface depressions that collect rainfall and provide a ground surface closer to the underlying groundwater table. This combination results in the scattered system of seasonal and freshwater wetlands and swales that occur on the undisturbed portions of the uplands. While supporting biological resources, the wetlands may allow groundwater recharge. For additional information on the Upland Zone see pages H-10 to H-14 of the *Resource Inventory.*

**(4) Creeks and Channels.** A number of freshwater creeks flow from the coastal hills of Oakland, Emeryville, Berkeley, Albany, El Cerrito, and Richmond and enter the Bay through the project site. Most of these creeks have been piped and culverted underground as part of local storm drain networks. Sections of individual creeks remain open and, in some instances, have been daylighted and "restored." Generally the watersheds of the creeks within the project site have undergone significant change as a result of development. Many of the watersheds, although relatively small, drain significant amounts of stormwater and urban run-off and, when viewed collectively, represent an important hydrologic element. The creeks link the East Bay Hills to the flatlands and ultimately to the Bay itself.

A list of the creeks and channels found within and in the vicinity of the project site is provided below. For additional information on the creeks and channels see pages H-14 to H-16 of the *Resource Inventory.*

- *Temescal Creek.* Temescal Creek meets the Bay as an open channel that empties into the tidal marsh and mudflats in the central portion of the Emeryville Crescent. Due to urban runoff and different land uses within the watershed, water quality problems have been an issue throughout the Creek's drainage.
- *Derby Creek.* Derby Creek empties into the Bay at Berkeley Beach west of West Frontage Road. At its discharge, the creek flows through an 8-foot by 7-foot reinforced concrete pipe. Sand deposition in the culvert has been an issue in the past.
- *Potter Creek.* Potter Creek flows almost entirely underground in a culvert, crossing between Aquatic Park and the "Model Boat Pond" and entering the Bay in a large culvert just east of West Frontage Road.
- *Strawberry Creek.* Strawberry Creek flows through a 7-foot by 8-foot reinforced concrete culvert that empties into the Bay just south of University Avenue. Gravel and mudflats that are exposed in lower tides characterize the mouth of the creek. Historically, Strawberry Creek was bordered by a riparian corridor and emptied into the Bay through a willow grove and a tidal marsh. The tidal marsh extended to what is now 3rd Street and the willow grove extended to 8th Street. In the past, water quality has been a significant issue associated with Strawberry Creek. Like many urban creeks, Strawberry Creek drains large residential, commercial, and industrial areas, which can be sources of pollutants. Recent efforts by the University of California and the City of Berkeley have resulted in improved water quality throughout the watershed.
- *Schoolhouse Creek.* Schoolhouse Creek reaches the Bay in a seven-foot reinforced concrete pipe at the North Basin. The creek culvert is located under the Virginia Corridor, an open space area, which is part of the project site. A gravel and sand beach is located directly north of the creek outfall.
- *Codornices Creek.* Codornices Creek empties into a small marsh/wetland through a narrow corridor between I-80 and the Golden Gate Fields racetrack. The marsh is connected to the Albany Mudflats and the Bay by two 36-inch concrete culverts under Buchanan Street. Like many urban streams, Codornices Creek has experienced a number of water quality problems. However, recent mitigation and protection efforts have resulted in improved water quality. In the fall of 2000, spawning steelhead were documented in Codornices Creek.
- *Cerrito Creek.* Cerrito Creek empties into the tidal marsh and mudflats in the Albany Mudflats just west of I-580 and the Bay Trail. The Creek apparently supported salmon runs as recently as the 1950s, however the creek was channelized and culverted as a result of extensive dairy farming and development in the watershed. Several restoration enhancement proposals and plans are being considered for Cerrito Creek just east of the project site.
- *Central Creek.* At the shoreline, Central Creek flows into Hoffman Marsh and ultimately to the Bay through Pt. Isabel Regional Shoreline Park. Upstream of Hoffman Marsh the Creek's banks are armored with engineered revetment.
- *Baxter Creek.* Baxter Creek empties into the northern extent of the Hoffman Marsh just west of I-580. Several sections of Baxter Creek remain above ground although it is mostly culverted as

part of the local storm drain system. Baxter Creek has been the focus of several local restoration efforts including a wetland restoration plan at its outfall at the Bay.

**(5) Linked Off-Site Aquatic Systems.** Several aquatic and biological resources that are not part of the project site, but are directly linked through adjacent land and/or physical hydrological connections include: Brooks Island, small islands off the southern tip of Pt. Isabel, South Richmond Marsh, and Codornices Creek Marsh. These areas play important roles in the function and structure of many hydrologic elements within the project site. For additional information on linked off-site aquatic systems see pages H-16 to H-17 of the *Resource Inventory*.

**(6) Groundwater.** The groundwater condition varies throughout the project site as a result of the varying and non-uniform character of the landfill materials and structures which make up the upland areas. Within the Berkeley Brickyard, Meadow, and North Basin Strip, groundwater ranges between 5 to 15 feet below the ground surface (bgs), in fill areas, and is expected to fluctuate due to tidal and seasonal effects.[2] Soil borings and well data indicate that groundwater ranges from approximately 20 to 30 feet bgs in the Albany Plateau area and about 4.5 to 5.5 feet bgs in the parking lot at Golden Gate Fields, immediately adjacent to the project site.[3] More specific monitoring efforts and studies need to occur to accurately characterize the groundwater conditions and locations throughout the project area.

**b. Water Quality.** Water quality within the project site varies greatly relative to local and regional environmental conditions, the seasons and impacts from urban areas to the east. Typically, water quality during the rainy season at the shoreline is impacted by stormwater runoff as pollutants from developed areas are flushed to the Bay via municipal stormdrain systems. At various times, raw sewage from occasional collection system failures, and accidental spills from industrial, commercial and residential areas have contaminated all of the creeks entering the project site. Tides, currents and flood conditions can also influence water quality by flooding low-lying areas and overwhelming stormwater infrastructure. Posted notices warning of degraded water quality at the Bay and in the creeks, in addition to periodic winter closures of the shoreline do occur.

Currently, different water quality monitoring programs are independently undertaken by the cities of Oakland, Emeryville, Berkeley, Albany, El Cerrito, and Richmond within the project site. These municipal programs vary in the frequency of and parameters for testing. See the *Resource Inventory* for additional information on water quality testing.

**c. Stormwater System.** The stormwater system that serves the project site is managed by local municipalities as described below.

**(1) Oakland**. Stormwater drains are located in the project site to the north of the Bay Bridge in the City of Oakland. The proposed Gateway Park property contains a 6-inch storm outfall that drains into a catch basin and a 3-inch storm outfall that connects to a concrete ditch. These storm lines drain directly into the Bay. The project site north of the Bridge includes Radio Point Beach and the western portion of the Emeryville Crescent. One stormwater drain flows into an inlet located at

[2] Tetra Tech, 1994a. *Work Plan, Phase II Site Investigation, Berkeley Peninsula Properties, Berkeley, California.*

[3] Levine-Fricke, 1989a. Op. cit.

the eastern boundary of Radio Point Beach.[4] A pump station north of the Bay Bridge toll plaza collects runoff and releases stormwater into the Bay. Two drainage pipes are located near the radio house north of the Bridge. A 200-foot narrow detention basin and storage box is located near the West Grand Avenue ramp off I-80/I-580 along the western portion of the Emeryville Crescent. To the west of this detention basin lies another detention basin along the Emeryville Crescent. A 30-inch pipe drains into the Bay within the Emeryville Crescent at the I-80/I-580 intersection.[5]

**(2) Emeryville.** Stormwater runoff along the waterfront within the Emeryville City limits is collected in a system of catch basins and drains that outfall to the San Francisco Bay. There are no existing facilities for stormwater drainage that serve the project site along Frontage Road.[6]

**(3) Berkeley**. Several stormwater lines and outfalls are located within the project site within the City of Berkeley. A 62-inch storm drain runs along the western side of I-80/I-580, opposite Gilman Street. The North Basin Strip, the Berkeley Meadow, and the Brickyard have no storm drains. A 7-foot by 8-foot concrete storm sewer is located west of I-80/I-580 opposite Virginia Street. A 6-inch by 9-inch storm sewer runs west beneath I-80/I-580 along University Avenue and connects with two catch basins. This stormwater line is the continuation of Strawberry Creek and drains into an outfall structure south of University Avenue. Developed areas within the vicinity of the Berkeley Marina, Cesar Chavez Park, Horseshoe Park, and Shorebird Park have their own local drainage systems and catch basins that flow directly into the Bay.[7] West of I-80/I-580 and opposite Aquatic Park, are two 18-inch catch basins draining into the Bay and six 24-inch tide-gate pipes connecting the Bay to Aquatic Park. South of Aquatic Park is one 7-foot by 9-foot stormwater outfall west of I-80/I-580 and opposite Potter Street.

**(4) Albany**. A stormwater outfall, located west of I-580 at the northern tip of Golden Gate Fields, is the only storm drain within the City of Albany portion of the project site. Golden Gate Fields has its own storm drain system, which includes a system of infield treatment ponds that filter stormwater runoff before releasing it into the Bay just north of Gilman Street.[8] There are no stormwater facilities at the Albany Point and Albany Bulb areas or along the Buchanan Street Extension.[9]

**(5) Richmond**. The City of Richmond maintains stormwater facilities in the portion of the project site that is within the City limits. Under existing conditions, precipitation runs off as overland flow and drains directly into the Bay. Existing storm drains include: one pipe south of Marina Bay Park, a system of drainages outfalling to Meeker Slough, two 16-inch pipes that drain water from Baxter across I-580 and outfall to the Bay south of the South Richmond Marshes, a 24-inch main just north of Hoffman Marsh, an outfall for Central Creek that drains into Hoffman Marsh, two 39-inch pipes near the Pt. Isabel Regional Shoreline bridge, a 35-inch drain parallel to Isabel Street, and a drain south of Central Avenue across the street from Costco (see Figure U-3 of the *Resource*

[4] Chongchaikit, Pochana, 2001. Senior Transportation Engineer, Caltrans. Personal communication. April.

[5] Perez, Isaac, 2001. Senior Transportation Engineer, Caltrans Hydraulics Branch. Personal communication. April.

[6] Kaufman, Maurice, 2001. City of Emeryville Public Works Department. Personal communication. March.

[7] Akagi, Daniel, 2001. Assistant Civil Engineer, City of Berkeley. Personal communication. March.

[8] Rainey, Calvin, 2001. Assistant General Manager, Golden Gate Fields. Personal communication. April.

[9] Pinto, Erin, 2001. Associate Engineer, City of Albany. Personal communication. March.

*Inventory*). There are no existing storm drains between Rydin Road and I-80 or between the San Francisco Bay Trail (Bay Trail) and I-580. The existing stormwater system would have the capacity to accommodate additional runoff from potential park facilities.[10]

**d. Regulatory Standards.** The water quality of surface and groundwater bodies is regulated by the State Water Resources Control Board and Regional Water Quality Control Boards (RWQCB). The project site is under the jurisdiction of the San Francisco RWQCB, which is responsible for implementation of State and federal water quality protection regulations and guidelines in the vicinity of the project site. The RWQCB implements the Water Quality Control Plan (Basin Plan),[11] a master policy document for managing water quality issues in the region. The Basin Plan establishes beneficial uses for waterways and water bodies within the region. Beneficial uses are a broad range of conditions and activities directed towards achieving the greatest benefit to the people of the State of California.

The RWQCB has generally characterized the waters of the project site as Surface - Coastal waters within the Central Basin.[12] Some of the significant beneficial uses summarized for Surface-Coastal waters include freshwater, estuarine habitat, marine habitat, fishing, contact and non-contact water recreation.

Wetlands within the project site are also identified by the RWQCB as being of significant value. The marshes and intertidal zones represent extensive areas of the project site and include such beneficial uses as fish migration, contact and non-contact water recreation, fishing, marine and estuarine habitat.

Runoff water quality is regulated by the Federal National Pollution Discharge Elimination System (NPDES) Non-point Source Program, established through the Clean Water Act. The objective of this program is to control and reduce pollutant discharges to water bodies from nonpoint sources. The program is administered by the RWQCB. The project site would be under the jurisdiction of the RWQCB and the local jurisdictions regarding discharge permits to local stormwater collection systems.

Projects disturbing more than 5 acres of land during construction are required to file a Notice of Intent (NOI) with the RWQCB to be covered under the State NPDES General Construction Permit for discharges of stormwater associated with construction activity. A developer must propose control measures that are consistent with the State General Permit. A Storm Water Pollution Prevention Plan (SWPPP) must be developed and implemented for each site covered by the general permit. A SWPPP must include Best Management Practices (BMPs) designed to reduce potential impacts to surface water quality through the construction and life of the project.

## 2. Impacts and Mitigation Measures

The following section discusses impacts related to hydrology and water quality. Criteria of significance, establishing the thresholds to determine an impact's level of significance, are presented first, followed by the identification of less-than-significant impacts and significant impacts.

[10] Linsley, Steve, 2001. City of Richmond Wastewater Division. Personal communication. March.

[11] San Francisco Bay Regional Water Quality Control Board, 1995. *Water Quality Control Plan.* June 21.

[12] Ibid.

**a. Criteria of Significance.** The adoption and implementation of the *Eastshore Park Project General Plan* (*Draft General Plan*) would have a significant effect on hydrology and water quality if it would:

- Violate any water quality standards or waste discharge standards set by the Regional Water Quality Control Board or otherwise substantially degrade surface or groundwater quality;
- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that the local groundwater table would be lowered;
- Substantially reduce the amount or quality of water otherwise available for public water supplies;
- Substantially alter an existing drainage such that substantial erosion, siltation, or flooding would occur on property in adjacent municipalities;
- Create or substantially contribute to runoff water which would exceed the capacity of existing or planned stormwater drainage systems or create an increase in calculated peak flood discharges, requiring the construction or substantial expansion of existing facilities;
- Substantially alter a natural water course;
- Place housing or other structures within a 100-year flood hazard zone, as defined by FEMA;
- Place within a 100-year flood hazard area structures which would impede or redirect flood flows;
- Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam; or
- Expose people or structures to inundation by seiche, tsunami, or mudflow.

**b. Less-than-Significant Hydrologic and Water Quality Impacts.** The following section identifies less-than-significant impacts that could result from the implementation of the *Draft General Plan*. Appendix B of this document contains a compendium of all *Draft General Plan* guidelines for reference.

Implementation of the *Draft General Plan* would not substantially impact existing hydrologic resources and water quality conditions within the project site. Resource enhancements proposed in the *Draft General Plan* would generally improve the overall quality and function of the hydrologic resources and shoreline conditions by implementing environmental restoration and enhancement projects within the project site. As discussed in the setting section, a number of hydrologic and shoreline conditions within the project site currently adversely impact water quality. Implementation of *Draft General Plan* guidelines related to resource enhancement and shoreline protection would improve environmental and water quality conditions and provide long-term benefits.

**(1) Waste Discharges.** The project does not propose any industrial-type discharges that would require specific Waste Discharge Requirements by the RWQCB, and therefore would not be expected to exceed waste discharge standards for point sources. The project would be subject to the requirements of RWQCB nonpoint-source regulations.

**(2) Groundwater.** Implementation of the *Draft General Plan* would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge because no

groundwater extraction is proposed in the *Draft General Plan* (although temporary dewatering of excavations associated with construction may be required), and the area that would be newly covered with impervious surfaces (e.g., parking areas, paved trails and roadways, and structures) is very small in relation to the existing upland area (approximately 8 acres, or less then 3 percent of the total upland area). As a result, the project is unlikely to have any significant effect on groundwater supply or recharge.

**(3) Public Water Supply.** Implementation of the *Draft General Plan* would not reduce the amount or quality of water otherwise available for public water supplies because the *Draft General Plan* does not propose uses which require significant amounts of water. Water supply is further described in Section IV.L, Utilities in this report

**(4) Alteration of Drainages and Natural Water Courses.** Implementation of the *Draft General Plan* would not substantially alter existing drainages such that substantial erosion, siltation, or flooding would occur on property in adjacent municipalities. Potential impacts associated with creek daylighting projects would generally be limited to the construction period. These impacts can be reduced through appropriate construction activities and management plans. Proposed enhancements to the hydrologic resources and the development of facilities within the project site will prove to be opportunities to improve drainage conditions locally and systemically throughout the project site. The proposed re-contouring of the mouth of Strawberry Creek and the daylighting of Schoolhouse Creek would improve the function and quality of these two waterways within the project site. Creek enhancement proposals and specific projects are identified for degraded systems (culverted, constricted) and will be required to address the natural creek-to-Bay interface and the physical and biological processes unique to these systems. The *Draft General Plan* contains guidelines that would avoid or minimize to a less-than-significant level potential adverse impacts associated with alteration of drainages by:

1. Requiring the development of Specific Project Plans (see guideline OPER-1) for major enhancement projects.

2. Requiring additional environmental evaluation of all proposed facilities and resource enhancements such as creek daylighting (see guidelines CAPACITY-2, HYDRO-6).

3. Considering other project priorities along with environmental enhancement programs (see guideline HYDRO-7).

**(5) Stormwater Runoff.** Implementation of the *Draft General Plan* would neither create nor substantially contribute to runoff water which would exceed the capacity of existing or planned stormwater drainage systems or create an increase in calculated peak flood discharges, requiring the construction or substantial expansion of existing facilities. The actual anticipated increase in runoff as a result of proposed facilities (buildings, trails, parking areas, etc) is not significant relative to the existing runoff regimes.

The *Draft General Plan* incorporates guidelines that would avoid or reduce to a less-than-significant level potential impacts related to stormwater runoff by:

1. Requiring the development of a Visitor Capacity Management Program (see guideline CAPACITY-1) and Specific Project Plans (see guidelines VISIT-1, OPER-1) that would include plans for providing stormwater facilities, evaluating existing capacity relative to proposed development and/or developing additional stormwater control measures to limit impacts to stormwater drainage systems.

2. Requiring environmental review and the identification of potential negative impacts associated with site-specific development projects, management plans, and Specific Project Plans for the implementation of the *Draft General Plan* in accordance with the California Environmental Quality Act (CEQA) (see guidelines OPER-2, CAPACITY-2, HYDRO-6).

3. Conserving water and protecting water quality (see guideline OPER-17).

**(6) Flood Hazards.** Implementation of the *Draft General Plan* would not place housing or other structures within a 100-year flood hazard zone, as defined by FEMA. The anticipated 100-year flood zone is generally defined by upland areas below + 6.4 Mean Higher High Water (MHHW). Most of the project site's upland areas occur within the elevation range of +10.0 to 15.0, based on existing topographic information. Regulatory agency requirements will limit the location and development of building structures to areas above the anticipated 100-year flood elevation.

Implementation of the *Draft General Plan* would not place structures within a 100-year flood hazard area which would impede or redirect flood flows. The *Draft General Plan* proposes the development of some structures, such as boat ramps, within the 100-year flood hazard area; however these structures are not anticipated to obstruct or interfere with flood flows. Additionally, *Draft General Plan* guidelines will require appropriate assessment and evaluation of the location, design and function of these structures by the project designers to insure that critical flood conditions and scenarios are addressed (see guidelines HYDRO-6, HYDRO-7).

Implementation of the *Draft General Plan* would not expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam. No dams or levees exist within or are proposed for the project site. *Draft General Plan* guidelines requiring the consideration of conditions, such as flooding, prior to siting specific structures will reduce the potential for the risk of loss, injury, or death as a result of flooding (see guidelines VISIT-1, OPER-1, CAPACITY-2, HYDRO-6).

**(7) Tsunami Risks.** Implementation of the *Draft General Plan* would not increase exposure of people or structures to inundation by tsunami. Conditions for risks associated with seiches (waves created by seismic events in enclosed bodies of water) and mudflows do not exist in the project site. It is difficult to predict and assess the scale and frequency of potential tidal events. A tsunami with a 200-year occurrence interval has an estimated run up of 7 to 10 feet along the shoreline. Risks associated with tsunami inundation would be considered as specific locations and designs are developed for any structures and facilities along the shoreline (see guidelines VISIT-1, OPER-1, CAPACITY-2). By locating proposed facilities at appropriate locations and elevations in the upland areas of the project site, the anticipated impact of tsunamis can be reduced to a less-than-significant impact.

**(8) Water Quality.** Implementation of the *Draft General Plan* would not significantly impact water quality conditions within the project site. In general, proposed enhancements to the

shoreline and hydrologic resources of the project site would benefit water quality conditions. Increased areas of tidal marsh and improved vegetative zones would function to improve water quality. Nonpoint source impacts to water quality from outside of the project areas and proposed facilities to improve opportunities for non-contact and contact water recreation need to be considered as specific recreational opportunities and activities are developed.

Construction activities associated with the project, such as site preparation, surface grading, and new construction, could create soil disturbances and increase erosion and sedimentation, potentially resulting in the degradation of the quality of receiving waters. Chemical releases associated with construction activities and equipment operation and maintenance may also result in the degradation of the quality of receiving waters.

New construction and new parking areas at the project site would result in increased vehicle use and potential discharge of associated pollutants. Leaks of fuel or lubricants, tire wear, and fallout from exhaust contribute petroleum hydrocarbons, heavy metals, and sediment to the pollutant load in runoff being transported to receiving waters. Runoff from impervious surfaces, proposed landscaped areas and irrigated turf grass areas may contain residual pesticides and nutrients. Increased amounts of water, due to irrigation activities, could also interact with contaminated fill and potentially impact on-site water quality. Long-term degradation of water quality runoff from the site could impact water quality in the Bay.

A coordinated review and assessment of the existing water quality monitoring data as well as recommendations for developing specific and comprehensive monitoring programs are recommended follow-up actions as planning for specific projects and their development proceeds. For current *Draft General Plan* level planning, the implication is that water contact recreation would be limited during certain times of the year, and that some ongoing monitoring program would be required to identify water quality conditions.

The specific BMPs that would be required of a project can be found in *SF Bay Regional Water Quality Control Board Staff Recommendations for New and Redevelopment Controls for Storm Water Programs*. The selection of BMPs required for a specific project is based on the size of the development and the sensitivity of the area. In general, areas near surface waters (i.e., creeks, lakes, or the Bay) are considered sensitive areas by RWQCB. Passive, low-maintenance BMPs (e.g., grassy swales, porous pavements) are preferred. If the SWPPP includes higher maintenance BMPs (e.g., sedimentation basins, fossil fuel filters), then funding for long-term maintenance needs must be specified.

The *Draft General Plan* contains guidelines that would reduce potential impacts to water quality to less-than-significant levels by:

1. Requiring the preparation of Specific Project Plans that would include project area monitoring as necessary (see guideline OPER-1).

2. Requiring preparation of a Maintenance Plan to guide maintenance and operations procedures and practices to allow for coordination of monitoring and implementation of operational activities such as postings warning of water quality hazards as necessary and preparation of an integrated pest management plan (see guideline OPER-4).

3. Requiring environmental review and the identification of potential negative impacts associated with site-specific development projects, management plans, resource enhancements and Specific Project Plans for the implementation of the *Draft General Plan* in accordance with the California Environmental Quality Act (CEQA) (see guidelines OPER-2, CAPACITY-2, HYDRO-6).

4. Conserving water and protecting water quality (see guideline OPER-17).

**(9) Shoreline Treatments and Protection.** Implementation of *Draft General Plan* guidelines proposing structural shoreline treatments and pedestrian promenades within the project site could adversely impact the nearshore, shoreline and upland zones, as well as the creeks within the project site. Potential impacts include habitat loss, changes to sediment transport regimes, and altered hydrology. The most significant impacts resulting from structural shoreline treatments are expected to occur and be limited to short-term impacts during the construction period. The project site includes extensive areas of existing structural shoreline conditions (e.g., rock revetment and concrete construction debris) that may be improved by the proposed actions. However, structural shoreline treatments could impact the project site by changing existing environmentally valuable conditions, limiting natural erosional processes and tidal action (e.g., along the North Basin Strip). Alternatively, structural shoreline treatments may benefit the hydrologic resources and water quality at the project site in areas where existing shoreline treatments are inadequate for shoreline stability and erosion control. Since the specific structural shoreline projects are currently in the conceptual phase, it is not possible for this EIR to provide site or project specific mitigations for construction and post-construction impacts.

The removal of surface hazards and replacement with new shoreline protection could adversely impact hydrological resources within the nearshore, shoreline and upland zones, and the freshwater creeks within the project site. Potential impacts include habitat loss, changes to sediment transport regimes, and altered hydrology. Impacts are generally anticipated to be short-term in nature and associated with construction activities. The project site includes extensive areas of existing structural shoreline treatments such as rock revetment and concrete construction debris that may be improved by the proposed actions. Replacement of existing structural shoreline treatments may benefit the hydrologic resources and water quality at the site in areas where existing shoreline treatments are hazardous and inadequate for shoreline stability and erosion control.

The *Draft General Plan* includes the following guidelines that would avoid or minimize to a less-than-significant level effects associated with shoreline treatments by:

1. Requiring the preparation of Specific Project Plans for each management zone or sub-zone and prior to initiation of major development or enhancement projects. The Specific Project Plans would establish the nature, scale, and location of new development such as visitor facilities and service uses (see guidelines VISIT-1, OPER-1).

2. Requiring environmental review and the identification of potential negative impacts associated with site-specific development projects, management plans, and Specific Project Plans for the implementation of the *Draft General Plan* in accordance with the California Environmental Quality Act (CEQA) (see guidelines OPER-2, CAPACITY-2, HYDRO-6).

3. Requiring a management program for shoreline enhancement and stabilization projects that includes ongoing monitoring and maintenance activities that respond to changing conditions during the life of the project (see guideline HYDRO-5).

4. Selecting appropriate shoreline protection strategies for specific areas by considering site specific conditions and reviewing potential development alternatives (see guideline HYDRO-1).

**(10) New Shoreline Uses.** Increased opportunities for the use of watercraft and development of facilities for recreational launches could result in adverse direct and indirect impacts to hydrology and water quality, and sediment transport regimes due to boat and foot traffic in the subtidal and intertidal zones. Construction-related impacts would be short-term in nature. The *Draft General Plan* contains guidelines that would avoid or minimize to a less-than-significant level potential adverse impacts associated with construction of shoreline facilities and increased shoreline use by:

1. Requiring the development of Specific Project Plans (see guideline OPER-1) for major development and enhancement projects.

2. Requiring environmental review and the identification of potential negative impacts associated with site-specific development projects, management plans, and Specific Project Plans for the implementation of the *Draft General Plan* in accordance with the California Environmental Quality Act (CEQA) (see guidelines OPER-2, CAPACITY-2, HYDRO-6).

3. Establishing a Visitor Capacity Management Program to identify appropriate use limits and allow for the monitoring and assessment of the carrying capacity of each management zone to protect resources (see guideline CAPACITY-1).

4. Considering sensitive shoreline habitat and features when designing and siting Bay access features (see guidelines VISIT-14, OPER-16, OPER-17).

**c. Significant Hydrologic and Water Quality Impacts.** No potentially significant hydrological impacts would occur with implementation of the *Draft General Plan*.

# H. LAND USE AND PUBLIC POLICY

This section describes existing land uses at the Eastshore Park project site and its vicinity, and relevant policy documents summarizing information contained in the *Eastshore Park Project Resource Inventory* (*Resource Inventory*).[1] Potential land use and public policy-related impacts that would result from implementation of the proposed project are identified and mitigation measures are recommended, as necessary.

## 1. Setting

The following discussion is adapted from information contained in the *Resource Inventory* on existing land use and public policy considerations in and around the project site. Please refer to pages L-1 through L-14 of the *Resource Inventory* for more detailed information.

**a. Overview.** The proposed project comprises 8½ miles of waterfront land along the eastern shore of San Francisco Bay (Bay), extending from the Oakland Bay Bridge (Bay Bridge) north to the Marina Bay neighborhood in Richmond. The project site is located within five different cities (Oakland, Emeryville, Berkeley, Albany, and Richmond) and two counties (Alameda and Contra Costa). The project site is accessible from Interstate 80 (I-80), Interstate 580 (I-580), and several local roads (see Figure II-1).

**b. Existing Land Uses Within and Immediately Adjacent to the Project Site.** The project site covers approximately 2,260 acres. Of this area, about 260 acres are upland and the remainder of the site consists of tidelands. The following discussion provides a brief inventory of land uses within the project site and in immediately adjacent areas. All of these landmarks and areas are shown in Figure II-2.

**(1) Bay Bridge.** The Bay Bridge, the I-80 approach, and the Bay Bridge Toll Plaza are located to the south of the project site.

**(2) Radio Point Beach.** Located on the north side of the Bay Bridge, west of the Toll Plaza and the project site, Radio Point Beach is a small park owned and operated by the Port of Oakland (Port).

**(3) The Emeryville Crescent**. Located along the southern edge of the project site, the Emeryville Crescent consists of marshland and Bay waters that extend from just north of the Bay Bridge Toll Plaza along the shoreline to the west end of the Emeryville peninsula. The southern half of this area lies within the City of Oakland. The majority of this area is within the project site, with the exception of the triangular-shaped area of marsh just north of the Toll Plaza, which is owned by the Port.

Little upland area exists along the I-80 frontage during periods of mean high tide. A limited strip of upland area exists south of Powell Street between West Frontage Road and Emeryville Fire Station #1. No developed land uses currently exist in the Eastshore Park portion of the area, and the only

[1] The *Resource Inventory* is a public document that is available on the Eastshore Park website: www.eastshorestatepark.org.

physical access is at the extreme southwestern end of the Emeryville Crescent on the spit of land where a now defunct rod and gun club was to be located.

**(4) Emeryville Peninsula**. While the Emeryville Peninsula is one of four major points or peninsulas that punctuate the project site shoreline, most of it lies outside the project site. The only portion within the project site is a narrow strip of upland area adjacent to the south side of Powell Street between West Frontage Road and Emeryville Fire Station #1. The rest of the peninsula is in both private and public (City) ownership.

Land uses on the east end of the peninsula are predominantly commercial, including a mix of mid- and high-rise office buildings, a hotel, restaurants and a gas station. The mid-section and western portion of the peninsula includes residential, commercial, recreational, and public service uses.

**(5) Emeryville Shoreline and Point Emery**. The Emeryville shoreline consists of a narrow strip of land between I-80 and the Bay. The area is occupied almost entirely by transportation improvements, including West Frontage Road and a segment of the San Francisco Bay Trail (Bay Trail). West Frontage Road in this stretch is a heavily-used corridor because of the access it provides to both the Ashby Avenue and Powell Street interchanges with I-80/I-580, and because it serves as a bypass when I-80/I-580 is congested. This section of Bay Trail was constructed in 2000 by Caltrans as mitigation for off-site impacts of other projects. The Class I multi-purpose Bay Trail is located along the west side of the roadway and is separated from travel lanes by a planted landscape strip. At the south end of the Bay Trail, a small vista point/rest area was also constructed by Caltrans as part of the Bay Trail improvements.

At the north end of the Emeryville shoreline, Point Emery Park is located on a small peninsula near the Ashby Avenue interchange. The area within the Eastshore Park project site generally extends up to the point of mean high tide, with the exception of Point Emery, which, along with the surrounding water area, is owned by the City of Emeryville.

**(6) Berkeley Beach**. Like the Emeryville shoreline, the Berkeley Beach area consists primarily of West Frontage Road and its right-of-way. The project site boundary extends from the Bay to the mean high tide mark. The shore protection, consisting of riprap, and roadway lie within the City of Berkeley. As of April 2002, the broad shoulder along West Frontage Road was in the process of being eliminated to make way for the construction of the University Avenue to Ashby Avenue section of the Bay Trail, which is proposed to be completed in September 2002.

**(7) Brickyard Cove.** The Brickyard Cove area, which is part of the project site, consists of an upland area of approximately 40 acres near the University Avenue/West Frontage Road intersection, a narrow spit of land that extends to the south creating the sheltered Brickyard Cove, and the beach and cove itself. The spit and beach areas are undeveloped, and used for passive recreation (e.g., walking and bird watching). The flat area near the two roadways is leased to two different uses. The largest part of this area is used as a site for the temporary storage of clean fill material. Activities include the hauling and dumping of off-site excavation materials onto the property. The materials are stored until a suitable fill location is found. Heavy trucks enter the area on a regular basis and heavy earthmoving equipment is frequently in use, moving soil around.

Seabreeze Market, which is located on the southwest corner of University Avenue and West Frontage Road, is both a produce market and café. The Seabreeze Market is a popular destination and support facility for waterfront visitors and is used by travelers on I-80/I-580. The market facility consists of several large storage container units assembled into a single cluster. Picnic tables provide outdoor seating in the front of the market. Parking and portable restroom facilities are provided at the rear of the market.

To facilitate access to the waterfront area, the City of Berkeley constructed a pedestrian and bicycle over-crossing of I-80/I-580 from Aquatic Park that touches down on the east edge of the brickyard area. The bridge opened in February 2002.

**(8) Berkeley Marina**. Located along the western edge of the Eastshore Park project area lies the City of Berkeley-owned Berkeley Marina area. The Marina area includes a mix of public park areas and waterfront-related commercial ventures. In addition to public park commercial ventures, there is also the 52-acre, city-operated Berkeley Marina and all its associated facilities. The mix of uses in the Marina area attracts tourists and regional residents seeking dining, lodging, water sports, and general open space recreation.

**(9) The Berkeley Meadow**. The approximately 80-acre Berkeley Meadow, located north of University Avenue, is part of the project site. The Meadow consists of undeveloped open space crossed by a number of informal paths. The landscape is characterized by naturalized vegetation including annual grasses, scattered perennial shrubs, and a few isolated trees. The area also contains seasonal wetlands.

**(10) North Basin Strip**. Part of the project site, the approximately 25-acre North Basin Strip is an undeveloped open space area surrounded by the Berkeley Meadow, West Frontage Road, the North Basin, and Golden Gate Fields. Like the Berkeley Meadow, the area is undeveloped, but the vegetation is sparse and no wetlands have been identified in this area. An informal path is located around the perimeter of the area, and a Class I asphalt bike path (part of the Bay Trail) is located along West Frontage Road.

Three operators lease seasonal concessions along West Frontage Road to sell pumpkins and Christmas trees. These operations, which were in existence prior to California Department of Parks and Recreation (State Parks) ownership, continue as interim uses.

**(11) Golden Gate Fields**. Lying outside of the project site, the Golden Gate Fields racetrack operation and adjoining property are owned by the Magna Corporation. The land between the North Basin Strip property line and Gilman Street is relatively undeveloped with some naturalized vegetation and asphalt paving. Current uses include overflow parking, horse trailer storage, and other activities related to the track. Immediately north of Gilman Street and extending to the Albany City line (approximately 29 acres) are the stables for the racetrack operation.

The grandstands and racetrack are located in the City of Albany. Current uses include on-site horse racing with viewing and wagering opportunities. During non-racing periods, off-track racing and wagering is accommodated through satellite links to tracks around the world. The primary parking area is located northwest of the grandstands. These lots are typically at capacity during racing events.

**(12) Albany Plateau, Neck, Bulb, and Beach.** Part of the project site, the Albany Plateau, Neck, Bulb, and Beach are the result of years of filling the shallow tidelands of the Bay with construction debris during the 1950s. In the years since filling stopped, vegetation has naturalized in the area, and the Beach has formed as a result of Bay currents and natural tidal action. The land is undeveloped, and frequently used by locals for passive recreational activities, including the creation of art using discarded materials found on the site. Trails and a dirt road extend down the length of the peninsula to the Bulb. The City of Albany owns the Bulb and portions of the Neck and currently leases the land to State Parks until 2051 for use as part of Eastshore Park. The City has expressed interest in dedicating the Bulb as part of the project site, but first must obtain approvals from the State that any development undertaken by the City meets State standards for State Parks.

**(13) Albany Mudflats**. Included within the project site and extending from the Albany Plateau to Pt. Isabel, the Albany Mudflats are a distinctive wetland area and one of the most significant habitat areas in the East Bay. The area consists primarily of water area and wetlands, but there is a very narrow strip of upland area that extends around the area between the Mudflats and I-580. In the area south of Central Avenue, there is a broader upland area, which has been revegetated with native species as part of a Caltrans mitigation project. The Bay Trail is aligned with the top of the shoreline embankment. A fence with solid slats, extending from the Albany Plateau to Pt. Isabel, provides visual and physical separation from the sensitive biological areas. No water access exists in this area.

**(14) Pt. Isabel**. The Pt. Isabel peninsula contains a diverse collection of land uses. Land ownership includes City, State, federal, and other public agencies. The central portion of the peninsula is fully developed with urban uses that include: Costco, the US Postal Service Bulk Mail Center, light industrial uses, and a water treatment facility. The perimeter of the peninsula includes primarily open space, including: the Caltrans habitat restoration area south of Central Avenue, Pt. Isabel Regional Shoreline Park along the western and northern edge of the peninsula, and the Bay Trail, which extends around the perimeter of the peninsula. Pt. Isabel Regional Shoreline Park (owned by the US Postal Service and leased by the East Bay Regional Park District (EBRPD) on long-term agreement), the adjacent North Pt. Isabel area, and a narrow strip of land south of Central Avenue are part of the project site.

**(15) Hoffman Marsh and South Richmond Marshes**. The Hoffman Marsh and marshes in South Richmond extend from Central Avenue north to the Marina Bay area. I-580 runs adjacent to the southern (Hoffman Marsh) half of this area. The adjacent land uses inland of the northern half of the site generally consist of industrial and office uses, such as Zeneca Corporation, which occupies a site just west of the Bayview Avenue overcrossing, and the UC Berkeley Richmond Field Station that abuts Meeker Slough at the north end. These marsh areas are significant natural tidal marsh and open space resources. The only development in this area is the Bay Trail which has been built on a raised levee that was formerly a railroad right-of-way, and is now part of the project site. In addition to this section of the Bay Trail, two small interior parcels within the Hoffman Marsh are within the project site.

**(16) Marina Bay**. The Marina Bay community is located to the north of the Eastshore park project area. A large portion of the Richmond Waterfront has been redeveloped with mixed-density residential units and open space. Marina Bay, which was developed in the 1980s, is a residential

community containing multiple neighborhood clusters and several parks for use by local residents and visitors.

**c. Existing Land Uses in the Vicinity of the Project Site.** Land uses surrounding the project site have changed dramatically over the last few decades. Major industrial users, such as the Port and Union Pacific Railroad continue to own and manage significant land areas to the south and east of the project site. Generally, however, the historic industrial and manufacturing land use base that occupied the westernmost portions of the adjoining communities is experiencing an infusion of new retail and commercial uses, as well as new residential and mixed-use development. The Marina Bay area in Richmond is an example of how historic industrial and institutional uses have yielded to new land use patterns (i.e., master planned communities and waterfront parks).

The following discussion summarizes individual uses, landowners, and agencies that have contributed to these land use changes and in doing so, have influenced planning for the project site:

**(1) City of Oakland**. The Bay Bridge spit of land and the southern portion of the Emeryville Crescent are both within the City of Oakland. The realignment of the Bay Bridge's eastern portion is proposed to the north of the existing Bridge but on the same spit of land. West Oakland, the nearest residential neighborhood to the project site, has historically had poor access to the waterfront due to intervening industrial uses

**(2) Port of Oakland**. The Port operates a major international shipping terminal on water-front land south of the project area. The Port has provided parkland, as required by the Bay Conservation and Development Commission (BCDC), to help mitigate Port expansion and channel dredging projects. Development and maintenance of the Port is carried out in association with the City. Port View Park and Middle Harbor Park are two waterfront parks currently on Port land. The proposed Gateway Park along the north and south sides of the Bay Bridge terminus is also on Oakland Army Base land.

**(3) Oakland Army Base**. The Oakland Army Base, which is currently undergoing a closure process, is located to the south of the Bay Bridge. The City and Port are currently preparing land use plans for the re-use of this area.

**(4) Union Pacific Railroad**. An active north/south rail corridor runs east of the project site, serving industrial uses in Oakland with national destinations. Amtrak also operates several train lines with destinations such as Sacramento, Seattle and Chicago. Nearby rail stops are located at Oakland's Jack London Square, Emeryville, Berkeley, and Richmond.

**(5) East Bay Municipal Utility District (EBMUD) Sewage Treatment Plant**. Regional wastewater is treated at an EBMUD facility located south of the I-80 Bay Bridge approach. The treatment plant's location affects Bay Trail alignments and access to the shoreline from West Oakland.

**(6) City of Emeryville**. Major regional retail and commercial developments that attract large numbers of people to the area are located to the east of I-80. The furniture and household goals store, Ikea, and two new hotels are the most recent developments in the area.

**(7) City of Berkeley**. In recent years, new commercial outlets and the redevelopment of older industrial areas with office and high tech industry have occurred in West Berkeley. The expanded Fourth Street retail zone has become a major regional destination. The Bayer campus and other employment and retail development are bringing many more people into the area as well. Locations such as the American Soils Products site, overlooking Aquatic Park, are actively being considered for redevelopment.

**(8) Golden Gate Fields Racetrack**. The racetrack property occupies a large portion of the shoreline and creates a significant discontinuity in the project site and impedes public access to the Bay. The undeveloped acreage at the south end of the property near Gilman Street is designated for residential and commercial uses in the City of Berkeley General Plan.

**(9) UC Berkeley Field Station and Other Light Industrial Uses**. A cluster of research and light industrial uses, including the UC Berkeley Richmond Field Station, are located in the shoreline area between the Hoffman Marsh and Marina Bay. Formerly consisting of industrial and manufacturing uses, the area is transitioning toward cleaner, high-tech uses. Significant marshland areas exist between the developed areas and the Bay Trail.

**d. Specific Projects Planned for the Project Site Vicinity.** Several major projects are planned or have recently been completed in the vicinity of the project.

**(1) Bay Bridge.** The replacement of the eastern section of the Bay Bridge is proposed to touch down on the north side of the Bridge spit, west of Radio Beach. The new northern Bay Bridge alignment would free land to the south (where the existing bridge currently terminates), but limit access to the north side.

**(2) Mitigation Programs.** Caltrans has completed several habitat restoration projects to mitigate impacts from recent Bay Bridge approach construction. Wetlands were restored at the Emeryville Crescent and Albany Mudflats. Additional upland habitat was created at Central Avenue in Richmond. To buffer Aquatic Park from I-80/I-580 noise, the City of Berkeley and Caltrans are currently designing a "living wall" sound wall along the eastern side of I-80/I-580 between University Avenue and Ashby Avenue.

**(3) I-80 Bicycle/Pedestrian Overpass**. A pedestrian bridge over I-80/I-580 just south of University Avenue was completed and opened to the public in February 2002. The project provides a convenient and safe link between the retail, employment, and residential areas of West Berkeley and the waterfront. The bridge also provides a direct connection between Aquatic Park and the project site.

**(4) Berkeley Amtrak Station and Circulation Improvements**. The proposed Amtrak station development on 3rd Street under University Avenue will improve circulation and regional access to Project site. In addition, circulation improvements to the Fourth Street shopping district and the University Avenue commercial corridor are proposed to enhance pedestrian and bicycle activity.

**(5) Berkeley Ferry Terminal.** The Metropolitan Transit Commission, Water Transit Authority and local municipalities are currently studying commuter ferry options for East Bay

communities. The area at the foot of Gilman Street in Berkeley has been identified as a potential site for a ferry terminal if ferry service expands.

**(6) National Park Service Headquarters.** The National Park Service is currently establishing a headquarters in the Ford Plant, a newly-designated historic monument in Richmond. The "Smokestack," the "Rosie the Riveter" sculpture, and the Ford Building mark three key waterfront points that are part of the National Park area. The National Park area would be linked to the Eastshore Park project area by the Bay Trail.

**e. Regulatory Considerations.** The following section discusses municipal, regional, and State policies that relate to land use in and around the project site. The municipal policies are organized according to city; the regional and State policies are organized by document. For more detailed information on regulatory considerations, please refer to pages L-7 through L-15 of the *Resource Inventory*.

**(1) City of Oakland**. The main guiding document for land use in and around the small portion of the project site within Oakland is the City of Oakland General Plan, Land Use and Transportation Element.

*City of Oakland General Plan, Land Use and Transportation Element.* The entire north side of the Bay Bridge spit is designated in the City of Oakland General Plan Land Use and Transportation Element as a "Resource Conservation Area." This classification is intended to "identify, enhance and maintain publicly-owned lands for the purpose of conserving and appropriately managing undeveloped areas which have high natural resource value, scenic value, or natural hazards which preclude safe development." The *Draft General Plan* envisions that any development within Resource Conservation areas be very limited, and that any development must relate to the conservation and management of natural resources, public open space, and natural hazards. The *Draft General Plan* also contains specific guidelines for development of the City's waterfront.

**(2) City of Emeryville**. Guiding land use policy documents in Emeryville that are relevant to the project site include the City of Emeryville General Plan and the City of Emeryville Zoning Ordinance.

*City of Emeryville General Plan.* The City of Emeryville General Plan promotes the provision of recreational opportunities along the Bay shoreline and the protection of sensitive natural communities.

*City of Emeryville Zoning Ordinance.* A 1987 ballot initiative required the City to maintain the natural character of the Emeryville Crescent. The area is zoned "Shoreline Management" for ecological benefit. Human access is allowed if it does not adversely effect environmental quality.

Current zoning designations for the Emeryville Peninsula include Medium Density Residential, Mixed Use, General Commercial, Shoreline Management (Civic), and Outdoor Recreation. Additional development of vacant and underused sites will continue east of I-80/I-580. New residential units, light industrial campus-type facilities, and Mixed Use Planned Unit Developments are planned for the South Bayfront property on Shellmound Street.

**(3) City of Berkeley**. The City of Berkeley has actively supported and planned for the recreational uses of its waterfront. City policy calls for publicly-owned waterfront land to be held as permanent open space. Key City of Berkeley documents guiding land use within the project site include: the City of Berkeley 2002 General Plan, 1986 Waterfront Master Plan (Amendment to the City's Master Plan), 1986 Berkeley Waterfront Master Plan, Measure Q, and the 2000 Draft Berkeley Marina Plan and Waterfront Overview.

*City of Berkeley 2002 General Plan.* The General Plan elements adopted in 2002 describe waterfront land use in the City of Berkeley. For land within the project site, a discussion of "planning considerations" is presented without detailed land use policy. The General Plan also emphasizes the need to unify park programming between different jurisdictions. The General Plan designates the waterfront areas west of I-80/I-580 as either Open Space or Waterfront/Marina. Open Space is described as being appropriate for "parks, open space, recreational facilities, natural habitat and woodlands." Allowable land uses include "parks, recreational facilities, schoolyards, community services, and facilities necessary for maintenance of the areas." The objective of the "Waterfront/ Marina" designation is to maintain and preserve areas adjacent to the bay for "open space, recreational uses, waterfront-related commercial and visitor services, boating, and water transit facilities." Both land use designations have a maximum permitted Floor Area Ratio (FAR) of 0.5. All of the lands within the project site are designated as Open Space. The Golden Gate Fields properties adjacent to the North Basin Strip are designated as Waterfront/Marina.

*1986 Waterfront Master Plan.* The 1986 Waterfront Master Plan, and Measure Q, which serves as the Plan's implementing ordinance, are still the primary policy documents for non-open space land use along the Berkeley waterfront. Land use policy in the 1986 Waterfront Master Plan includes objectives for continuous shoreline access, building setbacks, water-oriented business development, an increase in the quantity and quality of open space for habitat and recreation, and building restrictions.

The 1986 Waterfront Master Plan allows for up to 565,000 square feet of commercial development along West Frontage Road north of Virginia Street. However, 340,000 square feet of that total were designated for the North Basin Strip, which is now part of the project site. The development potential on the remaining Golden Gate Fields (Magna Corporation) properties includes: up to 50,000 square feet of waterfront-oriented retail uses (retail and restaurant) and 200 parking spaces in the area south of Gilman Street, a 165,000 square-foot hotel complex, a 10,000 square-foot restaurant, 360 parking spaces in the area north of Gilman Street (i.e., in the horse stable area). A continuous 100-foot shoreline setback for public access purposes is required of the property owner.

*Draft Berkeley 2002 Marina Plan and Waterfront Overview.* The Draft 2002 Marina Plan and Waterfront Overview recommends detailed improvements to the Marina peninsula. A final version of the document will be considered by the City Council in summer 2002. The Draft Plan establishes guiding principals for marina planning, including the enhancement of natural areas, the provision of recreational opportunities, and the improvement of existing infrastructure.

Since publication of the 1986 Waterfront Plan, land use proposals for vacant areas of the Berkeley waterfront have tended towards the development of park space as opposed to commercial or industrial uses. As a result, new opportunities for land use that build on future park and recreation are reflected in the Draft 2002 Marina Plan and Overview. In addition to the development of the Eastshore Park project site, the Marina Plan identifies three other projects that will enhance the recreational and

resource value of the waterfront: the completion of the Bay Trail; the construction of the pedestrian bridge over I-80/I-580; and improvements to Aquatic Park.

Recommended uses in the Draft Marina Plan and Waterfront Overview are generally similar to existing uses. Enhancements to wildlife habitat, aesthetics, circulation, and water access are suggested. Program facilities identified for expansion include the Shoreline Nature Center, Marina boat docks, windsurfing water access points, and sailboat rentals.

**(4) City of Albany**. Three key City planning documents provide guidance for the future of the waterfront: the City of Albany 1990-2010 General Plan, the City of Albany Municipal Code, and a 1995 proposal for the project site within the City of Albany.

*City of Albany 1990-2010 General Plan.* The General Plan goal for the waterfront is to: "Achieve a complimentary mix of private and public uses at the Albany Waterfront which provide for maximum feasible open space, recreation and public access to the waterfront area."

*City of Albany Municipal Code (§2002.16).* The zoning for the areas west of I-580 is "Waterfront" (or WF District). The purpose of the WF District is "to provide for the water oriented uses called for in the Waterfront Master Plan, as well as the open space conservation, parks and recreation, and commercial recreation uses outlined in the General Plan." Permitted uses include gaming and associated uses as authorized and regulated through a 1994 Development Agreement. Conditionally permitted uses include: commercial recreation; waterfront and sports-related commercial sales and services; restaurant/bars; commercial parking lots; marinas and boat launching ramps and related uses; parks, golf courses, open space areas and other recreational facilities; and public utility and pubic service structures and installations.

The zoning designation also codifies the requirements of Measure C, the Citizens Waterfront Approval Initiative, that was approved by voters in June 1990. This measure mandates that any amendment to the existing General Plan waterfront land use designations, Waterfront Master Plan or other specific plan for the waterfront area, waterfront zoning, or development agreement for the waterfront area, will require passage of a ballot measure approved by a majority of the City's voters.

*1995 Proposal for the Albany Portion of the Eastshore State Park.* In 1995 the City of Albany submitted a proposal to EBRPD that was intended to serve as a statement of the City's recommendations and guidance for the development of the Albany portion of the project site. The proposal, which is consistent with Albany's 1992 General Plan, provides specific sub-area recommendations for land use and conservation.

**(5) City of Richmond**. The City of Richmond 1994 General Plan provides the primary planning guidance for Richmond's waterfront.

*City of Richmond 1994 General Plan.* Land use designations of properties adjacent to the waterfront are Residential, Industrial/Office, Heavy Industry, Light Industry, Recreation Lands, and Preservation/Resource Lands. I-580 separates the dominant residential neighborhoods of Richmond from the waterfront, except for Marina Bay, a master planned community located on the Bay waterfront.

The General Plan sets clear goals for open space protection for Pt. Isabel and the extended wetlands and marsh areas north of Pt. Isabel. Public access to these areas is further encouraged through trails, street connections, and transit.

**(6) San Francisco Bay Plan.** The San Francisco Bay Plan (Bay Plan) is a policy tool that, under the provisions of the McAteer-Petris Act, allows BCDC to "exercise its authority to issue or deny permit applications for placing fill, extracting materials, or changing the use of any land, water, or structure within the area of its jurisdiction," an area that includes all of the Bay, a shoreline band 100 feet from the water, and salt ponds, managed wetlands and certain waterways associated with the Bay. The Bay Plan stipulates: "Any public agency or private owner holding shoreline land is required to obtain a permit from the Commission before proceeding with [shoreline] development."

BCDC issued Permit Nos. 4-92, 11-93, M92-13, and 8-92 to Caltrans for the I-80 Operational Improvement Project and the Cypress Replacement Project, which require that continuous shoreline public access be provided in the project area and that substantial mitigation improvements be maintained. In addition, BCDC also issued permit M94-40 for trail and other improvements between Pt. Isabel and Meeker Slough, within the project site.

Recreation policy in the Bay Plan states that ". . . parks should emphasize hiking, bicycling, and riding trails, picnic facilities, viewpoints, beaches, and fishing facilities. Recreational facilities that do not need a waterfront location, e.g., golf courses and playing fields, should generally be placed inland, but may be permitted in shoreline areas if they are part of a park complex that is primarily devoted to water-oriented uses." The Bay Plan also mandates the provision of "public launching facilities for a variety of boats where feasible" and the protection of natural habitat. In addition, the Bay Plan permits small restaurants in parks, "provided they are clearly incidental to the park use, are in keeping with the basic character of the park, and do not obstruct public access to and enjoyment of the Bay." Limited commercial development is also allowed, where appropriate.

Public Access policy in the Bay Plan states that ". . . maximum feasible access to and along the waterfront and on any permitted fills should be provided in and through every new development in the Bay or on the shoreline. . . Access to the waterfront should be provided by walkways, trails, or other appropriate means and connect to the nearest public thoroughfare where convenient parking or public transportation may be available. . ." The Bay Plan mandates that public access should be permanently guaranteed when it is provided as a condition of development.

The Bay Plan also contains development guidelines that are specific for sub-areas of the Bay, including land in and around the project site. The marine areas west of the Emeryville Crescent and north of Albany Plateau and Neck are proposed for designation as wildlife area and ecological reserve, respectively, under the Bay Plan Marshes and Mudflats update. Specific Bay Plan policies for the project site (Maps 4 and 5) include the following:

- *Map 4: Policy 15.* Albany-Berkeley-Emeryville. Develop public and commercial recreation areas. Some fill may be needed to create usable shoreline areas, protected water areas and park space.
- *Map 4: (Proposed) Policy Y.* Eastshore State Park. Park being planned from Bay Bridge to Marina Bay in Richmond for multiple uses including recreation, wildlife and aquatic life

protection. Protect wildlife and aquatic life values at sites such as Emeryville Crescent, Hoffman Marsh and Albany Mudflats.

**(7) San Francisco Bay Trail Plan.** The Bay Trail Plan is composed of policy guidelines for the routing, design, implementation, and protection of the Bay Trail, a partially-completed pedestrian and bike trail circumnavigating the San Francisco Bay. The Bay Trail is managed by the Bay Trail Project, a non-profit organization, under the auspices of the Association of Bay Area Governments (ABAG). The Bay Trail Plan states that the document is intended to complement, rather than supercede, the policy of local managing agencies (Policy #42). However, the policy urges local land management agencies to include references to the Bay Trail in their planning and policy documents (Policy #41), and to maintain and manage the trail once it is built (Policy #45). In addition, the Bay Trail Plan encourages land management agencies to utilize a wide variety of funding options identified in the document when implementing Bay Trail segments in their jurisdictions (Policy #46).[2] As noted above in this section, several segments of the Bay Trail exist within the project site and would become an integral part of the park's facilities.

**(8) Public Trust Doctrine.** The State Lands Commission (Commission) manages sovereign and public trust lands including coastal tidelands, all navigable rivers, streams, and lakes, and is charged with ensuring a balance between the development of resources and their preservation per the requirements of the Public Trust Doctrine. The Commission reviews permit applications submitted to BCDC and the U.S. Army Corps of Engineers.

## 2. Impacts And Mitigation Measures

This section analyzes impacts related to land use and public policy that could result from implementation of the proposed project. The section begins with the criteria of significance, which establish the thresholds to determine whether an impact is significant. The latter part of this section presents the impacts associated with the proposed project and proposes mitigation measures, if required.

The reader should note that this is a program-level EIR for the Eastshore Park Project *Draft General Plan*, and as individual projects within the *Draft General Plan* are carried out, each will undergo environmental evaluation in accordance with the California Environmental Quality Act (CEQA). Based on more detailed project-specific information, adverse land use impacts may be identified and would be mitigated, as necessary.

**a. Criteria of Significance.** Implementation of the Eastshore Park *Draft General Plan* would have a significant effect on land use and public policy if it would:

- Physically divide an established community;
- Introduce new land uses that would conflict with established uses;
- Conflict with applicable land use plans or policies adopted by agencies with jurisdiction over the project adopted for the purpose of avoiding or mitigating an environmental effect; or
- Conflict with any applicable habitat conservation plan or natural community conservation plan.

[2]Association of Bay Area Governments, 2001. San Francisco Bay Trail Plan. Website: www.abag.ca.gov/bayarea/baytrail/baytrailplan.

**b. Less-than-Significant Land Use Impacts.** The impact analysis in this section examines potential less-than-significant impacts of the *Draft General Plan*. Appendix B of this document contains a compendium of all *Draft General Plan* guidelines for reference.

**(1) Community Integrity.** As described in the Setting section, the project site is bounded by San Francisco Bay to the west and I-80, residential, commercial, or industrial areas to the east. There are small pockets of commercial and residential uses located in areas immediately adjacent to the project site and west of I-80 (namely areas on Pt. Isabel and the Emeryville Peninsula), but there are no residential areas within the project site. Implementation of the *Draft General Plan* would not divide an established community or impede access to the commercial and recreation areas adjacent to the project site. The incorporation of enhanced pedestrian and bicycle access into the project site through the development of bike/pedestrian linkages such as the Bay Trail would improve connections to and among existing residences and commercial areas, the Bay shoreline, and neighborhoods to the east of I-80.

**(2) Open Space/Urban Land Interface.** The development of formal recreation, conservation, and preservation areas through implementation of the *Draft General Plan* would be compatible with existing residential, industrial, and commercial land uses adjacent to the project site (see guideline VISIT-1). Publicly-dedicated open space, such as that proposed in the *Draft General Plan*, would be a beneficial land use in an urban setting. The development of parkland would provide recreational opportunities for local residents, people who shop or work in the vicinity of the project site, and regional and State residents. Conflicts that could occur from the juxtaposition of parkland and urbanized areas could be ameliorated through design, such as fences, paved areas, and signage that would be proposed in future project-specific plans for individual components of the *Draft General Plan*. In addition, areas of the project site such as Brickyard Cove, an area that is currently being used as a fill storage area, would be developed into uses that are more compatible with adjacent open space (see guideline SB/NE-6).

**(3) New Land Uses Within the Park.** Implementation of the *Draft General Plan* would result in the juxtaposition of a variety of land uses, including recreational fields, natural resource preservation areas, and formal shoreline promenades adjacent to developed and urbanized areas. In several locations, including the Emeryville Peninsula and Pt. Isabel, areas that are designated for recreation would be situated immediately adjacent to preservation areas. The *Draft General Plan* contains guidelines that would reduce or eliminate potential adverse impacts (referenced below) associated with the juxtposition of land uses that would support varying intensities of use and visitation by:

1. Incorporating protection measures for special-status plant and animal species in the Maintenance Plan for the park (see guideline OPER-4).

2. Establishing a Visitor Capacity Management Program to identify appropriate use limits and allow for the monitoring and assessment of the carrying capacity of each management zone to protect resources (see guideline CAPACITY-1).

3. Requiring the design and implementation of appropriate actions to manage types and levels of public use of park resources and Department operations and maintenance activities (see guideline CAPACITY-3).

**(4) On and Off-Leash Dog Use.** Implementation of the *Draft General Plan* would limit off-leash dog use in areas that are currently used for this activity, such as the Berkeley Brickyard, Meadow, and North Basin Strip; and the Albany Plateau, Beach and Bulb. Off-leash dog use would continue in Pt. Isabel and North Pt. Isabel (in addition to Cesar Chavez Park, which is not part of the project site). Dog access and leash policies would be determined by the regulations of the agency that assumes long-term management responsibility of the park, consistent with protection of natural resource values and public recreational use (see guidelines WILDLIF-11, OPER-5, BM/NB-2). While any potential off-leash dog use restrictions would change current uses, they would not qualify as a significant land use conflict with existing uses due to the following reasons: 1) off-leash dog-use would be allowed in a portion of the Eastshore Park project site including Pt. Isabel and North Pt. Isabel, in addition to Cesar Chavez Park (see guideline PI/SR-1); and 2) the land use impacts associated with allowing off-leash dog-use (e.g., harassment of wildlife, conflicts with other recreational uses, such as bird watching and bicycling) in the areas where it would not be allowed would be more environmentally adverse than the land use conflicts resulting from restricting off-leash dog use to select areas.

**(5) Motorized Vehicle Access to Albany Bulb.** Buildout of the *Draft General Plan* would also maintain closure of a dirt road extending from Buchanan Street to the Albany Bulb that could potentially be used for public vehicular access to the waterfront, including windsurfer, kayaker, and disabled person access. The Albany Bulb is valued as a launch point for windsurfers because it extends farther out into the Bay than many other land areas in the East Bay (and so is exposed to winds that are sufficient to allow windsurfing directly from the launch site). Windsurfers and kayakers prefer launch access near parking areas because their equipment is bulky and heavy (kayaks can weigh upwards of 50 pounds) and cannot be carried on foot over long distances. However, the closure of this road and the designation of the Albany Bulb and Neck as Conservation land, as proposed in the *Draft General Plan*, does not constitute a significant conflict with established uses for the following reasons: 1) this road is not currently accessible to motor vehicles (see guideline A-17); 2) established land uses include passive recreational uses (such as walking, bird-watching, and picnicking) that would be adversely affected by allowing public vehicular access on the road (see guideline VISIT-1); and 3) water access with parking in close proximity would be available at several other locations throughout the project site, including the Berkeley Beach (in addition to the Berkeley Marina, which is not part of the project site), North Basin, Albany Plateau, and Pt. Isabel, enabling windsurfer and kayaker access that would not require long on-foot equipment hauls (see guidelines BM/NB-7, BM/NB-11, A-5, A-16, PI/SR-1).

In addition, the proposal to maintain closure of the road to the Albany Bulb is compatible with BCDC policies described in the Bay Plan. The Bay Plan mandates that BCDC "should ensure that each new shoreline development increases public access to the Bay to the maximum extent feasible, in accordance with the policies for Public Access to the Bay."[3] These policies state that public access "usually consists of pedestrian and other non-motorized access to and along the shoreline of San Francisco Bay."[4] Thus the provision of a pedestrian/bicycle trail extending from the Albany Plateau to the Bulb makes adequate provision for public access, according to the specifications of the Bay

[3] BCDC, 2001. San Francisco Bay Plan. Developing the Bay and Shoreline to Their Highest Potential, 3c.

[4] Op cit. BCDC, 2001. Public Access, Findings c.

Plan. The Bay Plan mandates the provision of "water-oriented recreation activities,"[5] which could include fishing and bird watching along with kayaking and windsurfing, and specifies that "public launching facilities for a variety of boats should be provided where feasible."[6] A launch site would be provided at the Albany Bulb. The *Draft General Plan* also provides for a variety of water-related uses, parking lots and water access points (of which four are within ¼ mile of a parking area) throughout the project site, including facilities in other areas that are suitable for windsurfing and kayaking.

**(6) Municipal Land Use Policies.** The *Draft General Plan* is consistent with the municipal policies discussed in the Setting section (see guideline A-7), with the exception of the land use designation for North Pt. Isabel in the City of Richmond. Municipal plans for lands within the proposed project designate the majority of undeveloped waterfront areas within their jurisdictions as recreation, open space, and/or resource conservation lands, the same land use designations that are being proposed in the *Draft General Plan*. However, the majority of North Pt. Isabel is designated in the City of Richmond General Plan for industrial uses. This designation is based on a long history of industrial, and, to a lesser extent, commercial uses along the Bay shoreline. However, due to the evolution of the Bay shoreline into a desirable location that is suitable for the development of park space and enhanced public access, the City of Richmond could consider changing the zoning designation of the area to Community and Regional Recreational so that it is consistent with other open space areas at Pt. Isabel. Although this discrepancy between the current land use designation and proposed uses in the *Draft General Plan* represents a policy inconsistency, implementation of the *Draft General Plan* would not constitute a significant adverse impact under CEQA as it would not conflict with applicable land use plans *adopted for the purpose of avoiding or mitigating an environmental effect*. Generally speaking, open space recreational uses result in fewer environmental impacts than industrial uses. Modifying the zoning designation of North Pt. Isabel would require a routine vote on the part of the Richmond City Council.

The 1986 Waterfront Master Plan, the Draft Berkeley 2002 Marina Plan and Waterfront Overview, and the 1995 Proposal for the Albany Portion of the Project Site, which mandate enhanced waterfront public access, protection of the shoreline natural resources, and the establishment of a park along the East Bay shoreline, are consistent with the land use policies in the *Draft General Plan* (see guidelines VISIT-3, CIR-17). Thus, the implementation of the *Draft General Plan* would not conflict with applicable local land use plans or policies adopted for the purpose of avoiding or mitigating an environmental effect.

**(7) Regional and State Policies.** As discussed above, the Eastshore Park *Draft General Plan,* which promotes public access to the shoreline, a diverse array of recreational opportunities in and adjacent to the Bay, and the protection of the Bay's natural resources, is consistent with the Bay Plan. The *Draft General Plan*, by proposing a variety of trails, shoreline promenades, parking areas, water access points, and visitor facilities, would provide maximum feasible public access to the Bay shoreline, in full accordance with the Bay Plan and relevant BCDC permits (see guidelines VISIT-3, CIRC-17, OPER-21, OPER-22). Proposed facilities, including park concessions and a visitor center, would be incidental to park use, would enhance the character of the proposed park, and would not

[5] Op cit. BCDC, 2001. Recreation Policy 1.

[6] Op cit. BCDC, 2001. Recreation Policy 5a.

obstruct public access to the shoreline. Per BCDC regulations, the project applicant would have to apply for a construction permit from BCDC before initiating any projects associated with the *Draft General Plan* that are within BCDC jurisdiction.

The *Draft General Plan*, by proposing the development of a contiguous section of the Bay Trail throughout the entire length of the project site, also upholds the policies of the Bay Trail Plan (see guidelines VISIT-12, CIRC-8, CIRC-9, CIRC-10). In addition, by preserving coastal tidelands where feasible, the *Draft General Plan* is consistent with the mandate of the Public Trust Doctrine (see guidelines PLANTS-1, PLANTS-5, PLANTS-6, PLANTS-7, PLANTS-8, MARINE-7).

**(8) Habitat/Natural Community Conservation Plan.** Because no applicable habitat conservation plans or natural community conservation plans apply to the project site, implementation of the *Draft General Plan* would not impact any such plans.

**c. Significant Land Use Impacts.** Implementation of the *Draft General Plan* would not result in significant land use impacts at the program level of analysis.

# I. NOISE

This section provides a discussion of the characteristics of sound, an evaluation of existing noise conditions in and around the project site, and a description of noise-related policy that is relevant to the *Eastshore Park Project General Plan* (*Draft General Plan*), summarizing information contained in the *Eastshore Park Project Resource Inventory* (*Resource Inventory*). Potential impacts related to noise that would result from implementation of the proposed project are identified, and mitigation measures are recommended, as necessary.

## 1. Setting

This section provides a brief description of the characteristics of sound, outlines existing noise conditions in and around the project site, and provides a description of regulations related to noise. Please refer to the Noise section of the *Resource Inventory* for more detailed information.[1]

**a. Fundamentals of Noise.** Sound is a pressure wave transmitted through the air. It is described in terms of loudness or amplitude (measured in decibels), frequency or pitch (measured in Hertz [Hz] or cycles per second), and duration (measured in minutes or hours). The standard unit of measurement for sound intensity is the decibel (dB), with 0 dB corresponding roughly to the threshold of hearing.

Typical human hearing can detect changes in sound levels of approximately 3 dB under normal conditions. However, the human ear is not equally sensitive to all frequencies. Sound waves below 16 Hz are not heard at all and are "felt" more as a vibration. Similarly, while people with extremely sensitive hearing can hear sounds as high as 20,000 Hz, most people cannot hear above 15,000 Hz. In all cases, hearing acuity falls off rapidly above approximately 10,000 Hz and below approximately 200 Hz.

Noise is defined as unwanted sound and is known to have several adverse effects on people, including hearing loss, speech and sleep interference, physiological responses, and annoyance. Based on these known adverse effects of noise, the federal government, the State of California, and many local governments have established maximum allowed noise levels to protect public health and safety and to prevent disruption of certain activities.

Various noise measurements are used to assess the level and the annoyance potential of community noise such as that generated by aircraft activity and arterial traffic. They include:

**(1) A-Weighted Sound Level (dBA).** The A-weighted sound pressure level is commonly abbreviated dBA. The dB refers to a measurement in decibels. The "A" identifies a particular setting of the measurement instrument, the sound level meter. The A-weighted sound level provides a scale with the range and characteristics most consistent with human hearing ability. The dBA measures sound over a period of time, typically 1 hour, to identify the minimum and maximum levels and the statistical variation of fluctuating sounds.

[1] The *Resource Inventory* is a public document that can be found on the Eastshore Park project website at www.eastshorestatepark.org.

**(2) Continuous Equivalent (Average) Noise Level ($L_{eq}$).** The continuous equivalent (average) noise level is an energy equivalent level of fluctuating noise for a measured time period. Data from this measurement are applied to the 24-hour measurement of noise.

**(3) Community Noise Equivalent Level (CNEL) or Day-Night Sound Level ($L_{dn}$).** A given level of noise may be more or less tolerable depending on the time of day and duration of exposure experienced by an individual. The U.S. Department of Housing and Urban Development (HUD) and the Environmental Protection Agency (EPA) have adopted the $L_{dn}$ as their standard unit of measurement for noise levels. This measure increases the average noise level ($L_{eq}$) for late evening and early morning hours (10:00 p.m. to 7:00 a.m.) by 10 dBA. The daytime noise levels (7:01 a.m. to 9:59 p.m.) are then combined with these weighted levels and are averaged to obtain a 24-hour averaged noise level. The State of California CNEL, which weights noise events in the late evening through early morning, as well as noise events occurring between 7:00 p.m. and 10:00 p.m. (increasing them by 5 dBA), is also widely used by jurisdictions concerned with noise.

Noise levels that are less than 40 dB CNEL/$L_{dn}$ are not considered significant. This threshold is commonly used to assess noise impacts in environmental impact documents.[2] In addition, generally established regulatory standards throughout California do not typically address noise levels that are less than 40 dBA. However, even low levels of noise can be annoying to people when concurrent background noise is very low.

**(4) Change in Ambient Noise Levels.** In addition to the thresholds stated above, the significance of noise impacts may be described by the expected change in ambient noise levels that would occur as a result of a project.

Expected reactions to changes in ambient noise levels for persons who are exposed to noise have been reported by Egan[3] and others, quantified by metrics that define short-term exposure (e.g., hourly $L_{eq}$, $L_{max}$, and $L_n$). These metrics are usually used to describe noise impacts due to industrial operations, machinery, and other sources that are not associated with transportation. According to Egan and others, as shown in Table III.I-1, an increase of at least 3 dBA is usually required before the change will be clearly noticeable.

**Table III.I-1: Subjective Reaction to Changes in Noise Levels of Similar Sources**

| Change In Level (dBA) | Subjective Reaction | Factor Change In Acoustical Energy |
|---|---|---|
| 1 | Imperceptible (Except Tones) | 1.3 |
| 3 | Barely Perceptible | 2.0 |
| 6 | Clearly Perceptible | 4.0 |
| 10 | About twice (or half) as Loud | 10.0 |

Source: Egan, M. David, 1988. *Architectural Acoustics*.

The $L_{eq}$, $L_{max}$, and $L_n$ units of measurement are used in assessing existing noise levels and the impacts that may result from unwanted noise. The noise standards that are evaluated in this EIR include the *Draft General Plan* Noise Elements and the Municipal Code of Noise Ordinances of the cities of Oakland, Emeryville, Berkeley, Albany, and Richmond.

[2] National Academy of Science, 1977. *Noise Assessment Guidelines for Environmental Impact Statements.*

[3] Egan, M. David, 1988. *Architectural Acoustics*.

**b. Existing Noise Conditions.** The existing noise environment for the project site and its surroundings is described below.

**(1) Freeway Traffic.** Most of the existing noise within the project site is generated from Interstates 80 and 580 (I-80 and I-580). I-80 and I-580 are located in close proximity to much of the western edge of the project site. I-80 and I-580 run concurrently from Buchanan Street to south of Powell Street.

The Federal Highway Association (FHWA) Highway Traffic Noise Prediction Model[4] was used to calculate future noise levels along I-580/I-80. Table III.I-2 lists the distance to the CNEL contour lines from the centerline of the roadway. Traffic noise along I-580/I-80 is relatively loud, with the 70 dBA CNEL extending 363 to 763 feet from the centerline. The 65 dBA CNEL extends 779 to 1,642 feet from the freeway centerline. The 60 dBA CNEL extends 1,677 to 3,537 feet from the freeway centerline. The 55 dBA CNEL extends to 3,611 to 7,618 feet from the freeway centerline. These CNEL distances were calculated without consideration of sound walls or other manmade or natural barriers. These noise contours qualify as a worst case scenario. As shown in Figure N-1 in the *Resource Inventory*, the eastern portion of the project site is exposed to higher vehicular traffic noise than the western portion of the project site.

Parts of Radio Point Beach in the City of Oakland and the Berkeley Brickyard, Meadow, and North Basin Strip fall within the 70 dBA CNEL contour line. Portions of the wetlands adjacent to I-80/I-580, such as the Emeryville Crescent, the Albany Mudflats, and Hoffman Marsh also fall within the 70 dBA CNEL noise contour line.

**(2) Golden Gate Fields Race Track.** The Golden Gate Fields race track, located at the end of Gilman Street adjacent to the project site, is also an existing use that contributes to local noise levels. The race track portion of Golden Gate Fields is located in the City of Albany, and the stable area is located in the City of Berkeley. The race season at Golden Gate Fields includes approximately 100 live race days between November and early April. No live races are held between mid-April and mid-November. There are eight live races on weekdays and nine on weekends. Gates open at 9:30 a.m. and close between 5:00 p.m. and 6:00 p.m. The race track is located outdoors and has an average daily attendance of approximately 3,000 people on race days.

The Golden Gate Fields clubhouse is open year-round, Wednesday to Sunday and some Monday/ Tuesday holidays, from approximately 10:00 a.m. to 6:00 p.m. for simultaneous broadcast race viewing. The clubhouse is located indoors and has an average daily occupancy of approximately 900 people.

Noise associated with horse racing generally comes from the amplified speakers during the race and vehicular traffic along access roads before and after the race. The design of the race track speaker system keeps the sound from going beyond the race track boundary. Therefore, during a horse race event, associated noise does not significantly affect areas surrounding the race track, including the project site. Noise associated with vehicular traffic before and after the race would be limited to areas directly adjacent to the access roads.

[4] Federal Highway Administration, 1978. Federal Highway Administration Highway Traffic Noise Prediction Model (FHWA-RD-77-108). December.

**Table III.I-2: Existing Baseline Traffic Noise Levels**

| Freeway Segment | Average Daily Traffic | Roadway Centerline Distance to CNEL (feet) | | | CNEL 50 Feet From Outermost Lane Centerline (dBA) |
|---|---|---|---|---|---|
| | | 70 dBA | 65 dBA | 60 dBA | |
| Ashby Avenue east of San Pablo Avenue | 25,000 | 66 | 138 | 295 | 69.8 |
| Ashby Avenue west of San Pablo Avenue | 25,000 | 66 | 138 | 295 | 69.8 |
| Ashby Avenue east of I-80 | 35,000 | 81 | 172 | 369 | 71.3 |
| San Pablo Avenue south of Stanford Avenue | 23,700 | 77 | 159 | 340 | 70.3 |
| San Pablo Avenue Stanford Avenue to Ashby Avenue | 26,500 | 82 | 171 | 366 | 70.8 |
| San Pablo Avenue Ashby Avenue to University Avenue | 23,500 | 77 | 158 | 338 | 70.2 |
| San Pablo Avenue University Avenue to Gilman Avenue | 26,500 | 82 | 171 | 366 | 70.8 |
| San Pablo Avenue Gilman Avenue to Marin Avenue | 25,000 | 79 | 165 | 352 | 70.5 |
| San Pablo Avenue Marin Avenue to Central Avenue | 24,000 | 78 | 161 | 343 | 70.3 |
| San Pablo Avenue north of Central Avenue | 26,500 | 82 | 171 | 366 | 70.8 |
| I-80/I-580 south of Powell Street | 282,000 | 733 | 1,575 | 3,391 | 83.7 |
| I-80/I-580 Powell Street to Ashby Avenue | 255,000 | 685 | 1,473 | 3,171 | 83.3 |
| I-80/I-580 Ashby Avenue to University Avenue | 253,000 | 682 | 1,465 | 3,154 | 83.3 |
| I-80/I-580 University Avenue to Gilman Street | 251,000 | 678 | 1,457 | 3,137 | 83.2 |
| I-80/I-580 Gilman Street to Buchanan Avenue | 259,000 | 692 | 1,488 | 3,204 | 83.4 |
| I-80 Buchanan Avenue to Central Avenue | 178,000 | 540 | 1,159 | 2,495 | 81.7 |
| I-80 north of Central Avenue | 182,000 | 548 | 1,178 | 2,537 | 83.0 |
| I-580 north of Central Avenue | 80,000 | 318 | 682 | 1,467 | 79.5 |

Source: LSA Associates, Inc., 2002.

**c. Regulatory Considerations.** The following discussion summarizes the noise regulations of Oakland, Emeryville, Berkeley, Albany, and Richmond.

**(1) Oakland.** In Chapter 8.18 (Nuisances) of its Municipal Code, the City of Oakland prohibits excessive and annoying noises within the City. However, it does not specify any specific noise limit, but refers to the noise regulations of the Oakland Planning Code. Oakland's Planning Code limits noise across property lines, setting day and night decibel levels by receiving land use. The levels are adjusted for legal nonconforming residential structures and areas with high ambient noise levels. The Planning Code limits construction noise, allowing higher levels for short-term projects, daytime work, and projects in non-residential areas. No commercial or residential areas are located adjacent to the portion of the project site within Oakland.

**(2) Emeryville.** City of Emeryville policies relating to noise are described below.

*Public Heath and Safety Element.* The City of Emeryville has a Noise subsection in its Public Health and Safety Element within the *Draft General Plan*. The City requires that new land uses generate no incompatible noise. Figure III.I-1 shows maximum recommended noise levels compatible with different types of land uses, based on guidelines of the Office of Noise Control, State Department of Health Services.

*Municipal Code.* Title 5, Chapter 13, Noise Pollution, of the City's Municipal Code defines noise nuisance as being "The persistent maintenance or emission of any noise or sound produced by human, animal, or mechanical means between the hours of 9:00 p.m. and 7:00 a.m. of the following day, which noise or sound, by reason of its raucous or nerve-racking nature, shall disturb the peace or comfort or be injurious to any person…"

Title 9, Chapter 4, Zoning, of the City's Municipal Code specifies that noise at lot lines shall not exceed the maximum permitted sound level as set forth in Table III.I-3, Maximum Permitted Sound Level in the City of Emeryville.

**Table III.I-3: Maximum Permitted Sound Level in the City of Emeryville**

| Land Use Type | Maximum Permitted Sound Level (dBA) | Where Measured |
|---|---|---|
| A | 65 | At lot line |
| B | 70 | At lot line |
| B (within 200 feet of Class A) | 65 | At Common Line with Class A |
| Residential Zone | 50 | At lot line |
| Commercial Zone | 60 | At lot line |

Source: City of Emeryville, 1988.

**(3) Berkeley.** City of Berkeley policies relating to noise are described below.

*Noise Policies.* Policies in the City of Berkeley Draft General Plan identify issues and actions for the control of noise impacts in the City. Figure III.I-1 presents the City of Berkeley Land Use Compatibility Standards.[5] For outdoor parks and public open space uses, the City recommends that for areas with noise levels over 65 dBA, noise exposure would be "conditionally acceptable." The City requires that prior to permitting outdoor recreation land uses in areas with sound levels over 65 dBA, detailed analysis of the noise environment and the project

[5] LSA Associates Inc. 2001. *City of Berkeley Draft General Plan Environmental Impact Report.* February.

| Land Use Category | Exterior Noise Exposure<br>55 60 65 |
|---|---|
| Residential, Hotels and Motels | |
| Outdoor Sports and Recreation, Neighborhood Parks and Playgrounds | |
| Schools, Libraries, Museums, Hospitals, Personal Care, Meeting Halls , Churches | |
| Office Buildings, Business Commercial, and Professional | |
| Auditoriums, Concert Halls, Amphitheaters | |

**Acceptable:** Areas where the noise exposure would be "acceptable" for the intended land use. Development may occur without requiring an evaluation of the noise environment unless the use could generate noise impacts on adjacent uses.

**Conditionally Acceptable - Analysis Required:** Areas where the noise exposure would be "conditionally acceptable," a specified land use may be permitted only after detailed analysis of the noise environment and the project characteristics to determine whether noise insulation or protection features are required. Such noise insulation features may include measures to protect noise-sensitive outdoor activity areas (e.g., at residences, schools or parks) or may include building sound insulation treatments such as sound-rated windows to protect interior spaces in sensitive receptors.

**Analysis and Mitigation Required:** Areas where the noise environment clearly indicates that noise mitigation will be needed due to an existing unacceptable noise environment. Development should generally not be undertaken unless adequate noise mitigation options have been analyzed and appropriate mitigations incorporated into the project to reduce the exposure of people to unacceptable noise levels.

LSA

FIGURE III.I-1

*Eastshore Park Project General Plan*
City of Berkeley
Noise and Land Use
Compatibility Guidelines

SOURCE: ILLINGWORTH & RODKIN, INC., 1999; CITY OF BERKELEY, 2000.

I:/IMAGES\GRAPHICS\JOBS\WRT130 EASTSHORE\ILLUS\FIGURES\FIG_IIII1.AI (7/5/02)

characteristics are required to determine whether noise insulation or protection features are necessary. Although no specific guidelines are available for park buildings, such as a visitor center or interpretation center, for office and commercial buildings an exterior noise exposure of over 70 dBA would be conditionally acceptable, as defined above. For a hotel or motel, an exterior noise exposure of over 60 would be conditionally acceptable. There are no residential uses adjacent to the Eastshore project site in the City of Berkeley.

*Municipal Code/Noise Control Ordinance.* The City's Noise Control Ordinance restricts construction and demolition activities to the hours between 7:00 a.m. and 7:00 p.m. on weekdays and between 9:00 a.m. and 8:00 p.m. on weekends or federal holidays. Where technically and economically feasible, construction activities are to be conducted in such a manner that the maximum sound levels at affected property lines will not exceed those listed in Tables III.I-4 and III.I-5.

**Table III.I-4: Mobile Equipment Short-Term Operation (Less Than 10 Days) Noise Limits in the City of Berkeley**

| Land Use | Daily 7 a.m. - 7 p.m. | Weekends (& Legal Holidays) 9 a.m. – 8 p.m. |
|---|---|---|
| Residential, R-1 and R-2 | 75 dBA | 60 dBA |
| Multi-Family Residential, R-3 and Above | 80 dBA | 65 dBA |
| Commercial/Industrial | 85 dBA | 70 dBA |

Source: City of Berkeley, Municipal Code, Chapter 13.40, 1994.

**Table III.I-5: Stationary Equipment Long-Term Operation (10 Days Or More) Noise Limits in the City of Berkeley**

| Land Use | Daily 7 a.m. - 7 p.m. | Weekends (& Legal Holidays) 9 a.m. – 8 p.m. |
|---|---|---|
| Residential, R-1 and R-2 | 60 dBA | 50 dBA |
| Multi-Family Residential, R-3 and Above | 65 dBA | 55 dBA |
| Commercial/Industrial | 70 dBA | 60 dBA |

Source: City of Berkeley, Municipal Code, Chapter 13.40, 1994.

**(4) Albany.** The City of Albany Municipal Code, Chapter VIII, Law Enforcement, contains a noise control ordinance. The noise control ordinance sets exterior and interior noise standards for single- or multiple-family residential in addition to public facility uses. Tables III.I-6 and III.I-7 identify exterior noise standards.

**Table III.I-6: City of Albany Noise Limits for Receiving Land Use – Properties in All Residential[a] and Public Facilities Zones**

| Cumulative Number of Minutes in Any 1-Hour Time Period | Daytime 8:00 a.m. - 10:00 p.m. | Nighttime 10:00 p.m. - 8:00 a.m. |
|---|---|---|
| 30 | 55 dBA | 50 dBA |
| 15 | 60 dBA | 55 dBA |
| 5 | 65 dBA | 60 dBA |
| 1 | 70 dBA | 65 dBA |
| 0 | 75 dBA | 70 dBA |

[a] Includes R-1 (Residential Low Density Single-Family), R-2 (Residential Moderate Density), R-3 (Residential High Density), R-4 (Residential Towers) and HD (Hillside District).

Source: City of Albany, 1992.

**Table III.I-7: City of Albany Noise Limits for Receiving Land Use – Properties in All Other Zones**

| Cumulative Number of Minutes in Any 1-Hour Time Period | Daytime 8:00 a.m. - 10:00 p.m. | Nighttime 10:00 p.m. - 8:00 a.m. |
|---|---|---|
| 30 | 65 dBA | 60 dBA |
| 15 | 70 dBA | 65 dBA |
| 5 | 75 dBA | 70 dBA |
| 1 | 80 dBA | 75 dBA |
| 0 | 85 dBA | 80 dBA |

[a] Includes C-1 (General Commercial), C-2 (Highway Commercial), and C/S/LI (commercial, Service, Light Industrial).

Source: City of Albany, 1992.

The noise level limits for Waterfront Zoned (WF) areas of the City are as follows: during the period from 8:00 a.m. to 10:00 p.m. the noise limits shall be as dictated in Table III.I-7. After 10:00 p.m., the limits shall be as dictated in Table III.I-6.

In the event the measured ambient noise level exceeds the applicable standards, the 30-minute noise standards in Tables III.I-6 or III.I-7 shall be adjusted so as to equal the ambient noise level plus 5 dBA, with the 15-, 5-, 1-, and 0-minute standards adjusted upwards in 5 dBA increments, based on the ambient noise level measured. The ambient level standard should not exceed a 100 dBA standard for the 0-minute measurement, which is the instantaneous noise measure.

Construction and demolition activities conducted within the City of Albany are permitted with the following constraints: Operating or causing the operation of any tools or equipment used in construction, drilling, repair, alteration, or demolition work between weekday and Saturday hours of 6:00 p.m. and 8:00 a.m., or 6:00 p.m. and 10:00 a.m. on Sundays or legal holidays such that the sound from equipment operation creates a noise disturbance across a residential or commercial real property line, except for emergency work of public service utilities, shall be prohibited.

The noise ordinance also requires that all construction equipment used in the City of Albany shall be equipped with appropriate sound-muffling equipment, which shall be properly maintained and used at all times such equipment is in operation.

**(5) Richmond**. City of Richmond policies regulating noise are discussed below.

*Noise Element.* The City of Richmond Noise Element of the General Plan adopted the State's recommended Land Use Noise Compatibility Matrix, which defines acceptable noise levels, provides noise guidelines for land use planning, and generally applies to new or proposed uses. For play-grounds and neighborhood parks, whose uses are closest to that of a State park, noise levels up to 70 dBA CNEL are considered "normally acceptable" while noise levels between 70 and 75 dBA CNEL are "normally unacceptable." Noise levels above 75 dBA CNEL are "clearly unacceptable" for park uses.

In addition, to assess ambient noise degradation, a threshold of significant change of 3 dBA is applied to the longer term noise scale of the CNEL standard. If a project would result in an increase in the 24-hour weighted CNEL by 3 dBA or more when noise standards are already exceeded, the project would be considered to result in a significant noise-related impact.

*Municipal Code/Noise Ordinance.* City of Richmond Municipal Code, Chapter 9.52, includes provisions to limit noise impacts from construction activity in residential, commercial, industrial, and open space areas. The City has established the following exterior noise limits, as shown in Table III.I-8.

**Table III.I-8: City of Richmond Exterior Noise Limits**[a]

| Land Use | Measured at Property Line or District Boundary | Measured at any Boundary of a Residential Zone |
|---|---|---|
| Single-Family Residential | 60 dBA | N/A |
| Multi-Family Residential | 65 dBA | N/A |
| Commercial | 70 dBA | 60 dBA |
| Light Industrial & Office Flex | 70 dBA | 60 dBA |
| Heavy and Marine Industrial | 75 dBA | 65 dBA |
| Public Facilities and Community Use | 65 dBA | 60 dBA |
| Open Space and Recreational Districts | 65 dBA | 60 dBA |

[a] Maximum Noise Level in dBA (levels not to be exceeded more than 30 minutes in any hour).

Source: City of Richmond Municipal Code.

The Municipal Code restricts construction and demolition activities to the hours between 7:00 a.m. and 7:00 p.m. on weekdays and between 8:30 a.m. and 6:00 p.m. on weekends and legal holidays.

## 2. Impacts and Mitigation Measures

This section analyzes impacts related to noise that could result from implementation of the proposed project. The section begins with the criteria of significance, which establish the thresholds to determine whether an impact is significant. The latter part of this section presents the impacts associated with the proposed project and recommends mitigation measures as necessary.

**a. Criteria of Significance.** Implementation of the *Draft General Plan* would result in a significant noise-related impact if it would cause:

- Exposure of persons to or generation of noise levels in excess of standards established in local noise ordinances, or applicable standards of other agencies; or
- Exposure of persons to or generation of excessive ground-borne vibration or ground-borne noise levels; or
- A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project; or
- A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.

**b. Less-than-Significant Impacts.** The following section identifies less-than-significant impacts related to noise. Appendix B of this document contains a compendium of all *Draft General Plan* guidelines for reference.

**(1) Stationary Noise Sources.** The proposed project consists of an 8½-mile-long area that would include recreational areas, open space, and habitat areas. No stationary noise sources are proposed that would generate significant noise levels. In addition, land uses proposed on the project site that are adjacent to existing stationary noise sources, such as Golden Gate Fields, would be compatible with those uses. No significant noise impacts relating to stationary noise sources would occur due to buildout of the proposed project.

**(2) Vehicular Traffic Noise.** The proposed project would generate approximately 1,125 daily trips on weekdays and 3,750 daily trips on weekends. When the traffic volume increase is distributed to the roadway links in the vicinity of the project, the associated traffic noise level increase would be too small to be measured. Although the proposed project would result in increased vehicular noise along project site access roads, the overall net increase in traffic noise after project buildout (2025) would be less than 1 dBA.

Table III.I-9 lists the Existing Plus Project vehicular traffic noise levels in the project vicinity. Comparison with the Existing Baseline Traffic Noise Levels (Table III.I-1) shows that the noise increase as a result of project implementation would be 0.1 dBA or less. This degree of change would not be perceptible to the human ear.

**Table III.I-9: Existing Plus Project Traffic Noise Levels**

| Freeway Segment | Average Daily Traffic | Roadway Centerline Distance to CNEL (feet) | | | CNEL 50 Feet From Centerline of Outermost Lane | Increase over Existing Level (dBA) |
|---|---|---|---|---|---|---|
| | | 70 dBA | 65 dBA | 60 dBA | | |
| Ashby Avenue east of San Pablo Avenue | 25,042 | 66 | 138 | 295 | 69.8 | 0.0 |
| Ashby Avenue west of San Pablo Avenue | 25,052 | 66 | 138 | 295 | 69.8 | 0.0 |
| Ashby Avenue east of I-80 | 35,052 | 82 | 172 | 369 | 71.3 | 0.0 |
| San Pablo Avenue south of Stanford Avenue | 23,927 | 77 | 160 | 342 | 70.3 | 0.0 |
| San Pablo Avenue/Stanford Avenue to Ashby Avenue | 26,775 | 83 | 172 | 368 | 70.8 | 0.0 |
| San Pablo Avenue/Ashby Avenue to University Avenue | 23,675 | 77 | 159 | 340 | 70.3 | 0.1 |
| San Pablo Avenue/University Avenue to Gilman Avenue | 26,670 | 83 | 172 | 367 | 70.8 | 0.0 |
| San Pablo Avenue/Gilman Avenue to Marin Avenue | 25,170 | 80 | 166 | 354 | 70.5 | 0.0 |
| San Pablo Avenue/Marin Avenue to Central Avenue | 24,158 | 78 | 161 | 344 | 70.4 | 0.1 |
| San Pablo Avenue n/o Central Avenue | 26,628 | 83 | 172 | 367 | 70.8 | 0.0 |
| I-80/I-580 south of Powell Street | 282,191 | 733 | 1,576 | 3,392 | 83.7 | 0.0 |
| I-80/I-580 Powell Street to Ashby Avenue | 255,191 | 686 | 1,474 | 3,172 | 83.3 | 0.0 |
| I-80/I-580 Ashby Avenue to University Avenue | 253,191 | 682 | 1,466 | 3,156 | 83.3 | 0.0 |
| I-80/I-580 University Avenue to Gilman Street | 251,147 | 679 | 1,458 | 3,139 | 83.2 | 0.0 |
| I-80/I-580 Gilman Street to Buchanan Avenue | 259,191 | 693 | 1,489 | 3,205 | 83.4 | 0.0 |
| I-80 Buchanan Avenue to Central Avenue | 178,106 | 541 | 1,160 | 2,496 | 81.7 | 0.0 |
| I-80 north of Central Avenue | 182,106 | 548 | 1,179 | 2,538 | 83.0 | 0.0 |
| I-580 north of Central Avenue | 80,085 | 318 | 682 | 1,468 | 79.5 | 0.0 |

Source: LSA Associates, Inc., 2002.

Table III.I-10 lists the traffic noise levels for year 2025 Baseline conditions. The increase in traffic noise levels from existing baseline conditions (without taking into account the proposed project) would range from 0.1 to 0.9 dBA. These increases would result from area growth and planned development in the region encompassing the project site. In 2025, net traffic noise increases resulting from the proposed project would be 0.1 dBA or less, a less-than-significant noise increase (see Table III.I-11). Therefore, no significant increase in project-related traffic noise would occur.

The majority of park facilities and major activity areas proposed in the *Draft General Plan*, with the exception of Bay Trail segments and park areas within the City of Berkeley discussed below, would be developed at a sufficient distance (i.e., approximately 800 to over 2,000 feet) from I-80 and I-580 such that outdoor noise levels at the proposed park facilities would generally be at or below 70 dBA CNEL. The Land Use Noise Compatibility Matrix, developed by the State Department of Health Services (see Figure III.I-1), indicates that noise levels up to 70 dBA CNEL are considered "normally acceptable" for park uses. Portions of the Bay Trail spine and proposed park trails would be developed in areas adjacent to I-80 and I-580 and subject to noise levels in excess of 70 dBA CNEL associated with the freeways. However, there is insufficient developable land in the project area (i.e., land without protected environmental resources) for trail construction far enough from I-80/I-580 to ameliorate noise levels, but still adjacent to the Bay, for trail construction. Existing and proposed spur trails to areas closer to the Bay (e.g., Emeryville Peninsula, Cesar Chavez Park, and Pt. Isabel) would allow trail users relief from traffic noise. For the reasons discussed above, noise impacts associated with implementation of the project within Oakland, Emeryville, Albany and Richmond would be less than significant.

Land uses and facilities proposed in the *Draft General Plan* at the Brickyard, the Meadow and the North Berkeley Strip, including but not limited to a visitor center, concession facilities, interpretive center, a hostel, turf areas, and parking areas (see Chapter II, Project Description, for a complete list), would be exposed to noise levels in excess of 65 dBA which is not compatible with the City of Berkeley Noise and Land Use Compatibility Standards (see Figure III.I-1).

The *Draft General Plan* includes the following guidelines that would avoid or minimize to a less-than-significant level effects associated with traffic noise by:

1. Requiring the preparation of Specific Project Plans for each management zone or sub-zone and prior to initiation of major development or enhancement projects. The Specific Project Plans would establish the nature, scale, and location of new development such as visitor facilities and service uses and would take into account specific site conditions, such as noise related to highway traffic and the need for acoustical studies (see guidelines VISIT-1, OPER-1).

2. Requiring environmental review and identification of potential negative impacts associated with site-specific development projects, management plans, and Specific Project Plans for the implementation of the *Draft General Plan* in accordance with the California Environmental Quality Act (CEQA) (see guidelines OPER-2, CAPACITY-2, HYDRO-6).

**(3) Construction Noise.** Construction activities would generate higher noise levels than existing ambient noise levels. The proposed project is a program level document and no specific construction projects are proposed or defined. Consistent with the requirements of CEQA, a more detailed construction noise environmental evaluation would be conducted when specific construction

**Table III.I-10: Year 2025 Baseline Traffic Noise Levels**

| Freeway Segment | Average Daily Traffic | Roadway Centerline Distance to CNEL (feet) | | | CNEL 50 Feet From Centerline of Outermost Lane | Increase over Existing Level (dBA) |
|---|---|---|---|---|---|---|
| | | 70 dBA | 65 dBA | 60 dBA | | |
| Ashby Avenue east of San Pablo Avenue | 27,959 | 71 | 148 | 318 | 70.3 | 0.5 |
| Ashby Avenue west of San Pablo Avenue | 26,929 | 69 | 145 | 310 | 70.1 | 0.3 |
| Ashby Avenue east of I-80 | 36,782 | 84 | 178 | 381 | 71.5 | 0.2 |
| San Pablo Avenue south of Stanford Avenue | 27,873 | 85 | 177 | 378 | 71.0 | 0.7 |
| San Pablo Avenue/Stanford Avenue to Ashby Avenue | 30,931 | 90 | 189 | 405 | 71.4 | 0.6 |
| San Pablo Avenue/Ashby Avenue to University Avenue | 27,772 | 85 | 177 | 377 | 71.0 | 0.8 |
| San Pablo Avenue/University Avenue to Gilman Avenue | 28,971 | 87 | 182 | 388 | 71.2 | 0.4 |
| San Pablo Avenue/Gilman Avenue to Marin Avenue | 26,997 | 83 | 173 | 370 | 70.8 | 0.3 |
| San Pablo Avenue/Marin Avenue to Central Avenue | 29,256 | 87 | 183 | 391 | 71.2 | 0.9 |
| San Pablo Avenue north of Central Avenue | 30,583 | 90 | 188 | 402 | 71.4 | 0.6 |
| I-80/I-580 south of Powell Street | 297,989 | 760 | 1,634 | 3,518 | 84.0 | 0.3 |
| I-80/I-580 Powell Street to Ashby Avenue | 268,462 | 709 | 1,524 | 3,281 | 83.5 | 0.2 |
| I-80/I-580 Ashby Avenue to University Avenue | 263,540 | 701 | 1,505 | 3,241 | 83.4 | 0.1 |
| I-80/I-580 University Avenue to Gilman Street | 268,265 | 709 | 1,523 | 3,280 | 83.5 | 0.3 |
| I-80/I-580 Gilman Street to Buchanan Avenue | 276,520 | 723 | 1,554 | 3,347 | 83.6 | 0.2 |
| I-80 Buchanan Avenue to Central Avenue | 187,027 | 558 | 1,198 | 2,579 | 81.9 | 0.2 |
| I-80 north of Central Avenue | 194,551 | 572 | 1,231 | 2,652 | 83.3 | 0.3 |
| I-580 north of Central Avenue | 88,919 | 341 | 731 | 1,574 | 79.9 | 0.4 |

Source: LSA Associates, Inc., 2002.

**Table III.I-11: Year 2025 Plus Project Traffic Noise Levels**

| Freeway Segment | Average Daily Traffic | Roadway Centerline Distance to CNEL (feet) | | | CNEL 50 feet from Centerline of Outermost Lane | Increase over Baseline Level (dBA) |
|---|---|---|---|---|---|---|
| | | 70 dBA | 65 dBA | 60 dBA | | |
| Ashby Avenue east of San Pablo Avenue | 28,001 | 71 | 149 | 318 | 70.3 | 0.0 |
| Ashby Avenue west of San Pablo Avenue | 26,981 | 69 | 145 | 310 | 70.1 | 0.0 |
| Ashby Avenue east of I-80 | 36,834 | 84 | 178 | 382 | 71.5 | 0.0 |
| San Pablo Avenue south of Stanford Avenue | 28,100 | 85 | 178 | 380 | 71.0 | 0.0 |
| San Pablo Avenue/Stanford Avenue to Ashby Avenue | 31,156 | 91 | 190 | 407 | 71.5 | 0.1 |
| San Pablo Avenue/Ashby Avenue to University Avenue | 27,963 | 85 | 177 | 379 | 71.0 | 0.0 |
| San Pablo Avenue/University Avenue to Gilman Avenue | 29,118 | 87 | 182 | 390 | 71.2 | 0.0 |
| San Pablo Avenue/Gilman Avenue to Marin Avenue | 27,164 | 84 | 174 | 372 | 70.9 | 0.1 |
| San Pablo Avenue/Marin Avenue to Central Avenue | 29,414 | 88 | 183 | 392 | 71.2 | 0.0 |
| San Pablo Avenue n/o Central Avenue | 30,711 | 90 | 189 | 404 | 71.4 | 0.0 |
| I-80/I-580 south of Powell Street | 298,180 | 760 | 1,634 | 3,519 | 84.0 | 0.0 |
| I-80/I-580 Powell Street to Ashby Avenue | 268,653 | 710 | 1,525 | 3,283 | 83.5 | 0.0 |
| I-80/I-580 Ashby Avenue to University Avenue | 263,731 | 701 | 1,506 | 3,243 | 83.4 | 0.0 |
| I-80/I-580 University Avenue to Gilman Street | 268,412 | 709 | 1,524 | 3,281 | 83.5 | 0.0 |
| I-80/I-580 Gilman Street to Buchanan Avenue | 276,711 | 724 | 1,555 | 3,348 | 83.6 | 0.0 |
| I-80 Buchanan Avenue to Central Avenue | 187,133 | 559 | 1,199 | 2,580 | 81.9 | 0.0 |
| I-80 north of Central Avenue | 194,657 | 573 | 1,232 | 2,653 | 83.3 | 0.0 |
| I-580 north of Central Avenue | 89,004 | 341 | 732 | 1,575 | 79.9 | 0.0 |

Source: LSA Associates, Inc., 2002.

is proposed in the future. However, because there are no noise sensitive uses located directly adjacent to the project site, including residential areas, noise impacts from project construction are not expected to be significant. Compliance with noise requirements specified in the noise ordinance of the appropriate local jurisdiction would reduce construction noise impacts, when they occur, to a less-than-significant level.

**c. Significant Impacts.** No significant adverse impacts would result from implementation of the *Draft General Plan.*

# J. PUBLIC SERVICES

This section summarizes the existing conditions with regard to public services at and in the vicinity of the project site, based on information contained in the *Eastshore Park Project Resource Inventory* (*Resource Inventory*). Potential impacts to public services that would result from the implementation of the proposed project are identified. Mitigation measures are recommended, as necessary.

## 1. Setting

The following discussion summarizes public services for police, fire and recreation conditions and resources at and in the vicinity of the project site. As a result of the scoping process conducted for this project, the lead agency has determined that the project would not have an adverse impact on schools and libraries, which are, therefore, not included in this analysis. For more detailed information on existing public services, please refer to the Utilities and Public Services section of the *Resource Inventory*.[1]

**a. Police Protection Services.** The East Bay Regional Park District (EBRPD) Police Department and municipal police departments from the five cities currently provide police protection services to the project site and surrounding vicinity. EBRPD-managed lands (e.g., areas near the Berkeley Brickyard, the Berkeley Meadow, parts of the Berkeley North Basin Strip, and the Pt. Isabel Regional Shoreline) are patrolled by EBRPD police officers. The EBRPD Police Department currently has 55 sworn positions, 51 of which are filled at this time.[2]

Municipal police departments patrol the commercially developed areas (e.g., the Emeryville Marina, the Berkeley Marina, and Pt. Isabel) and the trails in the project vicinity.[3,4] The City of Berkeley Police Department patrols the Berkeley Marina, Cesar Chavez Park, and waterfront areas within the Berkeley City limits west of Interstate 80 (I-80). One officer is currently assigned to patrol the Berkeley Marina area (including trails, hard roads, and surrounding waterfront) by foot, automobile, motorcycle, or boat. Two municipal police stations are located within 1 mile of the project site: the Emeryville Police Department Station on Powell Street; and the Albany Police Department Station on San Pablo Avenue. Depending on the type of development proposed in the area, increased traffic would most likely have the greatest impact on the Berkeley Police Department's current services.[5]

**b. Fire and Emergency Services.** Fire protection and emergency response services for the project site and surrounding vicinity are currently provided by the respective fire departments of each municipality within the area, as well as the EBRPD Fire Department for EBRPD-managed lands. Six municipal fire stations are located within 1 mile of the project site: two in Emeryville, two in Berkeley, one in Albany, and one in Richmond. Currently, EBRPD's closest fire station is in Tilden

[1] The *Resource Inventory* is a public review document that is available on the Eastshore Park project website at www.eastshorestatepark.org

[2] Small, Pete, 2002. Police Lieutenant, EBRPD. Personal communication with LSA Associates, Inc., March.

[3] Brady, Larry, 2001. Police Lieutenant, City of Richmond. Personal communication with LSA Associates, Inc., March.

[4] Jeremiason, Thomas, 2001. Police Sergeant, City of Berkeley. Personal communication with LSA Associates, Inc., March.

[5] Ibid.

Regional Park at the crest of the Berkeley Hills. Another EBRPD fire station is located at Alvarado Park in Richmond, but it is not consistently staffed.

The EBRPD Fire Department prepares a "Property Acquisition Evaluation Statement" as part of the information presented to the Board of Directors for consideration prior to adding land. Response plans are developed for each new park and needs are reassessed as needed.

**c. Parks and Recreation.** The focus on the East Bay shoreline as a recreation area is relatively new; historically, the shoreline was associated with commercial, industrial, and maritime uses. For the past several decades, East Bay community members and city officials have continued to work actively to protect the shoreline as an important open space and recreational resource. As a result of these efforts, a number of parks, trails, and visitor facilities have been developed along and in the vicinity of the East Bay shoreline to enhance public recreation. With the exception of Pt. Isabel Regional Shoreline, which is owned and managed by EBRPD, these facilities are generally either municipal or private facilities.

**(1) Recreation in the Project Site.** A brief listing of existing park and recreational resources and facilities within the project site and vicinity is provided below. Please refer to the Utilities and Public Services section of the *Resource Inventory* for a more detailed description of recreation facilities.

*Recreational Resources*. Few designated recreational facilities currently exist at the project site. For the most part, the project site consists of unimproved open space. Established recreational resources within the project site are described below.

- *Bay Trail*. The Bay Trail is not continuous throughout the project site; as of June 2002 breaks exist in Berkeley and Oakland, and the alignment makes a variety of turns as it crosses through Albany. Currently, east-west connections to the Bay Trail alignment from Emeryville at Powell Street, Berkeley at Ashby Avenue and Gilman Street, and Albany at Buchanan Street are difficult because of the need to cross I-80 and I-580 and because there are no specific facilities for pedestrians and bicyclists. The Oakland section of the Bay Trail, in the southernmost portion of the planning area, is still in the planning stage.

  Construction on the University Avenue-to-Ashby Avenue segment of the Bay Trail will begin in the summer of 2002. Trail and landscape improvements will replace the shoulder area that is currently used for parking. The new Bay Trail will enhance pedestrian and bicycle access.

  The Pt. Isabel-to-Marina Bay Trail extends from Central Avenue north along the east side of Rydin Road, across a pedestrian bridge over the inlet to the marsh, along the east side of North Pt. Isabel, and then across the Meeker Slough to Marina Bay, where it connects to two other sections of the Bay Trail. This section of the Bay Trail is used extensively due to Marina Park/Marina Green and Pt. Isabel Regional Shoreline anchoring either end and the access it provides to a residential neighborhood to the north.
- *Berkeley Beach*. The upland portion of the Berkeley Beach currently consists of a broad shoulder between West Frontage Road and the riprap that stabilizes the shore. This area is a popular fishing location. The strip of land is wide enough for visitors to pull off the roadway and fish from the rocky shore. The wide shoulder is also used by auto dwellers to illegally park overnight.

- *Berkeley Brickyard*. The beach along Brickyard Cove and the spit of land that extends along the west side of the cove is used for recreation. These areas are used for activities such as bird-watching, dog-walking, and strolling. The spit provides a clear view of the Bay.

  The Seabreeze Market, located at the southwest corner of University Avenue and West Frontage Road, operates as a concession, offering a range of food products from prepared foods to fresh produce. On-site facilities include several tables for outdoor dining and portable restrooms. Parking is accommodated in the large unpaved and unstructured lot at the rear of the market.
- *Berkeley Meadow and North Basin Strip*. The Berkeley Meadow and North Basin Strip are generally unimproved. The Meadow, which has more vegetative cover than the North Basin Strip, is used by bird-watchers and dog-walkers. Informal trails have been worn throughout the Meadow and around the perimeter of the North Basin Strip. In addition to these trails, an older paved (unmaintained) section of Virginia Street extends between West Frontage Road and Marina Boulevard along the north side of the Meadow. This corridor allows pedestrian access along the North Basin shoreline away from vehicular traffic to and from Cesar Chavez Park. This paved corridor also provides a connection for bicyclists between the Bay Trail on West Frontage Road and the Berkeley Marina area. At the eastern boundary of the Meadow, an informal BMX (bicycle moto-cross) course with jumping ramps was created by BMX enthusiasts.
- *Albany Plateau, Neck, Bulb, and Beach*. The Albany Plateau, Neck, Bulb, and Beach are distinct and contiguous open space areas within the project site that are frequented by residents of Albany and neighboring communities. These areas contain few improvements or facilities, and primary activities include hiking, off-leash dog-walking, art making, and plant and wildlife observation. The Beach and the Neck provide expansive views of the Bay and San Francisco skyline. The Plateau is criss-crossed with a major north-south and east-west trail. Two paths extend through the Neck to the Bulb: an upper trail that follows the ridge down the middle of the Neck; and a lower trail that extends along the south side of the Neck. Many narrow, meandering trails exist on the Bulb.
- *Pt. Isabel Regional Shoreline*. The Pt. Isabel Regional Shoreline includes 21 acres of open area with trails, two parking areas, permanent and portable restroom facilities, a lawn area, running water for dog rinsing, and a dog-washing concession. It is the most actively used area within the project site, containing the largest off-leash dog park in the East Bay region. The Pt. Isabel Regional Shoreline accommodates roughly 900,000 to 1 million visitors annually.[6]

*Use Characteristics, Patterns, and Levels*. The project site consists primarily of unimproved open space, containing few formal recreation facilities or programmed uses; as a result, the recreational use of the project site is generally much lower than that of the adjoining municipal and private recreation and open space areas. The off-leash dog park at Pt. Isabel and the section of the Bay Trail between Pt. Isabel and Marina Bay receive the heaviest and most consistent use. The project site appears to be primarily a local destination for those interested in walking, dog walking, hiking, fishing, bird watching, and sightseeing. Recreation within the project site is primarily oriented to the individual user.

The entire project site may experience as many as 2.5 million visitors annually.[7] Peak periods for most uses within the project site occur during the spring through fall months when rainy weather is

[6] EBRPD, 2001; Pt. Isabel Dog Owners Association and Friends, Inc. (PIDO), 2001.

[7] Ibid.

not a deterrent. However, use of the off-leash dog park at Pt. Isabel is not affected by seasonal patterns. The weekends produce the greatest visitor population at the project site. Peak periods during the week occur in the early morning and early evening hours.

**(2) Recreation in the Vicinity of the Project Site.** While few recreational facilities exist within the project site, numerous recreational facilities and resources in close proximity contribute to the general recreational resources in the area. Due to the non-contiguous character of the project site, many municipal and private parks and open space areas are interspersed with the project site's open space areas. The following discussion focuses on park and recreational resources and facilities in the vicinity of the project site. Please refer to the Utilities and Public Services section of the *Resource Inventory* for a more detailed description of the park and recreational resources and facilities (including use characteristics, patterns, and levels) in the vicinity of the project site.

*Parks and Recreational Resources.* Park and recreational resources near the project site in each of the five municipalities are described below:

- *Oakland.* Waterfront parks in West Oakland are currently limited to two small areas: Port View Park, located near the end of 7th Street; and Radio Point Beach, located north of the Bay Bridge toll plaza. Both parks are on Port of Oakland (Port) lands, and comprise approximately 4 acres of total land area. The 10.2-acre Ernie Raimondi Park, the nearest City park, located just east of I-880 in West Oakland, includes heavily-utilized sports fields that draw users from throughout the East Bay. Future waterfront parks in the West Oakland area include: Middle Harbor Park, which is currently under construction; Gateway Park, which is proposed for the strip of land south of the Bay Bridge landing; and as yet undefined waterfront park space associated with the redevelopment of the Oakland Army Base.
- *Emeryville.* Emeryville currently has a number of parks near the project site. City parks along the Emeryville shoreline include Marina Park; Davenport Mini Park; and Point Emery Park (a.k.a. Ashby Spit Park).
- *Berkeley.* Of the five cities adjoining the project site, Berkeley maintains the largest number and most diverse range of parks and recreational facilities near the project site. The area of the Berkeley Marina provides a broad range of recreational facilities and support uses on 297 acres of publicly-owned land. The 97-acre Cesar Chavez Park is the largest upland facility in the Marina area, providing for unstructured recreation (including a 17-acre off-leash dog area).

  Other park spaces include Shorebird Park and Adventure Playground along the shore at the South Sailing Basin, and Horseshoe Park fronting the Marina basin. Aquatic Park is a large open space and recreational resource that is directly linked to the project site with the completion of the City's pedestrian overpass of the freeway, located immediately south of University Avenue. The nearest parks that include structured sports facilities such as ballfields and tennis courts are: the newly developed Harrison Fields at Sixth and Harrison Streets adjacent to Codornices Creek, and James Kenney Park and Recreation Center at Seventh and Delaware streets.
- *Albany.* Several parks near the project site support a range of uses, from walking in natural areas to playing in sports fields. Public parks in the vicinity of the project site, but east of Interstate 80 (I-80), include: Albany Hill Park, providing views over the project site; Middle School Park, located on Buchanan Street, providing a variety of active sports facilities; and the University Village ball fields, located on the University of California at Berkeley land adjacent to Codornices Creek.

- *Richmond*. Parks in Richmond include: Shimada Friendship Park, Jay and Barbara Vincent Park, Marina Green and Marina Park, Sheridan Point, and the proposed Lucretia W. Edwards Shoreline Park.

*Recreational and Support Facilities.* A number of recreational and support facilities in the vicinity of the project site are located in each of the municipalities. Please refer to the *Resource Inventory* for a detailed description of recreational and support facilities.

- *Marinas.* Four marinas currently exist in the project vicinity: two in Emeryville and one each in Berkeley and Richmond, with a total of 2,295 berths. Recreational facilities within the Berkeley Marina area include: the 3,000-foot Berkeley Pier, a popular location for fishing and sightseeing; the Nature Center, an education and interpretive center dedicated to teaching children about the Bay ecology; and the Bay Trail. These recreational facilities are complemented by nine commercial leaseholders, including a hotel, three restaurants, boat repair and marine supply uses, kite-flying concessions, and a water-related sports concessions such as sailing and kayaking.

  A windsurfing staging area is located at the north end of the Emeryville Marina Park. Windsurfers access the water's edge from various points within and near the Berkeley Marina properties. Windsurfers and kayakers enter the water at either the Richmond Marina or at various formal access points along the Richmond Shoreline Trail.
- *Play Areas/Sports Fields*. Few play areas or sports fields exist west of I-80; these facilities are generally located near residential populations east of I-80. With the exception of Emeryville, all the municipalities have a variety of playgrounds and sports fields to accommodate a wide range of sports activities. Two parks in Oakland include play areas and/or sports fields: Raimondi Park (with soccer fields and baseball diamonds) and Poplar Recreation Center (multi-purpose turf with supporting facilities). In Berkeley, Aquatic Park, Cesar Chavez Park, and Shorebird Park provide multi-purpose turf, tot lots, Adventure Playground, "Dreamland for Kids," and other school-age play areas. James Kenney Park and Harrison Fields in Berkeley provide additional soccer practice fields, basketball courts, tennis courts, baseball/softball diamonds, a skate park, and a gym. In Albany, University Village and Ocean View Park provide multi-purpose sports fields. Tennis and basketball courts and a multi-purpose play structure for young children are also available at Ocean View Park. Playgrounds are located at Vincent Park along the Shoreline Trail and the Marina Park/Marina Green in Richmond.
- *Bay Trail.* The Bay Trail is a critical recreational facility for unifying the shoreline and linking various parcels within the project site. Only the portions of the Bay Trail on lands owned by the State (i.e., the project site) are part of the project. Outside of the project site, none of the segments proposed for Oakland have been built.

  In Emeryville, all proposed Bay Trail segments have been implemented, except for the Shellmound section. As part of the Bay Trail improvements, a small amphitheater, boardwalk, arbor structure, and enhanced paving and planting areas were developed at the corner of West Frontage Road and the Chevy's access drive.

  Currently, the only completed segment in Berkeley is from Virginia Street south to Gilman Street. At present, the Bay Trail from Albany Beach to Richmond has been constructed. The Richmond section of the Bay Trail from Albany to Marina Bay has already been implemented. From the Albany/Richmond border, the Bay Trail continues north along the edge of the Albany Mudflats to Central Avenue and into the project site. From the bridge over Hoffman Channel in the project

site, the trail extends north through the marshes of south Richmond to the Marina Bay area (see Bay Trail discussion under Project Site).

- *Picnic Facilities.* Picnic facilities are a common feature in many of the nearby city parks, ranging from simple picnic tables to more improved areas with barbecue pits. Picnic facilities are found in the following parks: Port View Park in Oakland; Marina Park and Davenport Mini-Park in Emeryville; Shorebird Park, Adventure Playground, Cesar Chavez Park, Marina Mall, Aquatic Park, and James Kenney Park in Berkeley; Ocean View Park in Albany; and Marina Park/Marina Green, Shimada Friendship Park, and Vincent Park in Richmond. Facilities are planned or proposed for Middle Harbor Park and Gateway Park in Oakland and Creekside Park in Albany.
- *Interpretive Centers/Exhibits.* Oakland, Berkeley, Albany, and Richmond have interpretative signage, exhibits, or other facilities located along sections of the Bay Trail and waterfront. Port View Park in Oakland includes a maritime museum, historical plaques, and Bay ecology displays. The Shorebird Nature Center in Berkeley provides hands-on educational programs and tidal zone wildlife exhibits. A plaque near the Albany Beach describes the development of the Albany Bulb. The Shoreline Trail in Richmond has a well-developed interpretive signage system with ecological and historical information. The "Rosie the Riveter" National Historical Park, located in Richmond's Marina Bay, includes an interpretive monument.
- *Fishing Piers.* Three functional fishing piers exist along the East Bay shoreline: Port View Park in Oakland; Marina Park and City Marina in Emeryville; and Berkeley Marina in Berkeley. Two dilapidated piers that exist along the Albany shoreline south of Albany Beach may have potential for renovation.
- *Private Recreational Resources.* In addition to the public recreational resources, Golden Gate Fields racetrack provides private recreation (on-site horse racing and wagering) that attracts large numbers of visitors to the shoreline.
- *Parking.* Formal parking areas associated with open space and facilities are provided in each community. Formal parking areas are located at: Port View Park in Oakland; Marina Park, Davenport Mini-Park and Point Emery Park in Emeryville; Berkeley Marina and Aquatic Park in Berkeley; Albany Bulb and Beach in Albany; and Pt. Isabel Regional Shoreline, Marina Bay Marina, Marina Park/Marina Green, and Shimada Friendship Park in Richmond. Informal parking takes place along roadsides, such as West Frontage Road along Berkeley Beach and Central Avenue in Richmond
- *Restrooms.* Some parks in each of the municipalities include public restroom facilities: Port View Park in Oakland; Marina Park in Emeryville; Adventure Playground, Aquatic Park, Horseshoe Park, Marina Mall, and Shorebird Park in Berkeley; Ocean View Park in Albany; and Shimada Friendship Park, Pt. Isabel Regional Shoreline, and Marina Bay Park in Richmond.

## 2. Impacts and Mitigation Measures

The following section discusses impacts related to public services. Criteria of significance, establishing the thresholds to determine an impact's level of significance, are presented first, followed by the identification of less-than-significant impacts and significant impacts.

**a. Criteria of Significance.** The adoption and implementation of the *Eastshore Park Project General Plan (Draft General Plan)* would have a significant impact on public services if it would:

- Result in an increased demand for police protection and fire and emergency services exceeding existing or planned staffing levels;
- Result in response times to calls for police protection and fire and emergency services exceeding existing levels or established performance standards;
- Substantially increase demand for neighborhood parks, regional parks, or recreational facilities that would accelerate their physical deterioration, or decrease the quality of the facilities or users' experience; or
- Result in the removal of a neighborhood park or open space area.

**b. Less-than-Significant Public Services Impacts.** The following section discusses the less-than-significant impacts on public services that may result from the implementation of the *Draft General Plan*. Appendix B of this document contains a compendium of all *Draft General Plan* guidelines for reference.

**(1) Police, Fire and Emergency Services.** Implementation of the *Draft General Plan* would encourage the development of new park facilities and increased visitation to the project site. New park development and an increase in visitors to the park would increase demand for police, fire and emergency services by people who work and recreate in Eastshore Park.[8]

The EBRPD Police Department will likely assume primary responsibility for answering service calls and patrolling Eastshore Park. Local police departments will have the option of patrolling those areas of the project site adjacent to their municipality, and may respond initially to urgent situations; however, investigative authority would be turned over to the EBRPD Police Department at its arrival on-scene. If EBRPD assumes long-term management responsibility for Eastshore Park, the EBRPD Police Department would require one additional position if no further development occurs at the project site, and two positions if the park is developed as proposed. Police staffing levels are reviewed incrementally as the EBRPD acquires new park space. Each year, the EBRPD Police Department submits prospective budget (and, thus, staffing) needs in August for the following calendar year (January to December). These reviews provide prospective staffing levels based on the policing and patrolling needs of existing and new parklands and visitation trends. Without the necessary funding to cover the cost of hiring the two additional officers necessary to accommodate the increased workload, the level of police protection services would decrease throughout the EBRPD.[9]

Although police staffing is reviewed and the EBRPD Police Department makes recommendations for future staffing needs through the District's internal budgetary process, the implementation of the *Draft General Plan* could result in a significant impact since future funding to cover the costs of two additional officers to the EBRPD Police Department cannot yet be estimated accurately and has not been authorized.

The development of new park facilities, an increase in visitors to the park, and new and more active recreational activities could increase demand for fire and emergency services by people who work

[8] Small, Pete, op. cit.

[9] Ibid.

and recreate in Eastshore Park. An increase in facilities to support more active recreational activities could result in the requirement for increased emergency services, as the likelihood of injuries resulting from various activities could increase. Currently, the EBRPD's Fire Department is relatively small and spread over the two-county area EBRPD serves. If EBRPD assumes exclusive jurisdiction over the project site, implementation of the *Draft General Plan* could impact EBRPD's ability to maintain adequate response times to emergencies from the EBRPD fire stations at Tilden Regional Park and Alvarado Park. Additionally, an increase in water-based recreational activities has the potential to adversely effect emergency service providers in the area and may increase emergency response times within the adjacent cities.[10]

The *Draft General Plan* incorporates guidelines that would avoid or reduce to a less-than-significant level potential impacts one police, fire and emergency services by:

1. Requiring the development of a Visitor Capacity Management Program (see guideline CAPACITY-1) and Specific Project Plans (see guidelines VISIT-1, OPER-1) that would include plans for evaluating existing capacity relative to proposed development.

2. Requiring environmental review and the identification of potential negative impacts associated with site-specific development projects, management plans, and Specific Project Plans for the implementation of the *Draft General Plan* in accordance with the California Environmental Quality Act (CEQA) (see guidelines OPER-2, CAPACITY-2, HYDRO-6).

3. Requiring preparation of a Maintenance Plan to guide maintenance and operations procedures and practices to allow for coordination of monitoring and implementation of operational activities such as fuel modification and fire prevention activities (see guideline OPER-4).

4. Requiring the periodical assessment of operational impacts to inform the ongoing management of appropriate types and levels of public use of park resources (see guideline CAPACITY-3).

5. Requiring coordination with local municipalities and service providers to provide a unified delivery of services in response to structural and public safety emergencies, utilizing the training and expertise of all personnel (see guideline COMM-2).

6. Requiring the coordination with local municipalities on the scheduling, operation and management of seasonal festivals and special events that may have implications for park project operations and facilities (see guideline COMM-3).

**(2) Parks.** The implementation of the *Draft General Plan* would not substantially increase demand for neighborhood parks, regional parks, or recreational facilities that would accelerate their physical deterioration or decrease the quality of the facilities or users' experience, nor would it result in the removal of a neighborhood park or open space area. Implementation of the *Draft General Plan* would result in the development of a new park on the East Bay shoreline with recreational and support facilities, interpretation centers, trails, and environmental and resource enhancements. The Eastshore Park project would provide local and regional visitors with additional park and recreation

[10] Rein, Dennis, 2002. Fire Chief, East Bay Regional Park District. Personal communication with LSA Associates, Inc., April.

services and facilities. As discussed in the Setting section, the project site currently has few recreation and support facilities; the addition of recreation and support facilities, such as parking, restrooms, picnic areas, and sports fields, would not only enhance the visitor experience to the area, but would also be necessary to avoid impacts to existing private and municipal facilities that could result from increased visitation to the project area. The Bay Trail is a key element in linking the non-contiguous parts of the project site. Completing the Bay Trail and proposed internal spur trails would increase public access to the project site and enhance the public appreciation of the project site's resources. Gateways and vista points are proposed along the Bay Trail and at various sites within the park to allow visitors to enjoy the park's views.

**c. Significant Public Service Impacts.** No significant impacts to public services would result from the implementation of the *Draft General Plan*.

# K. TRANSPORTATION AND CIRCULATION

The following section provides an overview of the regional and local transportation and circulation systems in and around the project site, summarizing information contained in the *Eastshore Park Project Resource Inventory* (*Resource Inventory*).[1] A summary of regulatory agencies associated with transportation is also included. The section concludes with an evaluation of potential impacts related to transportation that could result from implementation of the proposed project. Mitigation measures are recommended, as appropriate.

## 1. Setting

The following section summarizes information contained in the *Resource Inventory* regarding regional and local transportation systems, public transportation systems, bicycle and pedestrian facilities, parking facilities, traffic volumes, and regulatory agencies. Please refer to the Traffic and Circulation section of the *Resource Inventory* for more detailed information.

**a. Regional Transportation System**. Regional access in the vicinity of the project site is provided via the following routes:

**(1) Interstate 580.** Interstate 580 (I-580) connects the East Bay area of San Francisco Bay with Marin County to the north and the San Joaquin Valley region to the east. Within the project site, I-580 and Interstate 80 (I-80) are the same freeway from Buchanan Street to south of Powell Street. Within the project site, I-580 is oriented in a north-south direction and would provide direct access to the project site via its interchanges at Powell Street, Ashby Avenue, University Avenue, Gilman Street, and Buchanan Street.

**(2) Interstate 80**. I-80 connects the San Francisco area with the Sacramento and Lake Tahoe regions to the east. Within the project site, I-80 is oriented in a north-south direction, and would provide direct access to the project site via the I-580/I-80 interchanges listed above.

**b. Local Transportation System**. Local access in the vicinity of the project site is provided via the roadways discussed below. Figure III.K-1 illustrates the existing circulation network in the vicinity of the project site. These roadways encompass a project site that consists of five jurisdictions: the cities of Oakland, Emeryville, Berkeley, Albany, and Richmond.

**(1) San Pablo Avenue**. San Pablo Avenue is also known as State Route 123 (SR 123). San Pablo Avenue is a major north-south street, located to the east of I-80/I-580, with four lanes and left-turn pockets at major intersections. San Pablo Avenue connects the cities of Oakland, Emeryville, Berkeley, Albany, and Richmond.

**(2) Powell Street**. Powell Street is a four-lane east-west major street in the City of Emeryville. Powell Street connects to I-80/I-580 via an interchange. The southern terminus of Frontage Road occurs at Powell Street. Powell Street has a posted speed limit of 40 miles per hour (mph) in the vicinity of the project, and provides access to the Emeryville Marina.

[1] The *Resource Inventory* is a public document that is available on the Eastshore Park website: www.eastshorestatepark.org.

**(3) Ashby Avenue**. Ashby Avenue is designated as State Route 13 (SR 13). Ashby Avenue is a two-lane east-west roadway east of San Pablo Avenue and four-lane roadway west of San Pablo Avenue in the City of Berkeley. Ashby Avenue intersects Frontage Road and connects I-80/I-580 to State Route 24 (SR 24) to the east. On Ashby Avenue east of San Pablo Avenue, there are on-street parking restrictions on the north side of the street in the morning (7:00 to 9:00 a.m.) and the south side in the evening (4:00 to 6:00 p.m.), providing an additional travel lane for commuters.

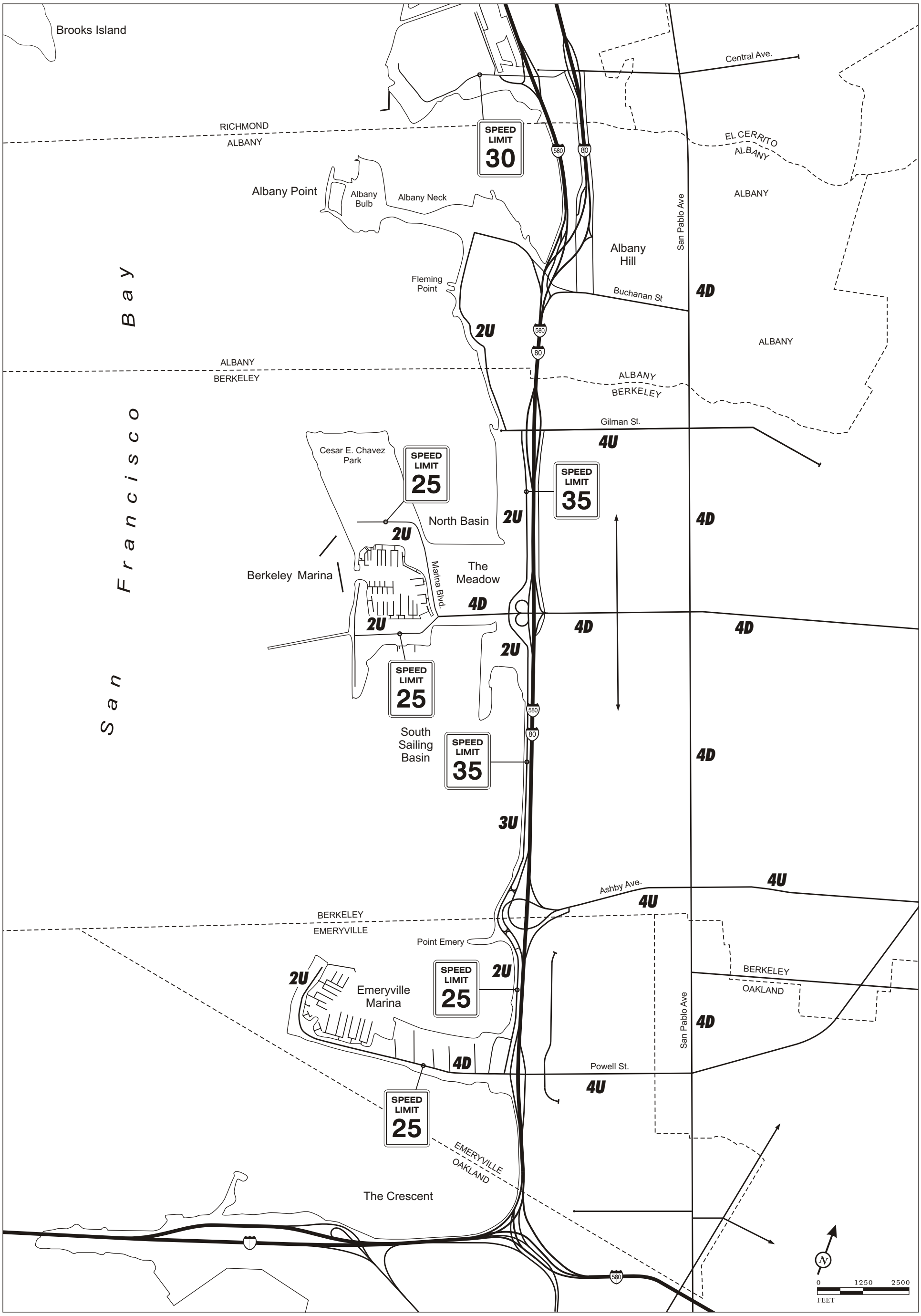
**(4) University Avenue**. University Avenue is a four-lane east-west major street in the City of Berkeley. University Avenue connects to I-80/I-580 via an interchange. Within the project site, the roadway is divided by a raised median and has left-turn pockets at major intersections. University Avenue intersects with Frontage Road, and provides access to the Berkeley Marina and Cesar Chavez Park.

**(5) Gilman Street**. Gilman Street is a two lane east-west street in the City of Berkeley. Gilman Street connects the project site with I-80/I-580 via an interchange, and areas of North Berkeley east of San Pablo Avenue. Existing land uses along Gilman Street, between I-80/I-580 and San Pablo Avenue, include industrial and retail/commercial uses. Most of the intersections along Gilman Street are unsignalized. Gilman Street provides access to the southern portion of the Golden Gate Fields racetrack which is adjacent to the project site. The northern terminus of Frontage Road occurs at Gilman Street.

**(6) Buchanan Street**. Buchanan Street is a four-lane undivided east-west street in the City of Albany. Buchanan Street provides access to the project site via an interchange with I-80/I-580. Within the project site, west of I-80/I-580, Buchanan Street is a multi-lane road that provides direct access to the parking lots of Golden Gate Fields. At the terminus of Buchanan Street, there is limited on-street parking open to the public.

**(7) Central Avenue**. Central Avenue is a four-lane undivided east-west street in the southern portion of the City of Richmond. Central Avenue provides the northernmost access to the project site from its interchange with I-80. Within the project boundaries, and west of I-80/I-580, Central Avenue is a two-lane road with on-street parking that provides access to the Pt. Isabel Regional Shoreline Park and adjacent retail and industrial land uses (e.g., Costco, East Bay Municipal Water District facilities).

**(8) Frontage Road.** The main component of the existing on-site circulation system is Frontage Road, a two-lane, north-south interstate frontage road immediately west of I-80/I-580. Frontage Road provides access from Powell Street in the southern portion of the project site to Gilman Street in the north. Frontage Road intersects Powell Street, Ashby Avenue, University Avenue, and Gilman Street, all of which provide access to I-80/I-580 and the neighboring cities of Oakland, Emeryville, Berkeley, Albany, and Richmond. Frontage Road is generally a two-lane roadway with a limited shoulder and no curb and gutter; however, in some areas there is a second southbound lane. On-street parking is limited along the west side of Frontage Road in sections south of University Avenue. However, off-street parking lots are provided at major activity areas such as Marina Park, Berkeley Marina, and Albany. Vehicular access to these activity areas is provided via a series of two- and four-lane roadways connecting to Frontage Road.




LSA

FIGURE III.K-1

SPEED LIMIT 25 POSTED SPEED LIMIT

2U 2 LANES/UNDIVIDED ROADWAY
4U 4 LANES/UNDIVIDED ROADWAY
4D 4 LANES/DIVIDED ROADWAY

SOURCE: LSA ASSOCIATES, INC., 2002

*Eastshore Park Project*
*General Plan EIR*

Existing Roadway Geometrics and Characteristics

**d. Public Transportation Systems.** Public transportation is currently provided to the project site via bus and train service. Bus service to and from the project site within the Cities of Oakland, Emeryville, Berkeley, Albany, and Richmond is primarily provided by Alameda-Contra Costa Transit District (AC Transit), while rapid rail transit is provided by Bay Area Rapid Transit (BART). Inter-city passenger rail service is provided by the Amtrak Capitol Corridor route which serves Oakland, Emeryville, Berkeley, and Richmond. The public transit in the area is described below.

**(1) BART.** The BART system constitutes the spine of the regional transit network. BART trains run between Colma in the west, Pittsburg in the east, Fremont in the south, and Richmond in the north. AC Transit provides local bus service from the BART stations in the vicinity of the project site.

**(2) AC Transit.** AC Transit is the primary bus service provider in the vicinity of the project site, and provides direct service to the project site. AC Transit serves 13 cities and adjacent unincorporated communities in the East Bay. In the year 2000, the passage of Alameda County Measure B increased transportation funding for the County, including funds allocated to AC Transit.

**(3) East Bay Paratransit.** East Bay Paratransit is a service of AC Transit and BART which provides transportation for people who, because of a disability cannot access, board, or ride public transportation. East Bay Paratransit serves all overlapping AC Transit and BART service areas in Contra Costa and Alameda Counties.

**(4) Golden Gate Transit.** Golden Gate Transit provides connecting service to routes that directly serve the project site. Golden Gate Transit primarily operates busses and ferries for Marin and Sonoma county commuters. A Golden Gate Transit bus serves the El Cerrito Del Norte BART station and provides service to Marin and Sonoma Counties.

**(5) Western Contra Costa Transit Authority (WESTCAT).** WESTCAT provides connecting service to routes that directly serve the project site. WESTCAT primarily provides bus service to cities in western Contra Costa County. WESTCAT operates a line from the El Cerrito Del Norte BART Station to the park-n-ride lot in Hercules.

**(6) Amtrak.** Amtrak provides intercity passenger rail throughout the U.S. In the vicinity of the project site, Amtrak's Capital Corridor route provides passenger rail service from Oakland, Emeryville, Berkeley and Richmond to Sacramento and Auburn in the east and San Jose in the south. The San Joaquin route provides service to the San Joaquin valley cities and Bakersfield in the south. The Amtrak stations in Emeryville and Berkeley are near enough to portions of the park to allow intermodal and pedestrian access. The Emeryville station is located just off Powell Street and is accessible to AC Transit Route Y, which goes to the Emeryville Peninsula. The Berkeley station is located beneath the University Avenue overpass at Third Street. The pedestrian bridge over I-80 (completed in February 2002) provides pedestrian and bicycle access from the Amtrak station to the Berkeley Lands area of the park.

**(7) Water Transport.** Currently there are no water transport routes serving the project site. However, in response to Senate Resolution (SR) 19, the Bay Area Council and the Bay Area Economic Forum recently appointed a Blue Ribbon Task Force to study the feasibility of expanded water transport on San Francisco Bay. The Task Force concluded that it would be possible to

establish a state-of-the-art high-speed environmentally-friendly water transit system capable of handling at least 15 to 20 million passengers annually (4 to 5 times the current Bay Area ridership) for a cost-effective capital investment and competitive operating cost. This conclusion was based on a study of successful water transit systems around the world, travel demand forecasts for the region, and new vessel technology.

The Bay Area Water Transit Study, dated February 1999, identifies several potential build-out passenger water transit routes that would serve the project site. Potential routes would serve Berkeley and Richmond, and provide access from the East Bay to San Francisco, Marin County and the South Bay areas. Additionally, a potential route has been identified between Berkeley and the San Francisco Airport.

**e. Bicycle and Pedestrian Facilities.** Bicycle and pedestrian access to the project site is limited because of the site's location in relation to I-80/I-580. I-80/I-580 separates the populated areas of Emeryville, Berkeley, and Albany from the shoreline area. Pedestrian and bicycle access from the areas east of I-80/I-580 to the project site is available at the interchanges of Powell Street, the new pedestrian/bicycle bridge south of University Avenue and Gilman Street.

West of I-80/I-580, the San Francisco Bay Trail (Bay Trail) is a north/south bicycle and pedestrian route that will allow continuous bicycle/pedestrian access along the entire length of the project site. For additional information on the Bay Trail, please refer to pages R-7 through R-8 and TC-5 through TC-6 of the *Resource Inventory*. Additional pedestrian circulation is provided via sidewalks and pedestrian walkways located throughout the project site. In and around the project site, recreational areas such as Marina Park, Point Emery, Shorebird Park, Cesar Chavez Park, the Albany Plateau, Albany Neck, Albany Bulb, and Pt. Isabel contain walking and jogging trails.

**f. Parking Facilities.** There are several existing parking lots in the project area. These lots primarily serve users of existing parks such as Pt. Isabel Regional Shoreline, Albany Point, Cesar Chavez Park, Horseshoe Park, Shorebird Park, Berkeley Beach, Point Emery, Marina Park (Emeryville), and Davenport Mini Park. The following discussion describes these existing parking facilities:

**(1) Marina Park and Davenport Mini Park (Emeryville Marina).** On-street parking is available along portions of Powell Street. Private parking lots, serving the office and hotel buildings, are located between the Emeryville Marina and I-80/I-580. At the western terminus of Powell Street, there are several parking lots designated for Marina Park and Davenport Mini Park users, local residents, and guests of the Emeryville Marina.

**(2) Point Emery.** There are 13 striped spaces within an existing parking lot available for park users at Point Emery.

**(3) Berkeley Beach**. Parking for users of Berkeley Beach is currently available on a shoulder along the west side of Frontage Road, between University Avenue and Ashby Avenue.

**(4) Horseshoe Park and Shorebird Park (Berkeley Marina).** Based on field observations conducted by LSA in April 2001, much of the parking for users of Horseshoe Park and Shorebird Park is shared with the existing lots in the Berkeley Marina. Horseshoe Park is located at the northern

terminus of Seawall Drive. There are approximately seven spaces available for public parking adjacent to Horseshoe Park. Most of the other spaces are reserved for residents and guests of the Berkeley Marina. There are approximately 93 parking spaces along the west side of Seawall Drive. These spaces would serve users of the fishing pier and Shorebird Park.

**(5) Cesar Chavez Park.** There are two parking lots that exist for users of Cesar Chavez Park. A nine-space parking lot exists along Marina Boulevard, before the gated entrance to the park. Within the park gates, approximately 27 spaces exist at the terminus of Marina Boulevard. In addition, on-street parking is allowed along Marina Boulevard.

**(6) Albany Point.** A 20-space lot is located at the westerly terminus of Buchanan Street and provides access to the pedestrian trail system on Albany Point. This parking lot is adjacent to the northwest property line of the Golden Gate Fields track. No through access is allowed onto Golden Gate Fields property.

**(7) Pt. Isabel Regional Shoreline Park.** There are two existing parking lots that serve Pt. Isabel. A 50-space lot exists off Rydin Road, and a 200-space lot exists along the west side of Isabel Street. In addition, on-street parking is allowed along Isabel Street and Central Avenue (adjacent to the existing retail/commercial uses).

**g. Traffic Volume and Level of Service.** Intersection operations and the relationship between capacity and traffic volumes are generally expressed in terms of levels of service (LOS). As the amount of traffic moving through a given intersection increases, the conditions that motorists experience rapidly deteriorate as traffic approaches the absolute capacity. Under such conditions, there is general instability in the traffic flow, which means that relatively small incidents (e.g., momentary engine stall) can cause considerable fluctuations in speeds and delays that lead to congestion. LOS are designated A through F. Roads that experience traffic volumes near road capacity are labeled LOS E. Beyond LOS E, capacity has been exceeded, and arriving traffic will exceed the ability of the intersection to accommodate it.

**(1) Level of Service Methodology.** Consistent with the requirements of the Contra Costa Transportation Authority (CCTA) and the Alameda County Congestion Management Agency (ACCMA), the existing intersection LOS analysis has been conducted based on the parameters of the *Highway Capacity Manual*.[2] All LOS were calculated using TRAFFIX version 7.5 level of service software, which utilizes the HCM 2000 methodology LOS threshold criteria. For intersections in Contra Costa County (i.e., within the City of Richmond), the CCTA requires the LOS criteria for the local jurisdictions to be used. The LOS standards for the City of Richmond are consistent with the West Contra Costa County Action Plan. The Action Plan dictates that the traffic service objective is to maintain LOS D or better. Deterioration below LOS D triggers the need to provide improvements to reduce impacts and meet the City's standard.

For the portion of the project site in Alameda County, the Alameda County Congestion Management Program (CMP) defines LOS E as the threshold for unacceptable intersection operations. Therefore, any LOS condition in excess of LOS E on the Alameda County CMP network is considered an impact requiring mitigation.

[2] *Highway Capacity Manual, 2000.*

Average daily traffic (ADT) volumes on State highways within the project site were extracted from the Caltrans website.[3] To determine LOS on roadways within the project site, a volume to capacity (V/C) ratio was determined for each roadway segment studied. A V/C ratio of 1.00 means that the roadway segment is at capacity. A V/C ratio greater than 1.00 represents an over-capacity situation.

**(2) Existing Level of Service**. Intersection LOS calculations were performed for the weekday AM and PM peak hours at the following 21 locations:

City of Richmond Intersections:

1. Rydin Road /Central Avenue
2. I-80 westbound ramps/Central Avenue
3. I-80 eastbound ramps/Central Avenue
4. San Pablo Avenue/Central Avenue

City of Albany Intersection

5. San Pablo Avenue/Marin Avenue

City of Berkeley Intersections

6. Frontage Road/Gilman Street
7. I-80 westbound ramps/Gilman Street
8. I-80 eastbound ramps/Gilman Street
9. San Pablo Avenue/Gilman Street
10. Frontage Road/University Avenue
11. 6th Street/University Avenue
12. San Pablo Avenue/University Avenue
13. Frontage Road/Ashby ramp

City of Emeryville Intersections

14. Frontage Road/I-80 westbound ramp
15. San Pablo Avenue/Alcatraz Avenue
16. Frontage Road/Powell Street
17. I-80 eastbound ramps/Powell Street
18. Christie Avenue/Powell Street
19. San Pablo Avenue/Stanford Avenue
20. San Pablo Avenue/40th Street
21. Adeline Street/40th Street

[3] California Department of Transportation (Caltrans), 2002. Website: www.dot.ca.gov.

The project site intersections and their geometrics are illustrated in Figure III.K-2. The existing daily, AM peak and PM peak hour traffic volumes at the project site roadways and intersections are illustrated in Figure III.K-3. Existing AM and PM peak hour traffic volumes were provided by the cities of Emeryville, Berkeley, Albany and Richmond, or were obtained from studies completed in the project site. Volumes at five project site intersections were not available from these sources. These five intersections were counted in March 2002. Average daily traffic (ADT) volumes on State highways in the project site were extracted from the Caltrans website.[4] Table III.K-1 summarizes the existing AM and PM peak hour LOS for the project site intersections. As Table III.K-1 indicates, the I-80 westbound and eastbound ramps at Gilman Street, as well as the Frontage Road/University Avenue intersection, are currently operating at unsatisfactory LOS F during the PM peak hour. All other analyzed intersections currently operate with satisfactory LOS conditions of D or better.

ADT volumes on major arterial roadways in the vicinity of the project site were also examined. To assess the current operations of these facilities, and to determine how much additional traffic the proposed project would contribute to these roadways, a V/C ratio was determined. Table III.K-2 shows the existing ADT for these locations as well as their V/C ratios. According to Table III.K-2, all segments of Ashby Avenue, I-80 from south of Powell Street to Buchanan Street, and I-80 north of Central Avenue are currently operating over capacity.

**h. Regulatory Agencies.** The following section identifies agencies that regulate transportation and transportation-related infrastructure in and around the project site.

**(1) U.S. Department of Transportation.** The Federal Highway Administration (FHWA) is the agency of the U.S. Department of Transportation responsible for the federally-funded roadway system, including the interstate highway network and portions of the primary State highway network. FHWA funding is provided through the Transportation Equity Act for the 21st Century. The monies made available under this legislation can be used to fund local transportation improvement projects, such as projects to improve the efficiency of existing roadways, traffic signal coordination, bikeways, and transit system upgrades.

**(2) California Department of Transportation (Caltrans).** Caltrans is responsible for the planning, design, construction, and maintenance of all State highways. Any federally funded transportation improvements along State highways are subject to review by Caltrans.

**(3) Metropolitan Transportation Commission (MTC).** The MTC is the transportation planning, coordinating, and financing agency for the nine-county San Francisco Bay Area. MTC produces a Transportation Improvement Program (TIP) every 3 years as required by the federal government. The TIP lists investment priorities for highways, roadways, transit, and other surface transportation improvements in the nine-county San Francisco Bay Area.

[4] Ibid.

**Table III.K-1: Existing Level of Service Summary**

| Intersection | Intersection | | | AM Peak Hour | | PM Peak Hour | |
|---|---|---|---|---|---|---|---|
| Intersection | Control | Juris-diction | Count Date | LOS | Delay (Sec.) | LOS | Delay (Sec.) |
| 1. Rydin Road /Central Avenue | 4-Way Stop | Richmond | 3-20-02 | B | 11.6 | B | 13.9 |
| 2. I-80 WB Ramps/Central Avenue | Signal | Richmond | 3-20-02 | C | 23.3 | C | 23.9 |
| 3. I-80 EB Ramps/Central Avenue | Signal | Richmond | 3-20-02 | B | 17.2 | C | 21.8 |
| 4. San Pablo Avenue/Central Avenue | Signal | Richmond | 3-30-99 | C | 25.6 | C | 29.8 |
| 5. San Pablo Avenue/Marin Avenue | Signal | Albany | 5-6-99 | C | 25.8 | C | 27.0 |
| 6. Frontage Road./Gilman Street | 2-Way Stop | Berkeley | 9-27-97 | C | 25.0 | C | 24.7 |
| 7. I-80 WB Ramps/Gilman Street | 2-Way Stop | Berkeley | 9-27-97 | D | 34.5 | **F** | **>50.0** |
| 8. I-80 EB Ramps/Gilman Street | 2-Way Stop | Berkeley | 9-27-97 | B | 14.1 | **F** | **>50.0** |
| 9. San Pablo Avenue/Gilman Street | Signal | Berkeley | 3-17-99 | C | 27.6 | C | 25.5 |
| 10. Frontage Road./University Avenue | 4-Way Stop | Berkeley | 1-12-01 | B | 10.5 | **F** | **>50.0** |
| 11. 6th Street/University Avenue | Signal | Berkeley | 3-6-01 | C | 26.6 | D | 39.1 |
| 12. San Pablo Avenue/University Avenue | Signal | Berkeley | 2-17-99 | C | 27.0 | C | 28.5 |
| 13. Frontage Road./Ashby Ramp | 2-Way Stop | Berkeley | 1-16-01 | C | 16.0 | C | 17.8 |
| 14. Frontage Road./I-80 WB Ramp | 4-Way Stop | Emeryville | 1-16-01 | B | 12.4 | C | 16.3 |
| 15. San Pablo Avenue/Alcatraz Avenue | Signal | Emeryville | 3-1-01 | C | 21.6 | B | 19.2 |
| 16. W Frontage Road./Powell Street | Signal | Emeryville | 3-1-01 | B | 17.7 | C | 20.4 |
| 17. I-80 EB Ramps/Powell Street | Signal | Emeryville | 3-20-02 | B | 19.2 | C | 30.9 |
| 18. Christie Avenue/Powell Street | Signal | Emeryville | 3-1-01 | C | 25.1 | C | 32.0 |
| 19. San Pablo Avenue/Stanford Avenue | Signal | Emeryville | 3-1-01 | C | 25.3 | C | 28.9 |
| 20. San Pablo Avenue/40th Street | Signal | Emeryville | 3-1-01 | C | 25.4 | C | 27.4 |
| 21. Adeline Street/40th Street | Signal | Emeryville | 3-20-02 | C | 28.2 | C | 31.6 |

Notes: Sec. = Seconds; WB = Westbound; EB = Eastbound.

Source: LSA Associates, Inc., 2002.

## 2. Impacts and Mitigation Measures

The following section presents a discussion of impacts related to intersection and roadway operations, emergency access, parking, and alternative transportation with the implementation of the proposed project. This section begins with the criteria of significance which establishes the thresholds to determine whether an impact is significant. The latter part of the section presents the impacts associated with the proposed project and identifies mitigation measures where appropriate.

**a. Criteria of Significance.** Implementation of the Eastshore Park Project *Draft General Plan* would have a significant effect on transportation, circulation, and parking if it would:

- Cause the operating level of a *roadway segment* to deteriorate from LOS D (or better) to LOS E or F;

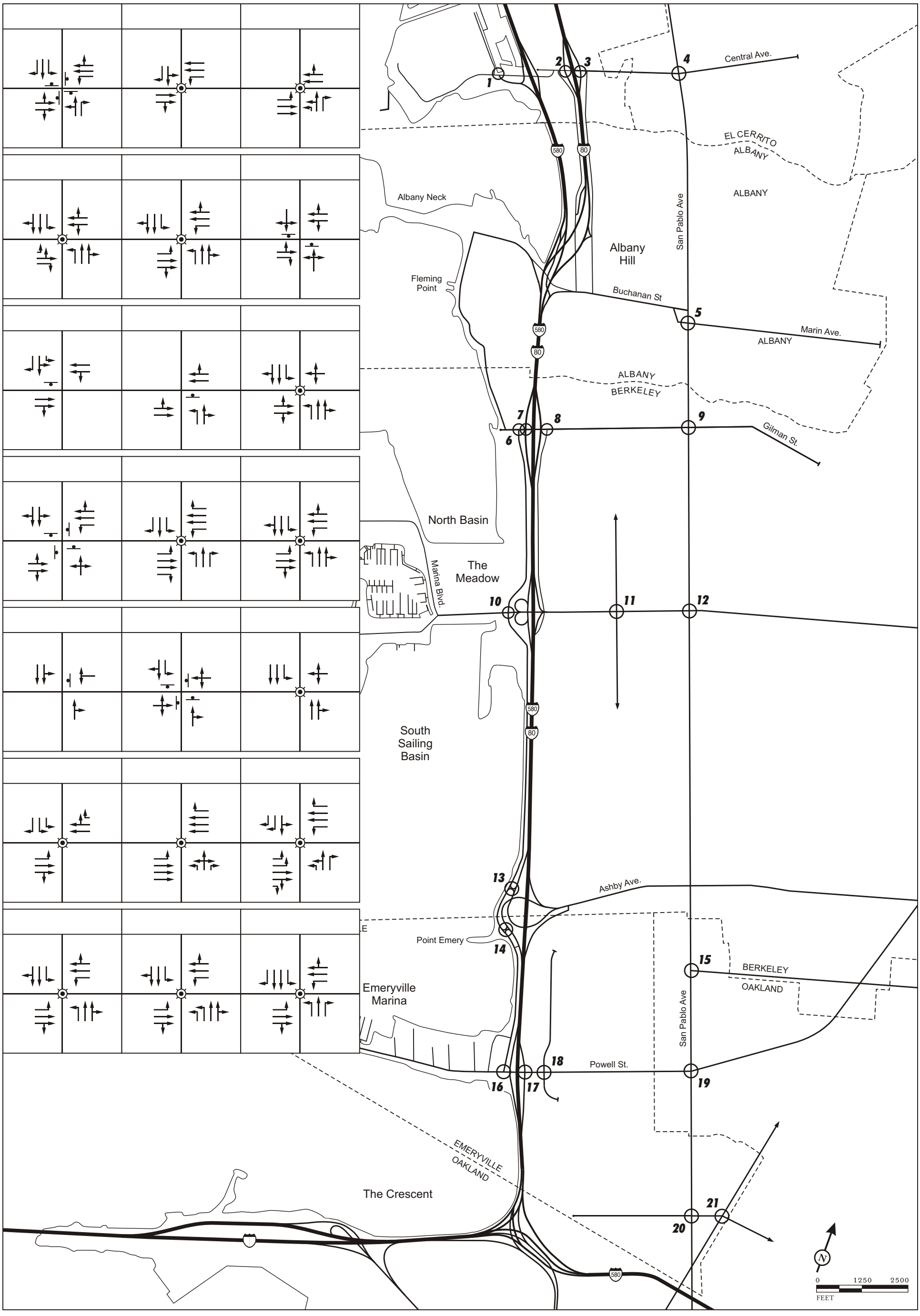



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FIGURE III.K-2

SIGNALIZED INTERSECTION
STOP CONTROLLED APPROACH
INTERSECTION GEOMETRICS

*Eastshore Park Project*
*General Plan EIR*

Study Area Intersection Locations and Geometrics

SOURCE: LSA ASSOCIATES, INC., 2002

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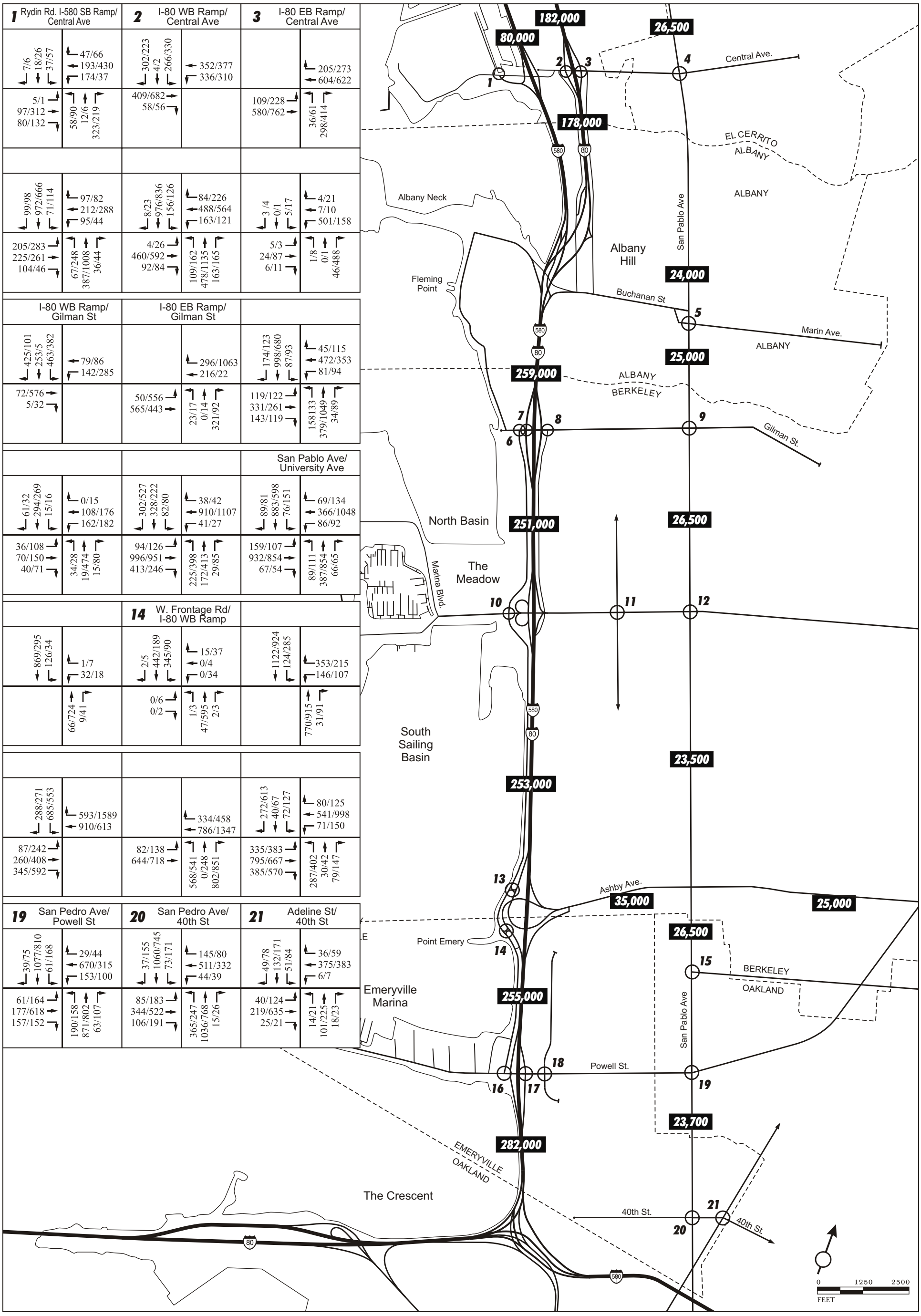


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FIGURE III.K-3

XXX/YYY AM/PM PEAK HOUR TRAFFIC VOLUME

XXXX AVERAGE DAILY TRAFFIC VOLUME

*Eastshore Park Project*
*General Plan EIR*

Existing Peak Hour and Daily Traffic Volumes

SOURCE: LSA ASSOCIATES, INC., 2002

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**Table III.K-2: Existing Average Daily Traffic and Volume-to-Capacity (V/C) Ratio on Roadway Segments**

| Roadway | Limits | Lanes | Capacity | Existing ADT | V/C Ratio |
|---|---|---|---|---|---|
| Ashby Avenue | East of San Pablo | 4U | 25,000 | 25,000 | 1.00 |
| Ashby Avenue | West of San Pablo | 4U | 25,000 | 25,000 | 1.00 |
| Ashby Avenue | East of I-80 | 4U | 25,000 | 35,000 | 1.40 |
| I-80 | South of Powell | 10 | 210,000 | 282,000 | 1.34 |
| I-80 | Between Powell and Ashby | 10 | 210,000 | 255,000 | 1.21 |
| I-80 | Between Ashby and University | 10 | 210,000 | 253,000 | 1.20 |
| I-80 | Between University and Gilman | 10 | 210,000 | 251,000 | 1.20 |
| I-80 | Between Gilman and Buchanan | 10 | 210,000 | 259,000 | 1.23 |
| I-80 | Between Buchanan and Central | 10 | 210,000 | 178,000 | 0.85 |
| I-80 | North of Central | 6 | 135,000 | 182,000 | 1.35 |
| I-580 | North of Central | 6 | 135,000 | 80,000 | 0.59 |
| San Pablo Avenue | South of Stanford | 4D | 37,500 | 23,700 | 0.63 |
| San Pablo Avenue | Between Stanford and Ashby | 4D | 37,500 | 26,500 | 0.71 |
| San Pablo Avenue | Between Ashby and University | 4D | 37,500 | 23,500 | 0.63 |
| San Pablo Avenue | Between University and Gilman | 4D | 37,500 | 26,500 | 0.71 |
| San Pablo Avenue | Between Gilman and Marin | 4D | 37,500 | 25,000 | 0.67 |
| San Pablo Avenue | Between Marin and Central | 4D | 37,500 | 24,000 | 0.64 |
| San Pablo Avenue | North of Central | 4D | 37,500 | 26,500 | 0.71 |

Notes: U = Undivided; D = Divided; ☐ = Unacceptable LOS.

Source: California Department of Transportation (Caltrans) Website (www.dot.ca.gov).

- Increase traffic volume on a *roadway segment* already operating at LOS E or F by more than 3 percent;
- Cause *intersection* operations to deteriorate from an acceptable level (LOS D or better for intersections in Contra Costa County or LOS E in Alameda County) to an unacceptable level;
- Exacerbate unacceptable operations (LOS E in Contra Costa County or F in Alameda County) by increasing an *intersection's* total delay by 10 percent or more over the baseline condition;
- Exceed, either individually or cumulatively, a level of service standard established by the county or city management agency for designated roads or highways;
- Cause a roadway volume to exceed the roadway's capacity where it would not without the project;
- Result in inadequate emergency access;
- Result in inadequate parking supply.
- Conflict with local or regional policies or programs supporting alternative transportation; or

- Create unsafe conditions for pedestrians or bicyclists.

**b. Less-than-Significant Traffic and Circulation Impacts.** The less-than-significant transportation and circulation impacts related to implementation of the *Draft General Plan* are described below. Appendix B of this document contains a compendium of all *Draft General Plan* guidelines for reference.

**(1) Eastshore Park Project Trip Generation, Distribution and Assignment.** After documenting existing operating characteristics of the project site, traffic impacts are evaluated for the existing plus project, year 2025 baseline, and year 2025 plus project conditions. So as not to double-count existing trips, recreational uses currently exist throughout the project site and visitors to those uses contribute to existing traffic volumes. The trip generation analysis in this EIR takes into account park uses currently existing within the project site.

Vehicle trips generated by existing land uses are accounted for in the existing traffic counts and are reflected in the existing LOS operation of roadways and intersections. Trips generated by implementation of the *Draft General Plan* would be in addition to those trips that are already being made to and from the project area. One variable that affects the number of additional trips associated with implementation of the proposed project is the number of new proposed parking spaces. Peak hour and daily vehicle trips resulting from implementation of the proposed project were generated based on the number of new parking spaces proposed in the *Draft General Plan* (i.e., approximately 750, see Table III.K-3).

As shown in Table III.K-3, the proposed project has the potential to generate approximately 34 AM peak hour, 45 PM peak hour, and 1,125 daily trips per weekday, and approximately 225 peak hour and 3,750 daily trips per weekend day. These trips would be generated as a function of increased parking supply (trip total does not include trips which are currently generated by the recreational land uses within the project site).

Vehicle trip distribution and assignment were evaluated with the assumption that 50 percent of project site visitors would utilize I-80/I-580, while the other 50 percent would utilize local roads throughout the cities of Oakland, Emeryville, Berkeley, Albany, and Richmond. Trip generation, distribution and assignment resulting from implementation of the proposed project are illustrated in Figure III.K-4.

**(2) Existing Plus Project Traffic Volumes and Levels of Service.** Trips associated with implementation of the proposed project were added to existing traffic volumes to determine the existing plus project traffic volumes and are illustrated in Figure III.K-5. LOS were calculated for the existing plus project scenario and are shown in Table III.K-4.

As Table III.K-4 indicates, the I-80 westbound and eastbound ramps at Gilman Street, as well as the Frontage Road/University Avenue intersection will continue to operate at unsatisfactory LOS (LOS F) during the PM peak hour. All other analyzed intersections are forecast to operate with satisfactory LOS with the addition of the proposed project.

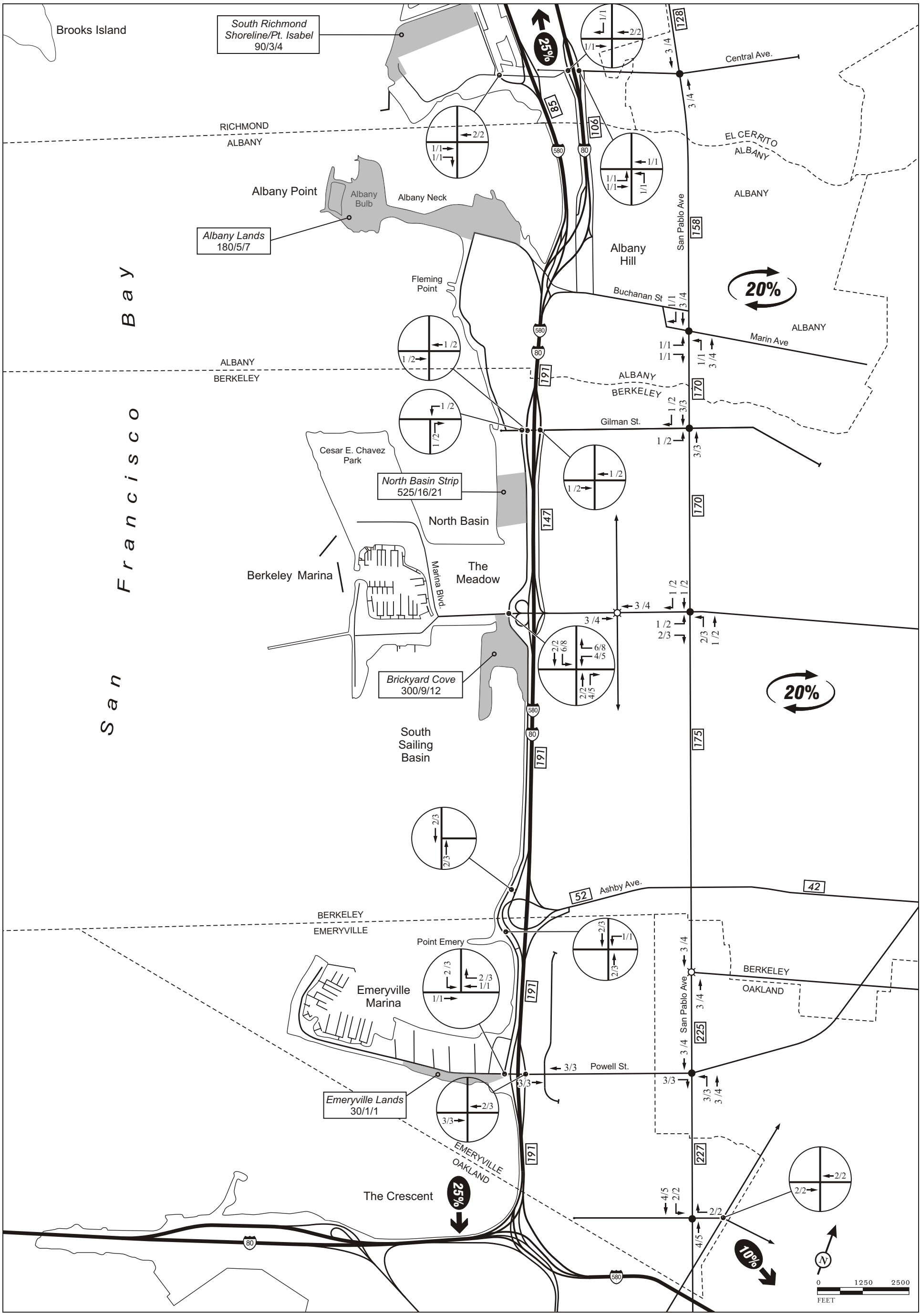


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FIGURE III.K-4

*Eastshore Park Project*
*General Plan EIR*

Project Trip Generation, Distribution and Assignment

| | |
|---|---|
| *Emeryville Lands* 30/1/1 | GENERAL PLAN AREA DAILY/AM PEAK/PM PEAK HOUR TRIP GENERATION |
| 25% → | PROJECT TRIP DISTRIBUTION PERCENTAGES |
| XX/YY | AM/PM PEAK HOUR PROJECT TRIPS |
| XX,XXX | DAILY PROJECT TRIPS |

SOURCE: LSA ASSOCIATES, INC., 2002

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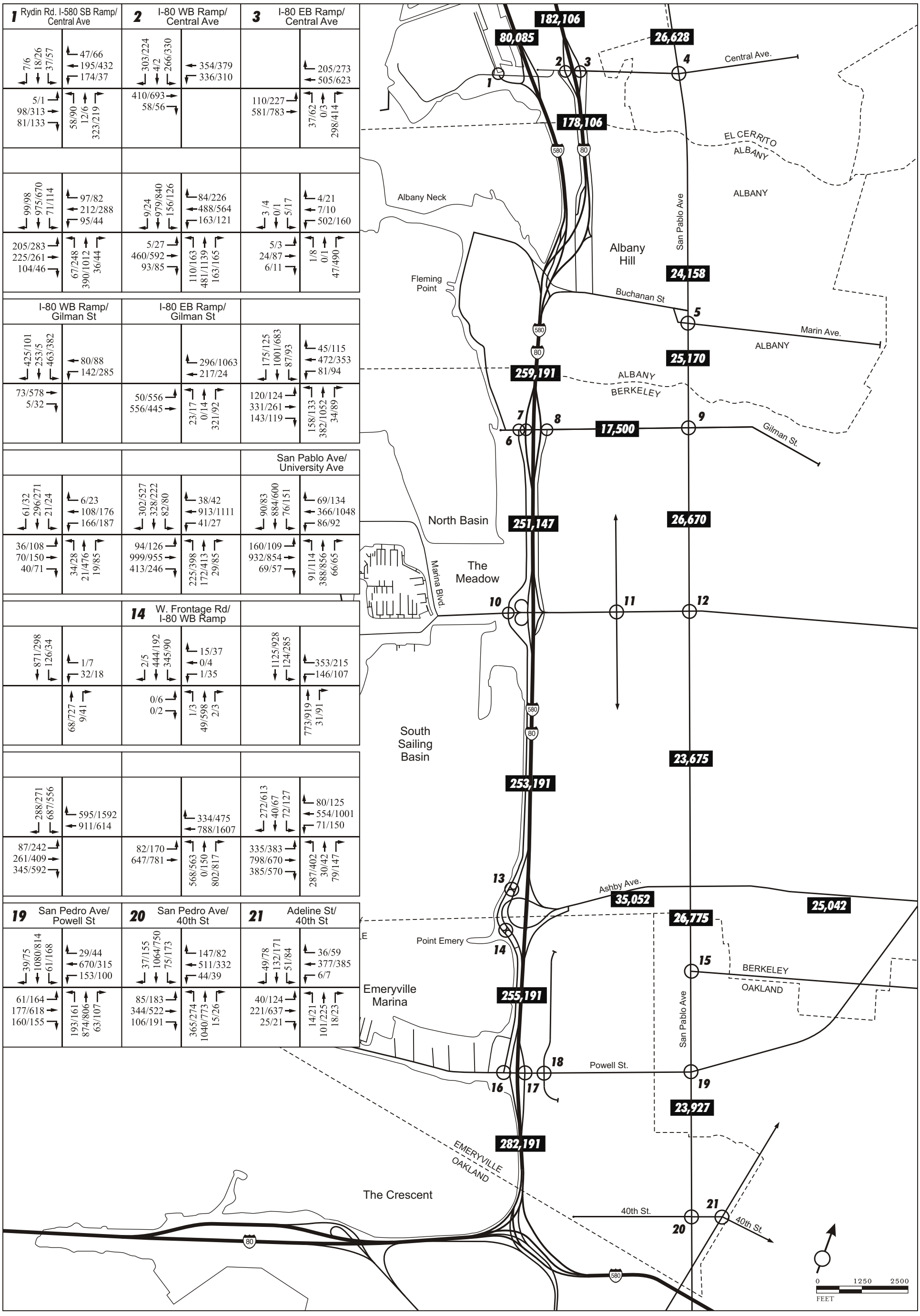


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FIGURE III.K-5

XXX/YYY AM/PM PEAK HOUR TRAFFIC VOLUME

**XXXX** AVERAGE DAILY TRAFFIC VOLUME

*Eastshore Park Project*
*General Plan EIR*

Existing Plus Project Peak Hour and Daily Traffic Volumes

SOURCE: LSA ASSOCIATES, INC., 2002

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**Table III.K-3: Draft General Plan Incremental Trip Generation Increase**

| General Plan Areas | New Parking Spaces[a] | Average Weekday Trip Increase | | | Average Weekend Trip Increase | |
|---|---|---|---|---|---|---|
| | | Daily[b] | AM Peak[c] | PM Peak[d] | Daily | Peak Hour[d] |
| Emeryville Lands | 20 | 30 | 1 | 1 | 100 | 6 |
| Brickyard Cove | 200 | 300 | 9 | 12 | 1,000 | 60 |
| North Basin Strip | 350 | 525 | 16 | 21 | 1,750 | 105 |
| Albany Lands | 120 | 180 | 5 | 7 | 600 | 36 |
| South Richmond Shoreline/Pt. Isabel | 60 | 90 | 3 | 4 | 300 | 18 |
| **Total Trip Generation** | **750** | **1,125** | **34** | **45** | **3,750** | **225** |

[a] Parking turnover of 0.75 times per day on weekdays and 2.5 times per day on weekends per Tom Mikkelsen of EBRPD. March 2002.

[b] Daily trips calculated by multiplying the new parking spaces by the parking turnover, then by two to account for inbound and outbound trips.

[c] Peak hour trips estimated at 3 percent of daily trips in the AM peak hour, 4 percent of daily trips in the PM peak hour, and 6 percent of daily trips on the weekend. Derived from the Institute of Transportation Engineers, *Trip Generation*, 6th Edition. Land Use Code 417 – Regional Park.

[d] Weekend peak hour trips are provided for disclosure purposes only, LOS are calculated using weekday peak hour data. It should be noted that the weekend peak hour reflects the peak hour of the traffic generator (i.e., Eastshore Park) and does not necessarily occur during the peak hour of adjacent street traffic.

Source: LSA Associates, Inc.

Although the criteria of significance for intersections operating at unacceptable operations (LOS E or F) refers to the percent increase in the intersection's total delay, this criteria does not adequately address intersections already operating at LOS F in the baseline condition (i.e., without the project). It is generally recognized that the HCM methodology does not accurately characterize delay of an intersection that is operating with over-capacity conditions. Furthermore, in over-capacity situations, the output from the TRAFFIX 7.5 software does not display the seconds of delay, rather, the software simply returns a value of greater than 50 seconds. To quantify the project contribution at the three intersections operating at LOS F, Table III.K-5 shows the percent contribution of project traffic to the total traffic volume at each intersection.

As Table III.K-5 shows, the project will contribute less than 1 percent to the I-80 eastbound and westbound ramps at Gilman Street, and 1.8 percent to the intersection of Frontage Road/University Avenue. As a result, the project impact at these intersections is not considered significant, and no mitigation is required.

**Table III.K-4: Existing Plus Project Level of Service Summary**

| Intersection | Intersection | | AM Peak Hour | | PM Peak Hour | |
|---|---|---|---|---|---|---|
| Intersection | Control | Jurisdiction | LOS | Delay (Sec.) | LOS | Delay (Sec.) |
| 1. Rydin Road /Central Avenue | 4-Way Stop | Richmond | B | 11.7 | B | 14.0 |
| 2. I-80 WB Ramps/Central Avenue | Signal | Richmond | C | 23.3 | C | 23.8 |
| 3. I-80 EB Ramps/Central Avenue | Signal | Richmond | B | 17.2 | C | 21.9 |
| 4. San Pablo Avenue/Central Avenue | Signal | Richmond | C | 25.6 | C | 29.8 |
| 5. San Pablo Avenue/Marin Avenue | Signal | Albany | C | 25.8 | C | 27.0 |
| 6. Frontage Road/Gilman Street | 2-Way Stop | Berkeley | D | 25.1 | C | 25.0 |
| 7. I-80 WB Ramps/Gilman Street | 2-Way Stop | Berkeley | D | 34.8 | **F** | **>50.0** |
| 8. I-80 EB Ramps/Gilman Street | 2-Way Stop | Berkeley | B | 14.2 | **F** | **>50.0** |
| 9. San Pablo Avenue/Gilman Street | Signal | Berkeley | C | 27.6 | C | 25.5 |
| 10. Frontage Road/University Avenue | 4-Way Stop | Berkeley | B | 10.7 | **F** | **>50.0** |
| 11. 6th Street/University Avenue | Signal | Berkeley | C | 26.6 | D | 39.2 |
| 12. San Pablo Avenue/University Avenue | Signal | Berkeley | C | 27.0 | C | 28.6 |
| 13. Frontage Road/Ashby Ramp | 2-Way Stop | Berkeley | C | 16.1 | C | 17.8 |
| 14. Frontage Road/I-80 WB Ramp | 4-Way Stop | Emeryville | B | 12.4 | C | 16.5 |
| 15. San Pablo Avenue/Alcatraz Avenue | Signal | Emeryville | C | 21.6 | B | 19.2 |
| 16. W Frontage Road/Powell Street | Signal | Emeryville | B | 17.7 | C | 20.5 |
| 17. I-80 EB Ramps/Powell Street | Signal | Emeryville | B | 19.2 | C | 30.9 |
| 18. Christie Avenue/Powell Street | Signal | Emeryville | C | 25.1 | C | 32.0 |
| 19. San Pablo Avenue/Stanford Avenue | Signal | Emeryville | C | 25.4 | C | 29.0 |
| 20. San Pablo Avenue/40th Street | Signal | Emeryville | C | 25.4 | C | 27.4 |
| 21. Adeline Street/40th Street | Signal | Emeryville | C | 28.1 | C | 31.6 |

Notes: Sec = Seconds; WB = Westbound; EB = Eastbound; ☐ = Unacceptable LOS.

Source: LSA Associates, Inc., 2002.

**Table III.K-5: Existing Plus Project Percent of Project Traffic at Impacted Intersections**

| Intersection | Total Trips in Baseline | Total Trips With Project | Percent Increase |
|---|---|---|---|
| 7. I-80 WB Ramps/Gilman Street (PM peak) | 1,467 | 1,471 | < 1% |
| 8. I-80 EB Ramps/Gilman Street (PM peak) | 2,207 | 2,211 | < 1% |
| 10. Frontage Road/University Avenue (PM peak) | 1,601 | 1,631 | 1.8 % |

Source: LSA Associates, Inc., 2002.

Daily project trips were added to the Existing ADT on major arterial roadways in the vicinity of the project. Table III.K-6 shows the existing plus project ADT for these locations as well as the V/C ratio for each segment. According to Table III.K-6, all segments of Ashby Avenue, I-80 from south of Powell Street to Buchanan Street, and I-80 north of Central Avenue will continue to operate at over-capacity conditions with the addition of the proposed project. The project will cause the V/C ratio of the segment of I-80 between Powell and Ashby to increase by 0.01, or approximately 1 percent. On all other impacted segments, the project contribution is not measurable. According to the criteria of significance, this would not be considered a significant project-related impact and no mitigation is required.

**(3) Year 2025 Baseline Traffic Volumes and Levels of Service.** In order to determine project impacts to the surrounding circulation system, LSA obtained baseline year 2025 traffic model forecasts for project site intersections and roadway segments from the Alameda County Congestion Management Agency's Countywide Travel Demand Model (model). LSA contracted with Dowling Associates, Inc. to provide the traffic model forecasts. Year 2025 baseline (without the project) traffic volumes are illustrated in Figure III.K-6. LOS were calculated for the Year 2025 baseline scenario and are shown in Table III.K-7. As this table shows, the I-80 westbound and eastbound ramps at Gilman Street, and the intersection of Frontage Road/University Avenue will operate at LOS F in the PM peak hour in the Year 2025 baseline. Additionally, the I-80 westbound ramp at Gilman Street will operate at LOS F during the AM peak hour.

ADT volumes for the Year 2025 baseline scenario on major arterial roadways in the vicinity of the project were examined. Table III.K-8 shows the existing ADT for these locations as well as the V/C ratio for each segment. According to Table III.K-8, all segments of Ashby Avenue, and I-80 from south of Powell Street to Buchanan Street, and I-80 north of Central Avenue are forecast to operate over-capacity in the Year 2025 baseline scenario.

**(4) Year 2025 Baseline Plus Project Traffic Volumes and Levels of Service.** Project Trips generated by the Eastshore Park project, illustrated in Figure III.K-4, were added to the Year 2025 baseline traffic volumes at project site intersections to determine the Year 2025 plus project traffic volumes, illustrated in Figure III.K-7. LOS were calculated for the Year 2025 plus project scenario and are shown in Table III.K-9.

As Table III.K-9 indicates, with the addition of project trips LOS levels were unchanged from the Year 2025 baseline without the project scenario (i.e., the I-80 westbound and eastbound ramps at Gilman Street, the intersection of Frontage Road/University Avenue will continue to operate at LOS F in the PM peak hour and the I-80 westbound ramp at Gilman Street will continue to operate at LOS F during the AM peak hour). All other analyzed intersections are forecast to operate with satisfactory LOS with the addition of the proposed project.

The HCM methodology does not quantify delay estimates of an intersection that is operating with over-capacity conditions. Once in over-capacity conditions, the delay calculations are indicated simply as exceeding the 50 second per vehicle threshold value. To quantify the project contribution at the three intersections operating at LOS F in the Year 2025 plus project scenario, Table III.K-10 shows the percent contribution of project traffic to the total traffic volume at each intersection.

**Table III.K-6: Existing Plus Project Average Daily Traffic and Volume-to-Capacity (V/C) Ratio on Roadway Segments**

| Roadway | Limits | Lanes | Capacity | Existing + Project ADT | V/C Ratio |
|---|---|---|---|---|---|
| Ashby Avenue | East of San Pablo | 4U | 25,000 | 25,042 | 1.00 |
| Ashby Avenue | West of San Pablo | 4U | 25,000 | 25,052 | 1.00 |
| Ashby Avenue | East of I-80 | 4U | 25,000 | 35,052 | 1.40 |
| I-80 | South of Powell | 10 | 210,000 | 282,191 | 1.34 |
| I-80 | Between Powell and Ashby | 10 | 210,000 | 255,191 | 1.22 |
| I-80 | Between Ashby and University | 10 | 210,000 | 253,191 | 1.20 |
| I-80 | Between University and Gilman | 10 | 210,000 | 251,147 | 1.20 |
| I-80 | Between Gilman and Buchanan | 10 | 210,000 | 259,191 | 1.23 |
| I-80 | Between Buchanan and Central | 10 | 210,000 | 178,106 | 0.85 |
| I-80 | North of Central | 6 | 135,000 | 182,106 | 1.35 |
| I-580 | North of Central | 6 | 135,000 | 80,085 | 0.59 |
| San Pablo Avenue | South of Stanford | 4D | 37,500 | 23,927 | 0.63 |
| San Pablo Avenue | Between Stanford and Ashby | 4D | 37,500 | 26,775 | 0.71 |
| San Pablo Avenue | Between Ashby and University | 4D | 37,500 | 23,675 | 0.63 |
| San Pablo Avenue | Between University and Gilman | 4D | 37,500 | 26,670 | 0.71 |
| San Pablo Avenue | Between Gilman and Marin | 4D | 37,500 | 25,170 | 0.67 |
| San Pablo Avenue | Between Marin and Central | 4D | 37,500 | 24,158 | 0.64 |
| San Pablo Avenue | North of Central | 4D | 37,500 | 26,628 | 0.71 |

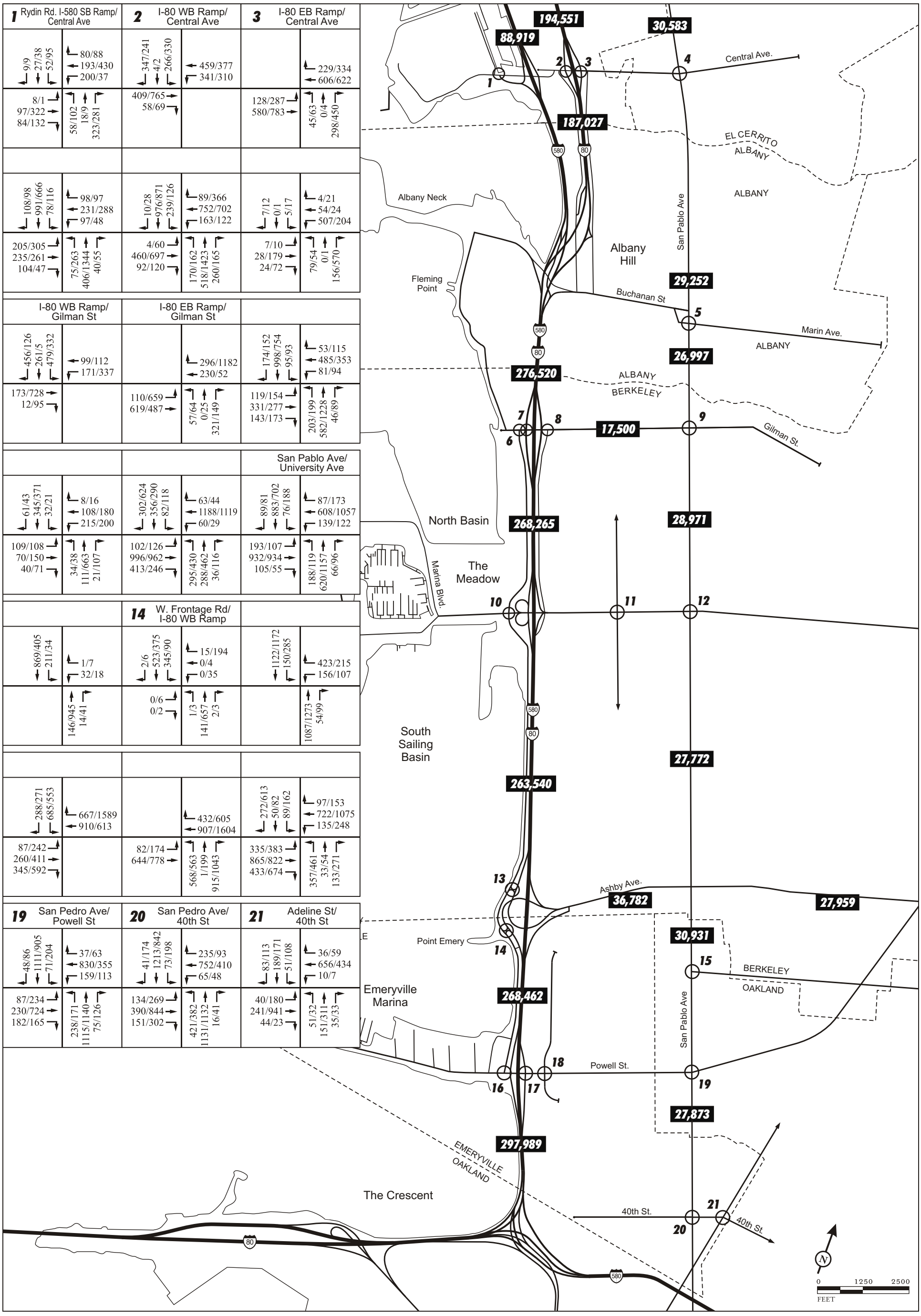
Note: ☐ = Unacceptable LOS.

Source: California Department of Transportation Website (www.dot.ca.gov).

As Table III.K-10 shows, the project will contribute less than 1 percent to the I-80 eastbound and westbound ramps at Gilman Street, and 1.5 percent to the intersection of Frontage Road/University Avenue As a result, the project impact at these intersections is not considered significant, and no mitigation is required.

Daily project trips were added to the Year 2025 baseline ADT on major arterial roadways in the vicinity of the project. Table III.K-11 shows the existing plus project ADT for these locations as well as the V/C ratio for each segment. According to the table, all segments of Ashby Avenue, and I-80 from south of Powell Street to Buchanan Street, and I-80 north of Central Avenue will continue to operate at over-capacity conditions with the addition of the proposed project. The project will cause the V/C ratio of the following roadway segments to increase by 0.01, or approximately 1 percent.

- I-80 between Ashby Avenue and University Avenue.
- San Pablo Avenue south of Stanford Avenue.
- San Pablo Avenue between Stanford Avenue and Ashby Avenue.
- San Pablo Avenue between Ashby Avenue and University Avenue.
- San Pablo Avenue between University Avenue and Gilman Street.




LSA

FIGURE III.K-6

XXX/YYY AM/PM PEAK HOUR TRAFFIC VOLUME

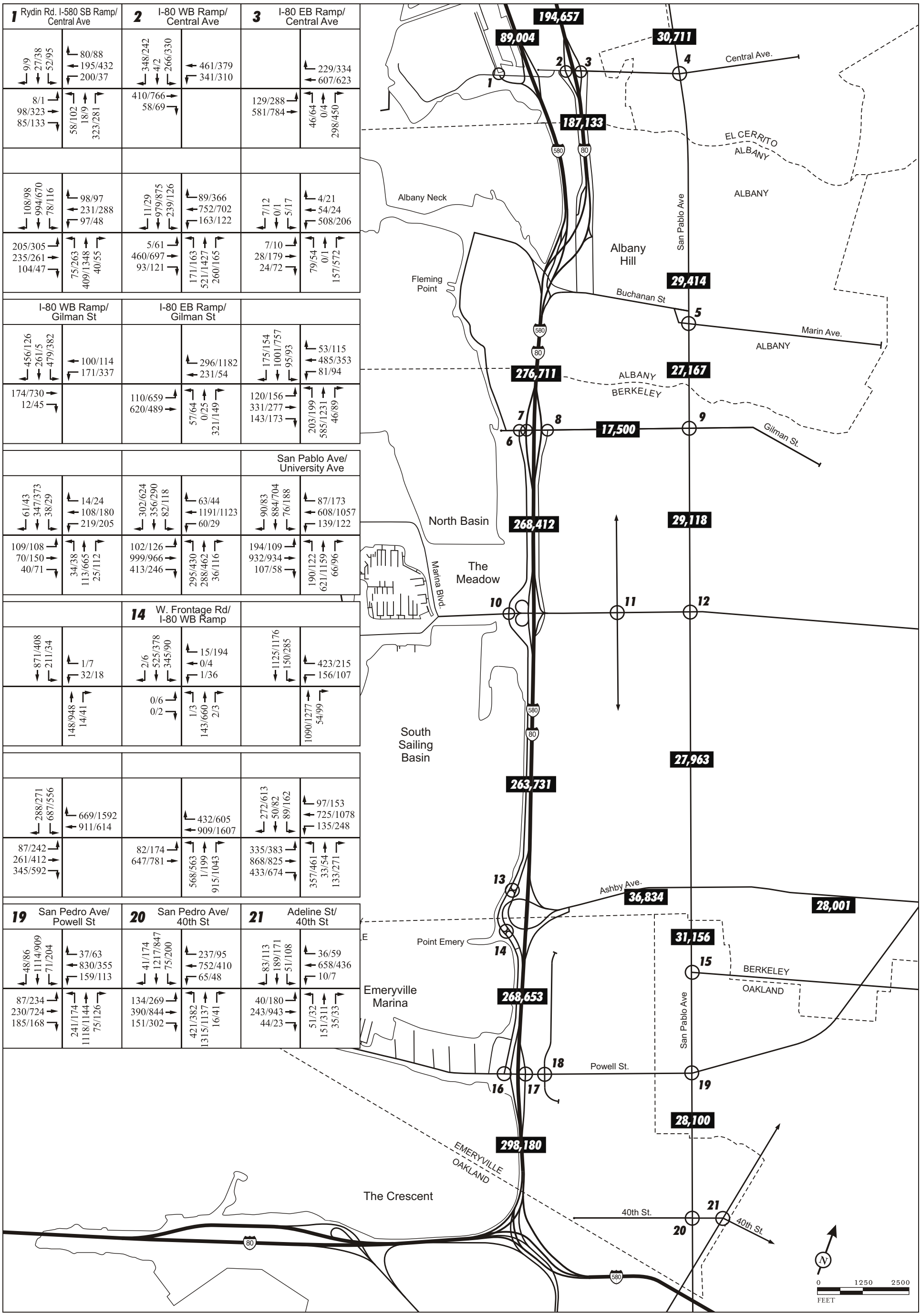
**XXXX** AVERAGE DAILY TRAFFIC VOLUME

*Eastshore Park Project*
*General Plan EIR*

Year 2025 Baseline Peak Hour and Daily Traffic Volumes

SOURCE: LSA ASSOCIATES, INC., 2002

I:\GRAPHICS\JOBS\WRT130 EASTSHORE\FIGURES\FIG_IIIK6.CDR(7/5/02)




LSA

FIGURE III.K-7

XXX/YYY AM/PM PEAK HOUR TRAFFIC VOLUME

**XXXX** AVERAGE DAILY TRAFFIC VOLUME

*Eastshore Park Project*
*General Plan EIR*

Year 2025 Baseline Plus Project Peak Hour and Daily Traffic Volumes

SOURCE: LSA ASSOCIATES, INC., 2002

I:\GRAPHICS\JOBS\WRT130 EASTSHORE\FIGURES\FIG_IIIK7.CDR(7/5/02)

**Table III.K-7: Year 2025 Baseline Level of Service Summary**

| Intersection | Intersection | | AM Peak Hour | | PM Peak Hour | |
|---|---|---|---|---|---|---|
| Intersection | Control | Juris-diction | LOS | Delay (Sec.) | LOS | Delay (Sec.) |
| 1. Rydin Road /Central Avenue | 4-Way Stop | Richmond | B | 12.3 | C | 16.3 |
| 2. I-80 WB Ramps/Central Avenue | Signal | Richmond | C | 22.9 | C | 24.1 |
| 3. I-80 EB Ramps/Central Avenue | Signal | Richmond | B | 17.6 | C | 24.0 |
| 4. San Pablo Avenue/Central Avenue | Signal | Richmond | C | 26.3 | C | 29.7 |
| 5. San Pablo Avenue/Marin Avenue | Signal | Albany | C | 28.2 | C | 32.4 |
| 6. Frontage Road./Gilman Street | 2-Way Stop | Berkeley | E | 48.4 | E | 46.3 |
| 7. I-80 WB Ramps/Gilman Street | 2-Way Stop | Berkeley | **F** | **> 50** | **F** | **> 50.0** |
| 8. I-80 EB Ramps/Gilman Street | 2-Way Stop | Berkeley | C | 16.2 | **F** | **> 50.0** |
| 9. San Pablo Avenue/Gilman Street | Signal | Berkeley | C | 29.3 | C | 28.3 |
| 10. Frontage Road./University Avenue | 4-Way Stop | Berkeley | B | 13.1 | **F** | **> 50** |
| 11. 6th Street/University Avenue | Signal | Berkeley | C | 28.4 | D | 49.3 |
| 12. San Pablo Avenue/University Avenue | Signal | Berkeley | C | 31.0 | C | 34.0 |
| 13. Frontage Road./Ashby Ramp | 2-Way Stop | Berkeley | C | 22.4 | C | 24.2 |
| 14. Frontage Road./I-80 WB Ramp | 4-Way Stop | Emeryville | B | 14.0 | D | 34.8 |
| 15. San Pablo Avenue/Alcatraz Avenue | Signal | Emeryville | C | 23.8 | B | 18.5 |
| 16. W Frontage Road./Powell Street | Signal | Emeryville | B | 17.6 | C | 20.4 |
| 17. I-80 EB Ramps/Powell Street | Signal | Emeryville | C | 22.0 | D | 41.6 |
| 18. Christie Avenue/Powell Street | Signal | Emeryville | C | 26.6 | D | 36.5 |
| 19. San Pablo Avenue/Stanford Avenue | Signal | Emeryville | C | 28.5 | C | 32.0 |
| 20. San Pablo Avenue/40th Street | Signal | Emeryville | C | 31.7 | C | 33.1 |
| 21. Adeline Street/40th Street | Signal | Emeryville | C | 28.8 | C | 34.9 |

Notes: Sec. = Seconds; WB = Westbound; EB = Eastbound; ▢ = Unacceptable LOS.

Source: LSA Associates, Inc., 2002.

**Table III.K-8: Year 2025 Baseline Plus Project Percent of Project Traffic at Impacted Intersections**

| Intersection | Total Trips in Baseline | Total Trips with Project | Percent Increase |
|---|---|---|---|
| 7. I-80 WB Ramps/Gilman Street (PM peak) | 1,735 | 1,739 | < 1% |
| 7. I-80 WB Ramps/Gilman Street (AM peak) | 1,651 | 1,653 | < 1% |
| 8. I-80 EB Ramps/Gilman Street (PM peak) | 2,618 | 2,622 | < 1% |
| 10. Frontage Road/University Avenue (PM peak) | 1,968 | 1,998 | 1.5 % |

Notes: WB = Westbound; EB = Eastbound.

Source: LSA Associates, Inc.

**Table III.K-9: Year 2025 Baseline Average Daily Traffic (ADT) and Volume-to-Capacity (V/C) Ratio On Roadway Segments**

| Roadway | Limits | Lanes | Capacity | Year 2025 ADT | V/C Ratio |
|---|---|---|---|---|---|
| Ashby Avenue | East of San Pablo | 4U | 25,000 | 27,959 | 1.12 |
| Ashby Avenue | West of San Pablo | 4U | 25,000 | 26,929 | 1.08 |
| Ashby Avenue | East of I-80 | 4U | 25,000 | 36,782 | 1.47 |
| I-80 | South of Powell | 10 | 210,000 | 297,989 | 1.42 |
| *I-80 | Between Powell and Ashby | 10 | 210,000 | 268,462 | 1.28 |
| I-80 | Between Ashby and University | 10 | 210,000 | 263,540 | 1.25 |
| I-80 | Between University and Gilman | 10 | 210,000 | 268,265 | 1.28 |
| I-80 | Between Gilman and Buchanan | 10 | 210,000 | 276,520 | 1.32 |
| I-80 | Between Buchanan and Central | 10 | 210,000 | 187,027 | 0.89 |
| I-80 | North of Central | 6 | 135,000 | 194,551 | 1.44 |
| I-580 | North of Central | 6 | 135,000 | 88,919 | 0.66 |
| San Pablo Avenue | South of Stanford | 4D | 37,500 | 27,873 | 0.74 |
| San Pablo Avenue | Between Stanford and Ashby | 4D | 37,500 | 30,931 | 0.82 |
| San Pablo Avenue | Between Ashby and University | 4D | 37,500 | 27,772 | 0.74 |
| San Pablo Avenue | Between University and Gilman | 4D | 37,500 | 28,971 | 0.77 |
| San Pablo Avenue | Between Gilman and Marin | 4D | 37,500 | 26,997 | 0.72 |
| San Pablo Avenue | Between Marin and Central | 4D | 37,500 | 29,256 | 0.78 |
| San Pablo Avenue | North of Central | 4D | 37,500 | 30,583 | 0.82 |

Note: ☐ = Unacceptable LOS.

Source: Alameda County Congestion Management Agency Countywide Travel Demand Model

According to the criteria of significance, a 1 percent contribution would not be considered a significant project-related impact and no mitigation measures are necessary.

**(5) Emergency Access.** The *Draft General Plan* would not alter existing emergency access to, through, and in the vicinity of the project site; and, therefore, no significant impacts would result.

**(6) Parking.** Demand for parking at shoreline recreation areas, such as the Eastshore Park, vary seasonally, and are be subject to large deviations in parking demand. During winter months, when fewer visitors are expected, the demand for parking may never meet the supply. However, during the summer, demand for parking may regularly exceed the supply, regardless of how many spaces are provided. As a recreational trip is discretionary and not a mandatory trip for visitors to the park, if parking is not available, motorists could seek alternative recreational opportunities. A state of equilibrium may be created that is reflective of the total available parking supply within the vicinity of the project site and the turnover of vehicles throughout the day. With adequate enforcement of applicable laws, significant environmental impacts associated with parking are not anticipated.

**Table III.K-10: Year 2025 Plus Project Level of Service Summary**

| | Intersection | | AM Peak Hour | | PM Peak Hour | |
|---|---|---|---|---|---|---|
| Intersection | Control | Jurisdiction | LOS | Delay (Sec.) | LOS | Delay (Sec.) |
| 1. Rydin Road /Central Avenue | 4-Way Stop | Richmond | B | 12.3 | C | 16.4 |
| 2. I-80 WB Ramps/Central Avenue | Signal | Richmond | C | 22.9 | C | 24.1 |
| 3. I-80 EB Ramps/Central Avenue | Signal | Richmond | B | 17.6 | C | 24.0 |
| 4. San Pablo Avenue/Central Avenue | Signal | Richmond | C | 26.2 | C | 29.7 |
| 5. San Pablo Avenue/Marin Avenue | Signal | Albany | C | 28.3 | C | 32.5 |
| 6. Frontage Road./Gilman Street | 2-Way Stop | Berkeley | E | 48.9 | E | 47.1 |
| 7. I-80 WB Ramps/Gilman Street | 2-Way Stop | Berkeley | **F** | **> 50** | **F** | **> 50.0** |
| 8. I-80 EB Ramps/Gilman Street | 2-Way Stop | Berkeley | C | 16.2 | **F** | **> 50.0** |
| 9. San Pablo Avenue/Gilman Street | Signal | Berkeley | C | 29.4 | C | 28.4 |
| 10. Frontage Road./University Avenue | 4-Way Stop | Berkeley | B | 13.3 | **F** | **> 50.0** |
| 11. 6th Street/University Avenue | Signal | Berkeley | C | 28.4 | D | 49.5 |
| 12. San Pablo Avenue/University Avenue | Signal | Berkeley | C | 31.1 | C | 34.2 |
| 13. Frontage Road./Ashby Ramp | 2-Way Stop | Berkeley | C | 22.5 | C | 24.3 |
| 14. Frontage Road./I-80 WB Ramp | 4-Way Stop | Emeryville | B | 14.0 | D | 35.7 |
| 15. San Pablo Avenue/Alcatraz Avenue | Signal | Emeryville | C | 23.8 | B | 18.5 |
| 16. W Frontage Road./Powell Street | Signal | Emeryville | B | 17.6 | C | 20.4 |
| 17. I-80 EB Ramps/Powell Street | Signal | Emeryville | C | 22.0 | D | 41.7 |
| 18. Christie Avenue/Powell Street | Signal | Emeryville | C | 26.5 | D | 36.5 |
| 19. San Pablo Avenue/Stanford Avenue | Signal | Emeryville | C | 28.6 | C | 32.1 |
| 20. San Pablo Avenue/40th Street | Signal | Emeryville | C | 31.8 | C | 33.2 |
| 21. Adeline Street/40th Street | Signal | Emeryville | C | 28.8 | C | 35.0 |

Notes: Sec. = Seconds; WB = Westbound; EB = Eastbound; ☐ = Unacceptable LOS.

Source: LSA Associates, Inc.

**(7) Alternative Transportation/Transit**. The *Draft General Plan* contains the following guidelines that support alternative transportation and transit: CIRC-12, CIRC-13, CIRC-14, CIRC-15, and CIRC-16. These policies are included in Appendix B of this document. These policies create a framework for the provision of many alternate modes of transportation, including pedestrian, bicycle, bus, and boat, both within and to/from the park. The policies contained in the *Draft General Plan* will enhance adopted policies, plans, and programs that support alternative transportation. No adverse impacts to alternative transportation and transit would result from implementation of the *Draft General Plan*.

**c. Significant Transportation/Circulation Impacts**. Implementation of the *Draft General Plan* would not result in significant transportation and circulation impacts at the program-level of analysis.

**Table III.K-11: Year 2025 Plus Project Average Daily Traffic (ADT) and Volume-to-Capacity (V/C) Ratio On Roadway Segments**

| Roadway | Limits | Lanes | Capacity | Year 2025 + Project ADT | V/C Ratio |
|---|---|---|---|---|---|
| Ashby Avenue | East of San Pablo | 4U | 25,000 | 28,001 | 1.12 |
| Ashby Avenue | West of San Pablo | 4U | 25,000 | 26,981 | 1.08 |
| Ashby Avenue | East of I-80 | 4U | 25,000 | 36,834 | 1.47 |
| I-80 | South of Powell | 10 | 210,000 | 298,180 | 1.42 |
| I-80 | Between Powell and Ashby | 10 | 210,000 | 268,653 | 1.28 |
| I-80 | Between Ashby and University | 10 | 210,000 | 263,731 | 1.26 |
| I-80 | Between University and Gilman | 10 | 210,000 | 268,412 | 1.28 |
| I-80 | Between Gilman and Buchanan | 10 | 210,000 | 276,711 | 1.32 |
| I-80 | Between Buchanan and Central | 10 | 210,000 | 187,133 | 0.89 |
| I-80 | North of Central | 6 | 135,000 | 194,657 | 1.44 |
| I-580 | North of Central | 6 | 135,000 | 89,004 | 0.66 |
| San Pablo Avenue | South of Stanford | 4D | 37,500 | 28,100 | 0.75 |
| San Pablo Avenue | Between Stanford and Ashby | 4D | 37,500 | 31,156 | 0.83 |
| San Pablo Avenue | Between Ashby and University | 4D | 37,500 | 27,963 | 0.75 |
| San Pablo Avenue | Between University and Gilman | 4D | 37,500 | 29,118 | 0.78 |
| San Pablo Avenue | Between Gilman and Marin | 4D | 37,500 | 27,167 | 0.72 |
| San Pablo Avenue | Between Marin and Central | 4D | 37,500 | 29,414 | 0.78 |
| San Pablo Avenue | North of Central | 4D | 37,500 | 30,711 | 0.82 |

Note: ☐ = Unacceptable LOS.

Source: LSA Associates, Inc., 2002.

# L. UTILITIES

This section describes the water, wastewater, energy, telephone, and solid waste disposal systems that serve the project site, summarizing information contained in the *Eastshore Park Project Resource Inventory* (*Resource Inventory*). Potential impacts resulting from buildout of the proposed project on these facilities are identified, and specific mitigation measures are recommended, as necessary. A description of the existing stormwater system that serves the project site and an analysis of storm-water-related impacts associated with the proposed project are found in Section IV.G, Hydrology and Water Quality.

## 1. Setting

The following discussion summarizes the information found in the Utilities and Public Services section of the *Resource Inventory* regarding utility systems in and around the project site.[1] The project site is adjacent to developed areas within each of the five cities in which it is located and would receive utility service via connections to the existing utility infrastructure.

**a. Water Supply System.** The East Bay Municipal Utility District (EBMUD) supplies water to the project site.

**(1) Water Supply.** EBMUD currently obtains its water from the Mokelumne River watershed. The total amount of EBMUD water entitlements by source is: 325 million gallons a day (MGD) from the Mokelumne River, up to 10 MGD from the terminal reservoirs, and 134 MGD from the contract with the U.S. Bureau of Reclamation. The dependable supply from current sources and facilities, allowing for a 25 percent rationing during droughts, is less than 200 MGD.[2]

EBMUD faces three major water supply problems: the growing risk of aqueduct failure in the Delta, increasing shortages during dry periods, and increased difficulty in maintaining high quality drinking water. In response, EBMUD has developed a Water Supply Management Program comprised of supplemental water supply, water banking, water conservation and recycling, and watershed improvements, to help accommodate existing and future demand within EBMUD's ultimate service boundary.[3] Recycled water has been identified as a key supplemental water supply.

As of Spring 2001, EBMUD provided 6 MGD of recycled water and plans to provide an additional 8 MGD by the Year 2020, for a total service amount of 14 MGD of recycled water. Recycled water can be used in toilets and for irrigation. Water reuse zones have been identified near treatment facilities that produce recycled water. The Eastshore Park project site could utilize recycled water from EBMUD treatment facilities in Oakland as part of the East Bayshore Recycled Water Project. That project would provide up to 4.2 MGD of recycled water from EBMUD treatment facilities to Oakland, Berkeley, Albany, Emeryville, and the City of Alameda.[4] About 80 to 90 percent of the

[1] The *Resource Inventory* is a public document that is available on the Eastshore Park project website at www.eastshorestatepark.org.

[2] Kirkpatrick, William, 1999. Manager of Water Distribution Planning, EBMUD. Letter to Andrew Thomas of the City of Berkeley. May.

[3] Ibid.

[4] Bonnarens, Maura, 2002. EBMUD. Personal communication with LSA Associates, Inc. March 1.

current recycled water usage is for landscape irrigation. Facilities, pipelines, and other support systems for the delivery of recycled water to consumers are currently in the planning phases.[5]

EBMUD's Non-Potable Water Policy 73 (Policy 73) serves to increase the utilization of recycled water. Policy 73 requires that, when non-potable water is available, customers of EBMUD use non-potable water for non-domestic purposes when it is of adequate quality and quantity, available at reasonable cost, not detrimental to public health, and not injurious to plant life, fish, and wildlife. When non-potable water satisfying these conditions is made available to the customer, the use of potable water for non-domestic purposes may constitute a waste and unreasonable use of water and is prohibited. This policy was written in order to help ensure the continuation of water services should EBMUD experience shortages or demand that could not be satisfied by existing potable water sources, as could occur during a drought. EBMUD monitors the enforcement of this policy and fulfillment of its requirements. Customer participation rates for recycled water programs have generally been high.[6]

Senate Bill 2095 (SB 2095), which was signed into law in August 2000 and went into effect January 1, 2001, requires local agencies to adopt a recycled water ordinance within 180 days of notification from a local entity that produces recycled water (such as EBMUD).

**(2) Water Lines.** Existing EBMUD water lines are concentrated in the developed areas of the project site (see Figure U-1 of the *Resource Inventory*). The low elevation of the project site accounts for the substantial water pressure that is available in the vicinity of the project site and would aid in conveyance of water supply. The following describes existing water supply lines moving from south to north through the project site.

A 4-inch main line runs east from the City of Oakland border to the Bay Bridge toll plaza. This line could supply water to areas located north or south of the Bay Bridge, such as Radio Point Beach or areas west of the Emeryville Crescent. Two 12-inch main pipelines run west of I-80/I-580 along 59th Street and Powell Street. These lines serve the Emeryville City Marina, the Emery Cove Marina, the Marina Park, the Davenport Mini Park, and several apartments and restaurants. There are no existing water lines within the Berkeley Aquatic Park and west of I-80/I-580 between University Avenue and 59th Street. A 12-inch pipeline crosses I-80/I-580 at Hearst Avenue and runs along West Frontage Road until it diverts into an 8-inch pipe along University Avenue. This pipe serves the Berkeley Marina, Cesar Chavez Park, Horseshoe Park, Shorebird Park, an interpretive center, several restaurants, and a hotel. A 12-inch pipeline is located north of Hearst Avenue and crosses I-80/I-580 (I-80/I-580) into the project site at Gilman Street. This line was upgraded in 1954 and serves Golden Gate Fields. A water line crosses I-80/I-580 at the Buchanan Street Extension and serves Golden Gate Fields. Any potential proposed park facilities for Albany Point, Albany Bulb, Albany Neck, Albany Plateau, and the Albany Beach could be served through connections with the existing pipelines used by Golden Gate Fields. There are no existing pipelines within the project site between Golden Gate Fields in Albany and Central Avenue in Richmond. Water supply to the Pt. Isabel area, including Pt. Isabel Regional Shoreline, a U.S. Postal Service facility, and Costco, is supplied by two 12-inch pipelines along Central Avenue. These pipelines connect at Rydin Road and divert into two

[5] Ibid.

[6] Harris, Richard, 1999. Water Conservation Division, EBMUD. Personal communication with LSA Associates, Inc. July.

directions: one 8-inch pipe traverses north along Rydin Road and one 8-inch pipe traverses west along Central Avenue and continues north-west along Isabel Street. The area north of Pt. Isabel comprises the Meeker Slough, South Richmond Marshes, and Hoffman Marsh. The closest water lines are 8-inch water pipes along Rydin Road and pipes within the adjacent residential areas near Meade Street and South 32nd Street. The Marina Bay area of Richmond is served by several 8- and 12-inch mains along Esplanade Drive, Marina Way South, and along other streets in the surrounding residential areas.

**b. Wastewater/Sanitary Sewer System.** EBMUD treats most wastewater generated from the project site. Individual municipalities are responsible for construction and maintenance of wastewater collection and distribution pipes.

**(1) EBMUD Wastewater Treatment Plant Capacity.** Currently, the Main Wastewater Treatment Plant (MWWTP), located in Oakland near the entrance to the San Francisco Bay Bridge, provides secondary treatment for a maximum flow of 168 million gallons per day (MGD). Primary treatment can be provided for up to 320 MGD. Storage basins provide plant capacity for a short-term hydraulic peak of 415 MGD. The average annual flow, as of February 2002, is 80 MGD.[7]

**(2) Sanitary Sewer Collection System.** The following discussion of the sanitary sewer collection system that would serve the project site is organized by municipality.

*Oakland.* The City of Oakland, Caltrans, and the Oakland Base Reuse Authority manage the sanitary sewer service in the project site area within Oakland. The Oakland Army Base has sewer lines located near the proposed Gateway Park. The Oakland Base Reuse Authority manages these lines. Facilities for the proposed Gateway Park would most likely connect to either the Army Base sewer lines to the east or the Caltrans properties to the north.[8]

Radio Point Beach and the areas north of the Bay Bridge toll plaza are managed by Caltrans. Currently, no existing wastewater outfall structures or facilities are located in this area. The only existing wastewater facilities, if any, would be localized and would not connect to a wastewater treatment plant.[9]

The City of Oakland serves the portion of the Emeryville Crescent within Oakland, east of the Caltrans property. No sanitary sewer lines are present in this part of the Emeryville Crescent.

*Emeryville.* The City of Emeryville provides sanitary sewer service to the portion of the project site within Emeryville. The City operates and maintains a system of lines, some of which are located within the Powell Street and West Frontage Road rights-of-way. Existing sanitary sewer infrastructure includes a 16-inch line that runs along the north side of Powell Street. The sewer line discharges to an interceptor sewer located along the eastern shore of the Bay, which connects to the EBMUD

[7] East Bay Municipal Utility District, 2002. Website: www.ebmud.com. February 25.

[8] Caswell, Roger, 2001. Base Realignment and Closure Environmental Coordinator, Oakland Army Base. Personal communication with LSA Associates, Inc. March.

[9] Siauw, Jack, 2001. Project Engineer, Caltrans. Personal communication with LSA Associates, Inc. April 2.

MWWTP located approximately 1 mile south of Emeryville. The existing line has capacity to accommodate additional facilities that are typical of regional shoreline parks (e.g., interpretive center, showers, and restroom facilities).

There are no existing sanitary sewer facilities that serve the project site along West Frontage Road or Point Emery Park.

*Berkeley.* The City of Berkeley provides sanitary sewer service to the project site within Berkeley. The City operates and maintains a system of sewer lines, located in the University Avenue and Marina Boulevard rights-of-way, that serves all of the development at the Berkeley Marina including several restaurants, a hotel, a yacht club, and public restroom facilities. The existing lines would have sufficient capacity to accommodate additional facilities that are typical of regional shoreline parks. The City also operates and maintains five pumping stations that serve the Marina area. Four primary pumping stations and the sewer main on Marina Boulevard terminate at a fifth main pumping station located near the intersection of Marina Boulevard and University Avenue. These lines discharge into an interceptor sewer located along the eastern shore of the Bay, which connects to the EBMUD MWWTP to the south.[10]

*Albany.* There are currently no facilities requiring wastewater service at Albany Point, Albany Bulb, Albany Neck, Albany Plateau, Albany Beach, or along the Buchanan Street extension. New facilities proposed for the area could be connected to the existing wastewater facilities that serve Golden Gate Fields, which has its own dedicated wastewater sewer line that runs beneath I-80/I-580 from the stable area to Berkeley.[11] The existing lines would have sufficient capacity to accommodate additional facilities that are typical of regional shoreline parks.[12]

*Richmond.* The City of Richmond and Stege Sanitary District provide wastewater collection services to portions of the project site within the City of Richmond and the Richmond Annex. The City of Richmond serves areas adjacent to the Marina Bay Marina, Meeker Slough, South Richmond Marshes, and the northern section of Hoffman Marsh (see Figure U-2 of the *Resource Inventory*). The portion of the project site which includes the southern section of Hoffman Marsh and a Bay-front wetland area southwest of Central Avenue, is part of the Richmond Annex, and is served by Stege Sanitary District.

The Stege Sanitary District operates and maintains a system of lines west of I-580. Existing wastewater infrastructure includes a line that runs from east to west along Central Avenue. The wastewater line branches to the north and west at an EBMUD junction box, which carries the water to EBMUD's MWWTP in Oakland. To the west, the line ranges between 6 to 15 inches and connects with Isabel Street and portions of Pt. Isabel Regional Shoreline. The lines currently serve several major developments such as Costco and a U.S. Postal Service facility. To the north, a 48-inch line

[10] Yee, Henry, 2001. City of Berkeley Engineering Department. Personal communication with LSA Associates, Inc. March.

[11] Rainey, Calvin, 2001. Assistant General Manager, Golden Gate Fields. Personal communication with LSA Associates, Inc. April.

[12] Pinto, Erin, 2001. Associate Engineer, City of Albany. Personal communication with LSA Associates, Inc. March.

runs parallel to Rydin Road and north to east along the eastern border of Hoffman Marsh. The existing lines would have capacity to accommodate additional facilities such as restrooms.[13]

There are no wastewater lines in the marshland between South 51st Street and Rydin Road. The pump station and existing sanitary system would have the capacity to serve additional park facilities, such as restrooms and interpretive centers.[14]

The City of Richmond also provides wastewater collection services to Marina Bay Park, "Rosie the Riveter" National Historical Park, Jay and Barbara Vincent Park, Shimada Friendship Park, the proposed Lucretia Edwards Shoreline Park, Meeker Slough, the South Richmond Marshes, and the northern section of the Hoffman Marsh. Wastewater treatment ponds that eventually flow into the City's sewer system are located at the Zeneca property west of I-580 in an area along Meade Street. The University of California Field Station owns land and open space areas south of Meade Street, between Regatta and South 49th Streets. The field station operates its own pilot wastewater treatment facilities. A sanitary sewer line runs just north of Meeker Slough and the South Richmond Marshes. A City-operated pump station and sanitary sewer system serves the residential areas west of Meeker Slough and adjacent to the Marina Bay Marina.

**c. Energy.** The Pacific Gas and Electric Company (PG&E) provides electricity and natural gas to the project area (see Figure U-4 of the *Resource Inventory*).

In the portion of the project site located within the City of Oakland, existing power lines are present near the radio towers north of the Bay Bridge. There are no existing power lines along the Bay side of West Frontage Road.

Power lines within Emeryville city limits exist along Powell Street, within the Emeryville Marina area, and at 64th and 65th Streets.

Existing energy service points within the vicinity of the project site in the City of Berkeley are located along West Frontage Road, University Avenue, and Marina Boulevard. A natural gas service point is located on the opposite side of I-80/I-580 from Harrison Street. The electricity service point for Golden Gate Fields crosses west of I-80/I-580 at Gilman Street. An overhead primary electricity line runs parallel along West Frontage Road between Gilman Street and University Avenue. A 1200-volt underground primary electricity line and gas line run along University Avenue and Marina Boulevard, serving the Berkeley Marina. There are no existing electricity or natural gas lines west of I-80/I-580 between University Avenue and the Berkeley-Emeryville city limits.

The project site within the City of Albany has no existing electricity or natural gas service points. Energy connections serving Golden Gate Fields are located within the City of Berkeley.

Within the City of Richmond portion of the project site, electricity and natural gas connections exist along the residential areas around the Marina Bay marina and the industrial areas along Regatta

[13] Delizo, Rex, 2001. Engineer, Stege Sanitary District. Personal communication with LSA Associates, Inc. March.

[14] Linsley, Steve, 2001. Supervisor, City of Richmond Wastewater Laboratory. Personal communication with LSA Associates, Inc. April.

Boulevard, Meade Street, Rydin Road, and Central Avenue. There are no electricity or gas lines in the marshland west of I-580 between Crystal Cove Court and Rydin Road or south of Central Avenue to the Richmond-Albany city limit.

According to PG&E engineering staff, no capacity or service issues for typical park facilities are foreseen within the five municipalities serving the project site.[15,16] Providing service and extending lines to any proposed buildings would require six months to complete. Costs for providing power lines to areas of the project site with no existing service points (such as the Bay-front area west of West Frontage Road between University Avenue and the Berkeley-Emeryville city limits) would be higher than conventional pole-mounted facilities because power lines would have to be built under I-80/I-580.[17]

**d. Telephone Service.** Pacific Bell provides telephone line network services to the project site and surrounding vicinity. Telephone service lines exist in the general vicinity but not in all portions of the project site. A franchise agreement between Pacific Bell and the State of California requires that Pacific Bell provide service to all new developments within the franchise area. Therefore, service to the project site could be extended if facilities requiring telephone services are proposed.

**e. Solid Waste.** Solid waste within portions of the project site that are under the jurisdiction of EBRPD is collected by EBRPD staff and taken to a transfer site at Miller Knox Regional Shoreline. Waste at Miller Knox Regional Shoreline is then collected by Richmond Sanitary Service and transported to the West Contra Costa County Landfill.[18] West Contra Costa County Landfill is designated for closure in the spring or summer of 2003.[19] The facility was intended for closure in 2000, but because it is built on a substrate of compressible Bay mud, its capacity expanded slightly over time, and the landfill was able to accommodate more waste than expected. The landfill, located at Parr Boulevard in the City of Richmond, is a Class II (collection of industrial wastes) landfill with Class III (garbage and demolition wastes) designated waste impoundments. Currently the facility accepts only Class III waste products, including garbage, construction and demolition waste products. The landfill receives about 700 tons of refuse per day. The total capacity of the permitted facility is approximately 18 million cubic yards.

Upon the closure of the West County Landfill, all refuse from the project area will be collected and delivered to a transfer station which will be located at the Integrated Resource Recovery Facility located at 101 Pittsburg Avenue in the unincorporated area of North Richmond. The refuse will then be transported from the transfer station to the Potrero Landfill in Fairfield.[20] The Potrero Landfill has

[15] Chew, Rodney, 2001. Engineer, PG&E. Personal communication with LSA Associates, Inc. March.

[16] Harrison, Dave, 2001. Business Representative, PG&E. Personal communication with LSA Associates, Inc. April.

[17] Ibid.

[18] Dawson, Ray, 2002. East Bay Regional Park District. Personal communication with LSA Associates, Inc. March.

[19] Birch, Larry, 2002. Richmond Sanitary Service. Personal communication with LSA Associates, Inc. January 8.

[20] Ibid.

an 11 year permitted capacity, but has room for 46 years of waste production.[21] The West County Landfill, upon closure, would remain a transfer station and would provide composting, concrete crushing and soil remediation facilities.

Richmond Sanitary Service also provides pick-up service for recyclables at Miller Knox Regional Shoreline. The following materials are recycled: steel, tin and aluminum cans, newsprint, cardboard, #1 and #2 plastic containers and glass bottles. The materials for recycling are taken to the Integrated Resource and Recovery Facility. Richmond Sanitary Service provides construction waste pick-up from construction sites, provided that the construction materials are separated from other types of waste products.

## 2. Impacts and Mitigation Measures

The following section presents a discussion of the impacts related to utilities and infrastructure resulting from implementation of the proposed project. The section begins with the criteria of significance, which establish the thresholds to determine whether an impact is significant. The latter part of this section presents the impacts associated with the proposed project and mitigation measures, as necessary.

**a. Criteria of Significance.** The *Draft General Plan* would have a significant effect on utilities and infrastructure if it would:

- Exceed wastewater treatment requirements of the Regional Water Quality Control Board (RWQCB).
- Require the extension or substantial reconstruction of major water and wastewater lines to serve new development;
- Create substantial demand for water beyond the existing or planned local water supply, requiring additional water storage capacity;
- Generate wastewater flows that would exceed the existing or planned wastewater treatment, storage and disposal capacity of the local wastewater treatment plant;
- Result in a substantial decrease in remaining available space at a landfill; or
- Interfere with the accomplishment of waste diversion goals mandated by the California Integrated Waste Management Act.

**b. Less-than-Significant Impacts to Utilities and Infrastructure.** Less-than-significant impacts to utilities and infrastructure are discussed below. Appendix B of this EIR contains a compendium of all *Draft General Plan* guidelines.

**(1) Water Supply.** Implementation of the proposed project could increase overall demand for water potentially beyond the ability of East Bay Municipal Utility District (EBMUD) to supply potable and recycled water services. Implementation of the *Draft General Plan* would result in the development of approximately 122 acres of land designated for recreational uses, all of which would require at least temporary irrigation to sustain turf and associated landscaping. (The *Draft General*

[21] Ibid.

*Plan* also proposes the development of 138 acres of conservation and preservation land; however, these areas are intended for low-intensity uses and probably would not require sustained irrigation.) In addition, the *Draft General Plan* proposes the construction of a variety of facilities, ranging from restrooms to a youth hostel, that would require water service.

At the program level of analysis, there is not sufficient information to determine whether proposed *Draft General Plan* development could be supplied with recycled water in a cost-effective way.[22]

The *Draft General Plan* incorporates guidelines that would avoid or reduce to a less-than-significant level potential impacts related to water supply by:

1. Requiring the development of a Visitor Capacity Management Program (see guideline CAPACITY-1) and Specific Project Plans (see guidelines VISIT-1, OPER-1) that would include plans for the provision of utilities including water and/or recycled water to serve proposed development.

2. Requiring environmental review and the identification of potential negative impacts associated with site-specific development projects, management plans, and Specific Project Plans for the implementation of the *Draft General Plan* in accordance with the California Environmental Quality Act (CEQA) (see guidelines OPER-2, CAPACITY-2, HYDRO-6).

3. Requiring preparation of a Maintenance Plan to guide maintenance and operations procedures and practices to allow for coordination of monitoring and implementation of operational activities such as irrigation (see guideline OPER-4).

4. Requiring coordination with local municipalities and service providers to provide a unified delivery of services (see guideline COMM-2).

5. Requiring the use of California native species, to the degree practical, in all landscaped plantings (see guidelines AESTH-4 and OPER-17). The California native species endemic to the East Bay shoreline generally have low-water needs and using them will minimize the need for landscape irrigation.

**(1) Water Delivery System.** The *Draft General Plan* proposes to develop a number of facilities and structures that would require water service. According to an EBMUD representative, the water lines within the project site have sufficient carrying capacity to supply water to proposed park-related uses.[23] Although water line extensions would be built to serve the project site, these extensions would not be considered "major" lines because they would be connected to existing water supply infrastructure. Consistent with standard EBMUD requirements, the project applicant would be responsible for the construction of these additions. Because these improvements would be made as additions to existing water supply infrastructure, they would constitute a less-than-significant impact.

[22] Bonnarens, Maura. EBMUD. Personal communication with LSA Associates, Inc. May 1.

[23] McGowen, op. cit.

The areas designated for recreation uses in the *Draft General Plan* would require irrigation for landscaping establishment and turf maintenance. Areas designated for recreation uses are proposed for the Berkeley Brickyard, North Basin Strip, Albany Plateau, Pt. Isabel, and North Pt. Isabel. Structures proposed in the *Draft General Plan* that would require water service would be located in the vicinity of these recreational areas.

The informal turf area, park operations facility/visitors center, restroom facilities and concessions facilities that would be located in the Berkeley Brickyard could be served by a pipeline extension from an existing water line that runs along Frontage Road and University Avenue.

The informal turf area, restroom facilities, concessions facilities, interpretation center, 20 to 40-bed hostel, and boathouse and recreation concession that could be located in the North Basin Strip could be served by an existing water line that runs north of Hearst Avenue.

The informal turf areas, sports fields, and concession services building that would be located at Albany Plateau and Beach could be served by water lines that currently serve Golden Gate Fields.

The turf area, restroom, dogwashing concession and coffee bar proposed for Pt. Isabel and North Pt. Isabel would be served by existing water lines along Rydin Road, Central Avenue, and Isabel Street.

**(2) Wastewater System**. The *Draft General Plan* proposes to develop a number of structures that would require sanitary sewer service. These facilities would be concentrated in areas that are in close proximity to existing sanitary sewer pipelines. Existing sewer lines and treatment plants generally have sufficient capacity to serve proposed Park uses.

The most concentrated area of development proposed in the *Draft General Plan* that would require sanitary sewer service is located in the Berkeley portion of the project site. Proposed *Draft General Plan* construction in Berkeley that would require wastewater service includes restroom facilities, concessions facilities, an interpretation center, a 20 to 40-bed hostel, a boathouse and recreation concession located in the North Basin Strip; and a park operations facility/visitors center, restroom facilities, and concessions facilities located in Brickyard Cove. These facilities would be served by sewer lines located in the University Avenue and Marina Boulevard rights-of-way. According to a City of Berkeley Engineering Department Representative, existing sewer lines have sufficient capacity to serve the proposed facilities.[24]

In Albany, the *Draft General Plan* proposes the construction of a concession services building that would require sanitary sewer service. This facility would most likely connect to the wastewater line that serves Golden Gate Fields, which has sufficient capacity to serve the proposed concessions building.[25]

[24] Yee, Henry, 2002. City of Berkeley Engineering Department. Personal communication with LSA Associates, Inc March 8.

[25] Rainey, Calvin, 2001. Assistant General Manager, Golden Gate Fields. Personal communication with LSA Associates, Inc, April.

The restroom facility, dogwashing concession, and coffee bar proposed at Pt. Isabel would be served by sanitary sewer lines that run east/west along Central Avenue, and parallel to Rydin Road. According to a representative of the Stege Sanitary District, existing wastewater lines have sufficient capacity to serve these proposed facilities.[26]

As part of implementation of the proposed project, minor sewer line extensions, manholes, and service laterals would be developed throughout the project site, in accordance with the design criteria of the agencies or private parties (in the case of Golden Gate Fields) that own and maintain the respective sanitary sewer systems. However, none of these infrastructure additions would qualify as the extension of "major" lines because they would be connected to existing wastewater infrastructure. The project applicant would be responsible for the construction of these additions, subject to permit, inspection, and connection fees. Because these improvements would be made as additions to the existing sanitary sewer system, they would constitute a less-than-significant impact.

Currently, the average annual flow of wastewater into the MWWTP in Oakland is less than half of its treatment capacity. Therefore, the amount of wastewater generated by development proposed in the project would not significantly reduce the available treatment capacity of the MWWTP, or cause the plant to exceed wastewater treatment standards imposed by the RWQCB .

**(3) Electricity, Gas, and Telephone Service.** Development proposed in the *Draft General Plan* would require the extension of existing electric, gas, and telephone lines which serve industrial, commercial, and residential uses surrounding the project site. Facilities proposed in the *Draft General Plan* that would require energy and telephone connections would be concentrated in Berkeley Brickyard and North Basin Strip, Albany Plateau, and Pt. Isabel. According to PG&E, there is sufficient regional energy capacity to serve development proposed in the Master Plan.[27,28] Because new construction would take place within or in close proximity to locations that are already served by electric, natural gas lines, and telephone lines, the extension of these utilities to new facilities on the project site would not, at the program level, constitute a significant environmental impact.

Facilities in the Brickyard and North Basin Strip would be served by existing energy lines along West Frontage Road, University Avenue, and Marina Boulevard. Facilities at the Albany Plateau would be served by extending existing energy lines (originating in the City of Berkeley) from Golden Gate Fields. Facilities proposed in Pt. Isabel would be served by energy lines along Rydin Road and Central Avenue.

The project site would be served by telephone lines developed and maintained by Pacific Bell, under a franchise agreement between the company and the State of California. Like the development of energy lines, environmental impacts associated with the installation of telephone lines would be evaluated on a project-by-project level when individual facilities are formally proposed.

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[26] Delizo, Rex, 2001. Engineer, Stege Sanitary District. Personal communication with LSA Associates, Inc. March.

[27] Chew, Rodney, 2001. Engineer, PG&E. Personal communication with LSA Associates, Inc. March.

[28] Harrison, Dave, 2001. Business Representative, PG&E. Personal communication with LSA Associates, Inc. April.

**(4) Sold Waste Service.** Buildout of the proposed project would not result in the generation of significant amounts of solid waste. Users of the park would dispose of garbage, but not in amounts that would greatly exceed average per capita garbage generation rates. In addition, recycling receptacles would continue to be located at several points within the project site, allowing the proposed project to be in full compliance with the waste diversion goals mandated by the California Integrated Waste Management Act. The amount of solid waste generated by both users of the park and construction of park facilities or infrastructure would not substantially decrease the amount of space in the Potrero Landfill, which would serve the project after *Draft General Plan* buildout.

**c. Significant Impacts to Utilities and Infrastructure.** No significant impacts related to utilities would result from implementation of the proposed *Draft General Plan.*

# IV. ALTERNATIVES

The *CEQA Guidelines* require an analysis of a range of reasonable alternatives to the proposed project, or the location of the proposed project, which could feasibly attain most of the project's basic objectives and avoid or substantially lessen any of the significant effects of the proposed project. The range of alternatives required in an EIR is governed by a "rule of reason" that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice.[1]

The *Eastshore Park Project General Plan* (*Draft General Plan*) has been described and analyzed in the previous chapters with an emphasis on potentially significant impacts and recommended mitigation measures to avoid these impacts. The following discussion is intended to inform the public and decision-makers of the potentially feasible alternatives to the proposed project.

This chapter is divided into three sections. The first section provides a brief discussion concerning alternatives that were considered but rejected. The second section briefly describes the principal characteristics of the alternatives considered in this section (i.e., the CEQA-required No Project alternative, the Conservation alternative, and the Recreation alternative) and provides a qualitative comparison to the project. The last section discusses the environmentally-superior alternative.

Chapter II of this EIR, identifies the Declaration of Purpose of the *Draft General Plan* and lists the goals contained within the Plan. The evaluation of environmental topics contained in Chapter III of this EIR assesses the potential impacts that could occur with implementation of the *Draft General Plan*. Based on the analyses, all potential impacts associated with implementation of the *Draft General Plan* can be reduced to less-than-significant levels with the implementation of *Draft General Plan* guidelines.

## A. ALTERNATIVES THAT WERE CONSIDERED BUT REJECTED

The following section describes two alternatives to the proposed project that were considered but rejected for the reason(s) provided. Additionally, alternative locations for the proposed project were considered but not further evaluated.

### 1. Maximum Conservation Alternative

Under the Maximum Conservation alternative, the entire project site would be set aside as a preservation area, conservation area, or as undeveloped open space. Under this alternative, fewer trails, no parking, no visitor-serving park structures, and only low-intensity recreational uses would be developed within the park. The Albany Plateau would be set aside for preservation and conservation, in addition to the areas identified for these uses in the proposed *Draft General Plan*.

[1] *CEQA Guidelines*, 1998. Section 15126.6.

Under this alternative, the San Francisco Bay Trail would provide primary access throughout the project site. No park trails along the edge of the Bay, such as those proposed in the *Draft General Plan*, would be developed other than the Bay Trail spurs and spine in Emeryville and south of University Avenue extension.

Boating and water-access would not be promoted under this alternative. The use of all motorized watercraft within the park area would be prohibited as well. Off-leash dog activity would be allowed only at Pt. Isabel. North Pt. Isabel would have no off-leash dog activity and would be revegetated with native plant species for upland habitat.

This alternative focuses primarily on open space preservation and habitat protection along the East Bay shoreline and does not adequately address the other objectives of providing and improving public access to the Bay and its shoreline to meet the recreational needs of the people of the region and the State through use of the Bay Trail and recreation areas to be provided in the park. The majority of the park site (approximately 88 percent) is tidelands and within the Bay. This alternative would not promote opportunities for aquatic recreation activities and would result in a waterfront park in which most visitors can observe, but not experience, the aquatic portions of the project site because of the restrictions to watercraft activities and a lack of facilities for and in support of recreational uses of the water. Upland recreational uses, with the exception of birdwatching and trail use, would essentially be eliminated. For these reasons, this alternative was considered but rejected for not meeting the basic objectives of the project.

### 2. Maximum Recreation Alternative

In the Maximum Recreation alternative, much of the upland portion of the project site would be developed with facilities to allow active sports and aquatic recreation activities. New facilities are proposed to support kayaking, paddling, rowing, and windsurfing, including launching and rigging areas, tidal steps, and ramps, storage facilities, rental concessions, parking, and vehicular access and parking areas close to the water. This alternative recommends additional water-borne activity staging areas and facilities in the northern portion of the Berkeley Brickyard, the northwest corner of the Berkeley Meadow, the Berkeley North Basin Strip, the southern portion of the Albany Bulb, and at the Pt. Isabel Regional Shoreline. However, motorized watercraft are prohibited in this alternative.

Upland facilities to support active recreation would include playing fields, BMX biking facilities, trails, and supporting facilities, such as restrooms, food concessions, interpretive centers, picnic areas, and parking. Under this alternative, areas designated for these types of uses include the northern portion of the Berkeley Brickyard; the Berkeley Meadow; the Berkeley North Basin Strip; and the Albany Plateau. This alternative also recommends developing beach areas at the Berkeley Brickyard, along the western edge of the North Basin Strip, and at the Albany Bulb.

Areas are identified in this alternative for off-leash dog walking, in addition to those included in the proposed project. The beach on the western edge of the North Basin Strip, Albany Beach, and Albany Neck and Bulb are proposed as areas where off-leash dogs would be allowed.

This alternative would provide a diverse range of recreational opportunities but would not adequately protect sensitive species and habitat areas from potential visitor-related impacts within the project site. The Maximum Recreation alternative would allow more active recreational uses and off-leash dogs in a number of areas of the park which could adversely impact sensitive habitat areas (e.g., the

Berkeley Meadow and the Albany Beach). This alternative would not meet the stated objective of managing the resources by balancing the protection and restoration of the natural resources against the provision of recreational opportunities and facilities. For these reasons, the Maximum Recreation alternative was considered but rejected from further evaluation because it does not meet the basic objectives of the proposed project.

### 3. Alternative Locations for the Proposed Project

Alternative locations for provision of *Draft General Plan* programs and facilities were not considered in this analysis as *Draft General Plan* goals and guidelines encourage park facilities, uses, and resource enhancement projects that are specific to the unique conditions of the 8½ miles of shoreline included within the project site. Selecting an alternative location for implementation of the *Draft General Plan* would fundamentally fail to meet the purpose and objectives of the proposed project.

## B. ALTERNATIVES TO THE DRAFT GENERAL PLAN

This section analyzes the following three alternatives:

- The CEQA-required **No Project alternative** assumes that the *Draft General Plan* would not be adopted or implemented and that existing conditions would remain.
- The **Conservation alternative** assumes that natural resource protection and enhancement activities would be the primary focus of the *Draft General Plan*.
- The **Recreation alternative** assumes that providing recreational opportunities would be the primary focus of the *Draft General Plan*.

For each alternative, a brief discussion of its principal characteristic(s) is followed by an analysis of the alternative. The emphasis of the analysis is on the alternative's relative adverse effects compared to the proposed *Draft General Plan* and a determination of whether or not the alternative would reduce, eliminate, or create new significant impacts. Table IV-1 provides a summary of the impacts that would result from the implementation of each alternative compared to the impacts that would result from implementation of the proposed *Draft General Plan*.

### 1. CEQA-Required No Project Alternative

The following provides a brief description and analysis of the CEQA-required No Project alternative.

**a. Principal Characteristics**. The CEQA-required No Project alternative assumes that the *Draft General Plan* would neither be adopted nor implemented and that existing conditions would remain in effect on all State-owned land within the project site. None of the park facilities proposed in the *Draft General Plan* would be developed. New recreational activities and their associated facilities (i.e., water access points, turf areas, etc.) would not be encouraged. Additionally, environmental enhancements, such as wetland creation and restoration, creek daylighting, and riparian habitat protection, would not be implemented.

**Table IV-1: Summary of Alternative Issues Relative to Draft General Plan Issues[a]**

| Issues | Level of Significance | | | |
|---|---|---|---|---|
| | Proposed Project | No Project Alternative | Alternative A: Conservation Alternative | Alternative B: Recreation Alternative |
| **A. Aesthetics** | | | | |
| Scenic vista impacts. | LTS | LTS | LTS | LTS |
| Visual character and quality impacts. | LTS | S | LTS++ | LTS-- |
| Light and glare impacts. | LTS | LTS | LTS++ | LTS-- |
| **B. Air Quality** | | | | |
| Stationary source impacts. | LTS | LTS | LTS++ | LTS-- |
| Vehicular traffic impacts. | LTS | LTS | LTS++ | LTS-- |
| Construction emissions impacts. | LTS | LTS | LTS++ | LTS-- |
| **C. Biological Resources** | | | | |
| Impacts to soft bird's-beak, Pt. Reyes bird's-beak, and Contra Costa gold fields. | LTS | LTS | LTS++ | LTS-- |
| Impacts to nesting raptors. | LTS | LTS | LTS++ | LTS-- |
| Impacts to burrowing owls. | LTS | LTS | LTS++ | LTS-- |
| Impacts to tidal marsh habitat and associated special-status wildlife species. | LTS | LTS | LTS++ | LTS-- |
| Impacts to shorebirds, waterfowl, and other water birds. | LTS | LTS | LTS++ | LTS-- |
| Impacts to wetlands and other waters of the U.S. subject to Corps and RWQCB jurisdictions. | LTS | LTS | LTS | LTS |
| Impacts to eelgrass beds. | LTS | LTS | LTS | LTS-- |
| **D. Cultural Resources** | | | | |
| Cultural resources impacts associated with ground-disturbing construction. | LTS | LTS | LTS++ | LTS-- |
| Cultural resources impacts associated with ground-disturbing environmental enhancements. | LTS | LTS | LTS-- | LTS++ |
| Paleontological/geological resources impacts associated with ground-breaking activities. | LTS | LTS | LTS | LTS |
| Albany Bulb art installation impacts. | LTS | S | LTS | LTS |
| Cultural resources impacts associated with construction within culturally-sensitive areas. | LTS | LTS | LTS | LTS-- |
| Cultural resources impacts associated with activities within or adjacent to recorded cultural resources. | LTS | LTS | LTS | LTS |

Notes: LTS = Less-than-Significant; S = Significant; ++ = Alternative's impacts are less than the project; -- = Alternative's impacts are worse than the project.

*Table IV-1 continued*

| Issues | Level of Significance | | | |
|---|---|---|---|---|
| | **Proposed Project** | **No Project Alternative** | **Alternative A: Conservation Alternative** | **Alternative B: Recreation Alternative** |
| **E. Geology and Soils** | | | | |
| Seismic shaking and liquefaction impacts. | LTS | LTS | LTS | LTS |
| Shrink-swell potential, slope stability, and soils settlement impacts. | LTS | S | LTS | LTS |
| **F. Hazards** | | | | |
| Impacts associated with exposure to soil containing COPCs. | LTS | LTS | LTS | LTS |
| Impacts associated with exposure to landfill gases and/or engineered cap materials. | LTS | LTS | LTS | LTS |
| Impacts associated with water infiltration into landfill areas. | LTS | LTS | LTS | LTS |
| **G. Hydrology and Water Quality** | | | | |
| Hydrology impacts associated with shoreline treatments (and pedestrian promenades). | LTS | S | LTS | LTS |
| Hydrology impacts associated with creek daylighting. | LTS | LTS | LTS | LTS |
| Hydrology impacts associated with park development and recreational watercraft use and facilities. | LTS | LTS | LTS++ | LTS-- |
| Hydrology impacts associated with the development of small craft launch. | LTS | LTS | LTS++ | LTS-- |
| Hydrology impacts associated with the removal of surface hazards and new shoreline protection. | LTS | S | LTS | LTS |
| Hydrology impacts associated with development of turf and multi-use sports fields. | LTS | LTS | LTS++ | LTS-- |
| Hydrology impacts associated with additional parking areas. | LTS | LTS | LTS++ | LTS-- |
| **H. Land Use** | | | | |
| Physically divide community. | LTS | LTS | LTS | LTS |
| Land use conflicts. | LTS | LTS | LTS | S |
| Plan or policy conflicts. | LTS | LTS | LTS | S |
| HCP[b] or NCCP[c] conflicts. | LTS | LTS | LTS | LTS |

Notes: LTS = Less-than-Significant; S = Significant; ++ = Alternative's impacts are less than the project; -- = Alternative's impacts are worse than the project.

*Table IV-1 continued*

| Issues | Level of Significance | | | |
|---|---|---|---|---|
| | Proposed Project | No Project Alternative | Alternative A: Conservation Alternative | Alternative B: Recreation Alternative |
| **I. Noise** | | | | |
| Stationary source impacts. | LTS | LTS | LTS++ | LTS-- |
| Vehicular traffic impacts. | LTS | LTS | LTS++ | LTS-- |
| Construction impacts. | LTS | LTS | LTS++ | LTS-- |
| **J. Public Services** | | | | |
| Police protection. | LTS | LTS | LTS++ | LTS-- |
| Fire and emergency services. | LTS | LTS | LTS++ | LTS-- |
| Parks and recreation. | LTS | LTS | LTS | LTS |
| **K. Transportation and Circulation** | | | | |
| Transportation impacts. | LTS | LTS | LTS | LTS |
| **L. Utilities** | | | | |
| Water supply. | LTS | LTS | LTS | LTS-- |
| Wastewater system. | LTS | LTS | LTS++ | LTS-- |
| Electricity, gas, and telephone service. | LTS | LTS | LTS++ | LTS-- |
| Solid waste. | LTS | LTS | LTS++ | LTS-- |

Notes: LTS = Less-than-Significant; S = Significant; ++ = Alternative's impacts are less than the project; -- = Alternative's impacts are worse than the project.

[a] Designation applies to level of significance prior to mitigation.
[b] Habitat Conservation Plan.
[c] Natural Community Conservation Plan.

Source: LSA Associates, Inc., 2002.

The No Project alternative would not preclude portions of the project site from development in the future. Individual municipalities or East Bay Regional Park District (EBRPD), which own lands adjacent to and within the project site, may implement the plans they have developed, or are in the process of developing. For example, the City of Albany currently owns the Albany Bulb. As previously discussed in Chapter I, Introduction and Project Summary, the State of California (State) and the City of Albany (City) have an agreement to transfer jurisdiction of these City-owned lands to the State under the condition that the State would provide the City with funding to undertake the design and construction of closing the former landfill site. However, as of April 2002, it is unclear whether the City will receive funding for the landfill closure, given the State's 2002 budgetary condition.[2] Therefore, in light of this funding uncertainty, the Albany Bulb is not included as part of the project under the No Project alternative. Additionally, under this alternative, EBRPD would continue to operate Pt. Isabel Regional Shoreline Park, but North Pt. Isabel (which is owned by the State) would be closed to public access since the State could not assume liability for its use.[3]

[2] Mikkelsen, Tom, 2002. Assistant General Manager, East Bay Regional Park District. Personal communication to LSA Associates, Inc. April.

[3] Hammond, Steve, 2002. Draft General Plan Project Manager, WRT. Personal communication to LSA Associates, Inc. July.

**b. Analysis of No Project Alternative**. The No Project alternative could result in the following impacts:

**(1) Aesthetics**. Under the No Project alternative, potential adverse effects to visual resources would be less than the proposed project. Additionally, the No Project alternative would not have an adverse effect on scenic vistas and would not obstruct scenic views of the Golden Gate Bridge from the Bay Trail.

However, the existing unattractive conditions such as inconsistent paving, shoreline and soil erosion at Brickyard Cove, North Basin Strip, Pt. Isabel, and North Pt. Isabel, would continue and possibly worsen under the No Project alternative. As a result, the quality of these sites and their surroundings would continue to degrade from the lack of shoreline maintenance and enhancement projects.

**(2) Air Quality**. Under the No Project alternative, existing conditions would remain and no new development would occur. As a result, air quality would not be affected by additional vehicular traffic emissions, and construction emissions. The No Project alternative would not result in any significant impacts.

**(3) Biological Resources**. Significant biological impacts would not result from the implementation of the No Project alternative, as existing conditions would remain and no recreation-related development, increased activity levels, or environmental enhancements would occur.

**(4) Cultural Resources**. Under the No Project alternative, no new development or environmental enhancements would occur. Implementation of this alternative could adversely affect the "wild art" installation and the practice of installing art along the waterfront since the Albany Waterfront Plan, if implemented, does not include any policies or guidelines regarding the art.

**(5) Geology and Soils**. The No Project alternative could result in significant impacts associated with soil erosion and side slope instability on portions of the site because resource enhancement projects would not be implemented.

**(6) Hazards**. The No Project alternative would not result in significant impacts associated with hazardous materials as all State and agency mandated clean up programs would continue to be in operation.

**(7) Hydrology and Water Quality**. Under the No Project alternative, adverse impacts could occur associated with the existing conditions, including shoreline instability, erosion, underwater hazards, and hazardous materials from upland sources continuing to adversely affect water quality.

**(8) Land Use and Public Policy**. Existing land use conditions would not change under the No Project alternative. The Eastshore Park Project site currently does not physically divide an established community, nor do the land uses of the project site conflict with applicable habitat conservation plans or natural community conservation plans. Additionally, because no new development would occur, no new land uses would be introduced. As a result, the No Project alternative would not conflict with established uses or with applicable land use plans or policies adopted by agencies with jurisdictions over the project adopted for the purpose of avoiding or mitigating an existing environ

mental effect. Thus, implementation of the No Project alternative would not result in any significant land use or policy impacts.

**(9) Noise**. The No Project alternative would not result in any significant impacts, as existing conditions would remain and no new development would occur.

**(10) Public Services**. No significant impacts related to police protection or fire and emergency services would result from the No Project alternative, since there would be no new development or improvements that would encourage increased visitation to the project site. Ongoing service and maintenance levels and staffing would continue. Implementation of this alternative would not result in a significant impact related to parks and recreation; however there would be a loss of recreational opportunities for both the upland and aquatic portions of the site.

**(11) Transportation and Circulation**. No significant transportation and circulation impacts would result from the No Project alternative.

**(12) Utilities**. Because there would be no new development at the project site, there would not be an increased demand for utility services. Thus, no significant impacts related to utilities would result from the implementation of the No Project alternative.

## 2. Alternative A: Conservation Alternative

The following provides a brief description of the Conservation alternative and potential impacts associated with its implementation.

**a. Principal Characteristics**. The focus of the Conservation alternative would be to protect and enhance the natural and biological resources within the project site. The *Draft General Plan* guidelines of the proposed project would still apply to the Conservation alternative. However, the *Draft General Plan* guidelines for the specific areas would change accordingly to reflect the increased efforts to enhance resources. With this alternative, the following elements are common to all the development and improvement areas of the *Draft General Plan*, compared to the proposed project:

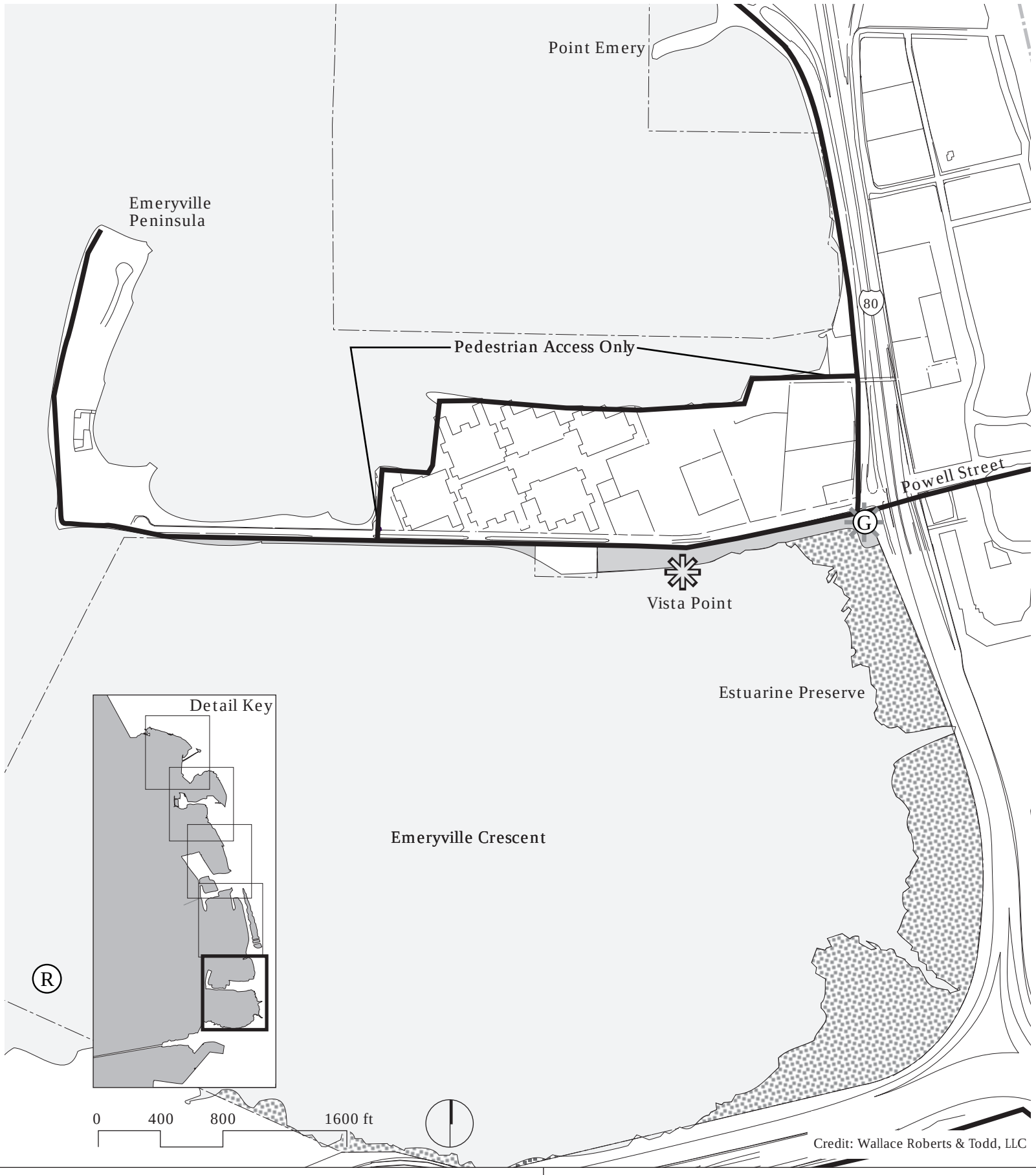
- Inclusion of less intrusive, more passive recreation.
- Inclusion of more buffers and low fences to protect sensitive habitat.
- Increased efforts to protect the shoreline; create and enhance wetlands; and create, enhance, and restore riparian and upland habitat.
- Inclusion of roosting islands and piers for birds in the Emeryville Crescent area and along the Berkeley Beach.
- No multi-use sports fields and fewer recreational activities.

Specific changes in facilities and programs from the *Draft General Plan* for each of the four focus areas are provided in Table IV-2. Figures IV-1a through IV-1e provides a graphic representation of the Conservation alternative.

## Table IV-2: Key Differences Between the Project and the EIR Alternatives

| Area | Alternative A: Conservation Alternative | Alternative B: Recreation Alternative |
|---|---|---|
| **EMERYVILLE LANDS** | | |
| | • Removal of picnic facilities, parking area, and the shoreline trail<br>• Removal of shoreline trail from Powell/West Frontage Road intersection to Fire Station<br>• Riparian habitat enhancement and upland habitat restoration and creation | • Additional vehicle parking area, and bicycle parking area. |
| **BERKELEY LANDS** | | |
| **Brickyard Cove** | • Removal of waterfront promenade along Brickyard peninsula, turf area for informal recreation in the uplands of the Brickyard area, and water access point.<br>• Addition of buffer/setback zone along shoreline and interpretation center/multi-use center.<br>• Riparian habitat enhancement and upland habitat restoration and creation. | • Upgrade to high intensity recreation area.<br>• Addition of kayak storage, waterfront promenade along shoreline south of University Avenue with benches and picnic facilities, and a floating kayak dock as part of the water-trail campsite network in the Brickyard Cove area. |
| **Berkeley Meadow** | • Addition of buffer/setback zone around wetland creation/enhancement areas, and fencing. | • Addition of waterfront promenade along the northern border of the Meadow, open turf areas in the northern portion of the Meadow, parking area and boat launch in the north-western corner of the Meadow, tot lots, benches. |
| **North Basin Strip** | • Removal of waterfront promenade, hostel, boathouse and recreation concession facilities, and the interpretation center.<br>• Shoreline enhancement and naturalization, soil remediation, removal of exotic plant species, and upland habitat restoration/creation. | • Addition of approximately 10 acres of multiple-use sports fields, and additional parking. |
| **ALBANY LANDS** | | |
| | • Removal of multi-use sports fields and concession facilities on the Plateau.<br>• Addition of low wooden fences along trails on the North Shore.<br>• Soil remediation, upland habitat restoration/ creation, and shoreline protection/creation. | • Addition of fishing pier at Albany Beach, vehicle access to the Albany Bulb, and vehicle parking on Albany Bulb. |
| **PT. ISABEL/SOUTH RICHMOND SHORELINE** | | |
| | • Removal of pedestrian bridge across Hoffman Channel and removal of vista points.<br>• Prohibit off-leash dog access on North Pt. Isabel.<br>• Upland habitat restoration/creation. | |

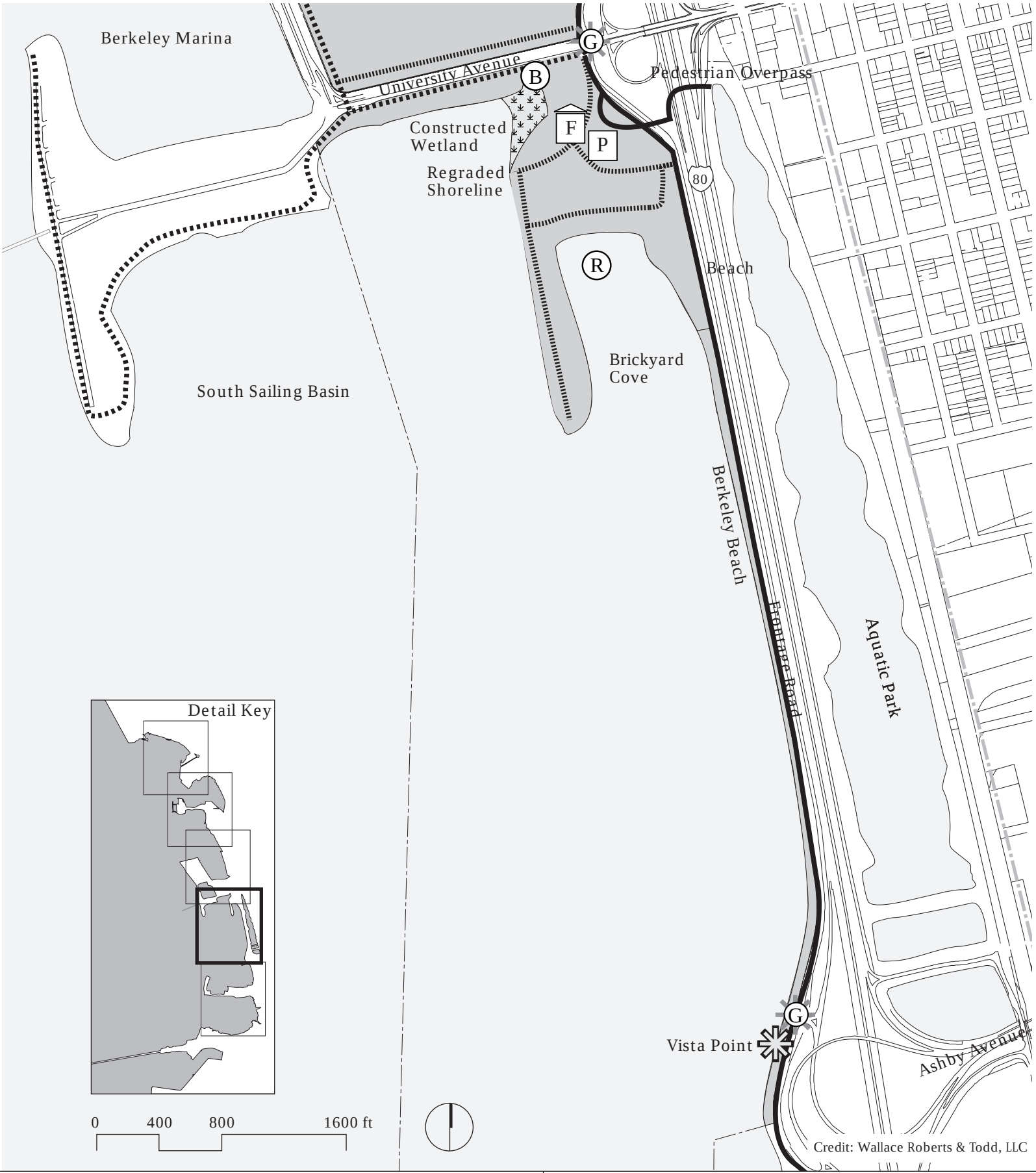
Source: LSA Associates, Inc., 2002.




Eastshore Park Project EIR - Public Review Draft
Alternative A: Conservation

# Figure IV-1a: EMERYVILLE CRESCENT

- Recreation
- Conservation
- Preservation
- Promenade
- Constructed Wetland
- (B) Bridge
- (R) Restoration Area
- P Parking
- (G) Gateway
- Vista Point
- Bay Trail-Exist
- Bay Trail-Prop'd
- Park Trail
- F Facility
- (W) Water Access



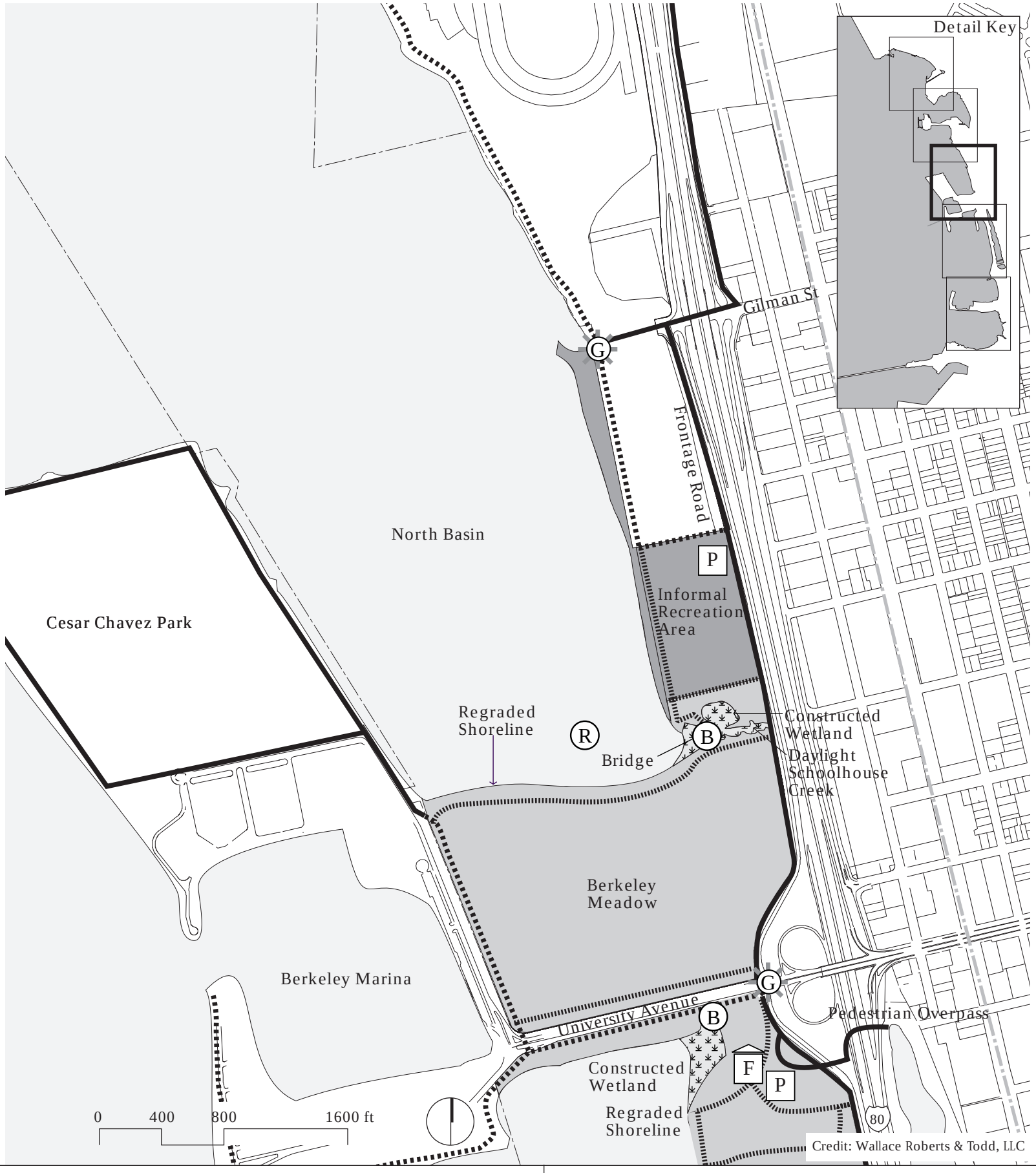

Eastshore Park Project EIR - Public Review Draft
Alternative A: Conservation

# Figure IV-1b: SOUTH BERKELEY NORTH EMERYVILLE

Recreation
Conservation
Preservation
Promenade
Constructed Wetland

B Bridge
R Restoration Area
P Parking
G Gateway
Vista Point

Bay Trail-Exist
Bay Trail-Prop'd
Park Trail
F Facility
W Water Access



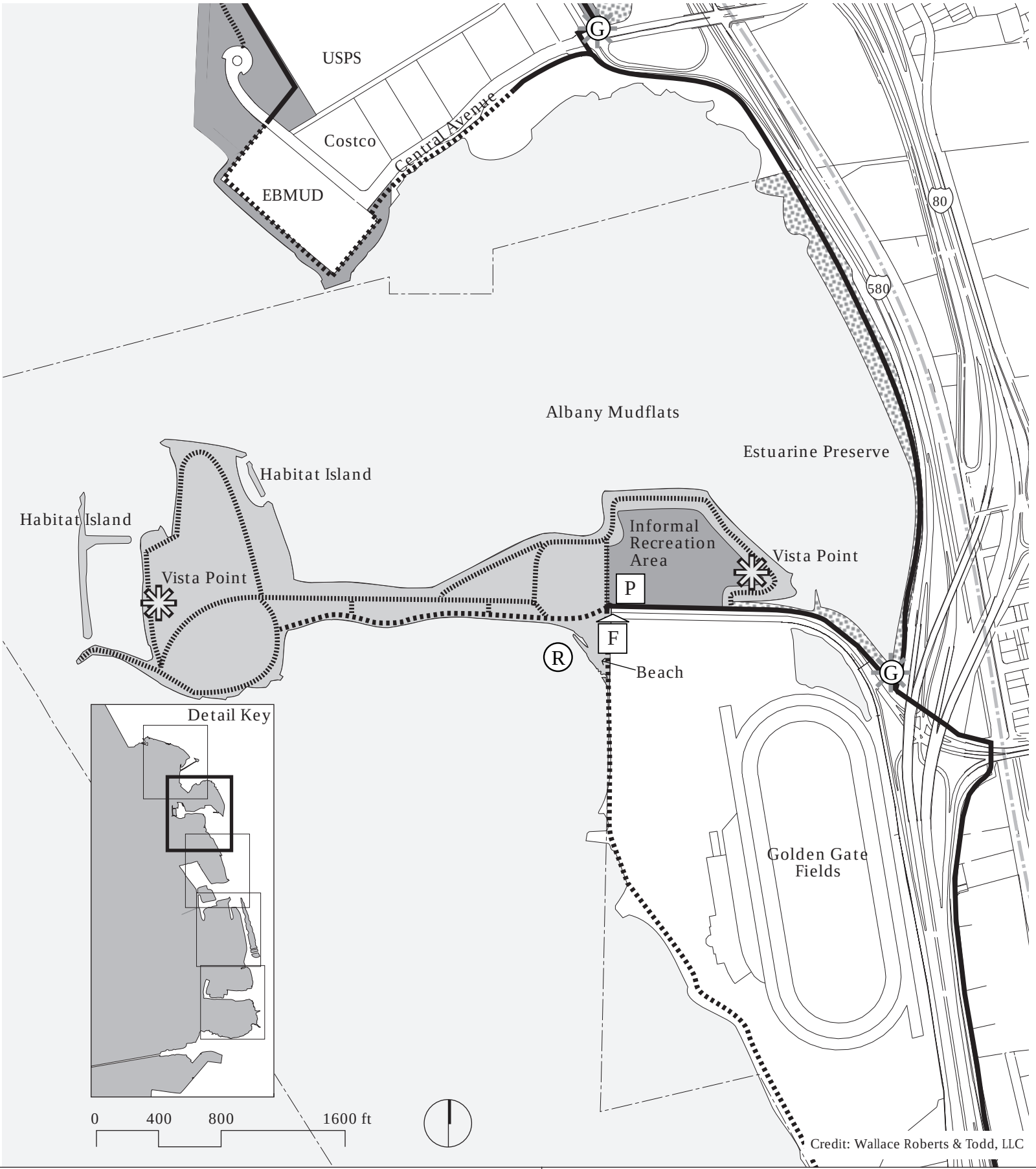

Eastshore Park Project EIR - Public Review Draft
Alternative A: Conservation

# Figure IV-1c: BERKELEY MEADOW/NORTH BASIN

Recreation
Conservation
Preservation
Promenade
Constructed Wetland

(B) Bridge
(R) Restoration Area
P Parking
(G) Gateway
Vista Point

Bay Trail-Exist
Bay Trail-Prop'd
Park Trail
F Facility
(W) Water Access




Eastshore Park Project EIR - Public Review Draft
Alternative A: Conservation

# Figure IV-1d:
# ALBANY SHORELINE

Recreation
Conservation
Preservation
Promenade
Constructed Wetland

B Bridge
R Restoration Area
P Parking
G Gateway
Vista Point

Bay Trail-Exist
Bay Trail-Prop'd
Park Trail
F Facility
W Water Access


Eastshore Park Project EIR - Public Review Draft
Alternative A: Conservation

# Figure IV-1e: PT. ISABEL/SOUTH RICHMOND SHORELINE

Recreation
Conservation
Preservation
Promenade
Constructed Wetland
(B) Bridge
(R) Restoration Area
P Parking
(G) Gateway
Vista Point
Bay Trail -Exist
Bay Trail -Prop'd
Park Trail
F Facility
(W) Water Access

**b. Analysis of Conservation Alternative.** The Conservation alternative could result in the following impacts:

**(1) Aesthetics.** Like the proposed *Draft General Plan*, the Conservation alternative includes new facilities, such as restrooms, interpretive centers, parking areas, and concession facilities. However, the amount of development in this alternative is less than that proposed in the proposed *Draft General Plan*. Thus, the Conservation alternative could result in similar less-than-significant visual impacts from development of new facilities, but they would be less intense than the proposed project.

Under the Conservation alternative, no potential impacts to scenic vistas would occur.

**(2) Air Quality**. Implementation of the Conservation alternative could result in the same less-than-significant impacts identified in Section III.B, Air Quality. However, because fewer facilities and parking spaces would be available in this alternative, emissions from construction and additional vehicular traffic associated with implementation of the Conservation alternative would be less than those of the proposed project.

**(3) Biological Resources.** Because the Conservation alternative proposes development and environmental enhancements similar to those proposed in the *Draft General Plan*, all impacts to biological resources would be less than significant. However, because this alternative proposes a lesser amount and degree of development than the proposed *Draft General Plan*, the impacts would be less than those of the project. Potential significant impacts to wetlands and other waters would be offset through appropriate wetland restoration activities.

**(4) Cultural Resources**. The less-than-significant impacts identified for the proposed project would occur under the Conservation alternative. Fewer of these impacts would occur due to the lower levels of development in this alternative. However, because this alternative proposes more environmental enhancements, there would be more less-than-significant impacts associated with ground-breaking activities necessary for environmental enhancements.

**(5) Geology and Soils**. Because the Conservation alternative proposes new development and environmental enhancements, the less-than-significant impacts identified in Chapter III.E, Geology and Soils, would result from the implementation of this alternative.

**(6) Hazards**. The Conservation alternative could result in similar less-than-significant impacts as those identified in Section III.F, Hazards.

**(7) Hydrology and Water Quality**. Implementation of the Conservation alternative would result in the same less-than-significant impacts as those identified in Chapter III.G, Hydrology and Water Quality. However, impacts associated with the development of park and recreational watercraft use and facilities; small craft launches; turf and multiple-use sports fields; and additional parking areas would be less than those of the project since there would be fewer of these developments under the Conservation alternative.

**(8) Land Use and Public Policy.** The proposed land uses in the Conservation alternative are similar to those in the proposed *Draft General Plan*. The Conservation alternative would not

physically divide an established community, introduce new land uses that would conflict with established uses, conflict with applicable land use plans or policies adopted by agencies with jurisdiction over the project adopted for the purpose of avoiding or mitigating an environmental effect, or conflict with any applicable habitat conservation plan or natural community conservation plan. Thus, like the proposed *Draft General Plan*, no significant impacts related to land use and public policy would result from the implementation of the Conservation alternative.

**(9) Noise**. The Conservation alternative could result in similar less-than-significant impacts as identified in Section III.I, Noise. However, because the Conservation alternative proposes less development and fewer parking spaces, less-than-significant noise impacts from vehicular traffic and construction activities would be less than those of the proposed project.

**(10) Public Services.** Like the proposed *Draft General Plan*, the Conservation alternative includes the development of facilities, although at a smaller, less intensive level, to accommodate low-intensity recreational activities. Additionally, implementation of the Conservation alternative could result in increased visitation to the project site. As a result, the less-than-significant impacts related to police protection and fire and emergency services identified in Section III.J, Public Services, could result under the Conservation alternative. However, it is likely that these impacts would be less severe than those of the *Draft General Plan* since the amount of development and level of recreational use intensity is lower. Impacts to parks and recreation with the implementation of the Conservation alternative would be less than significant.

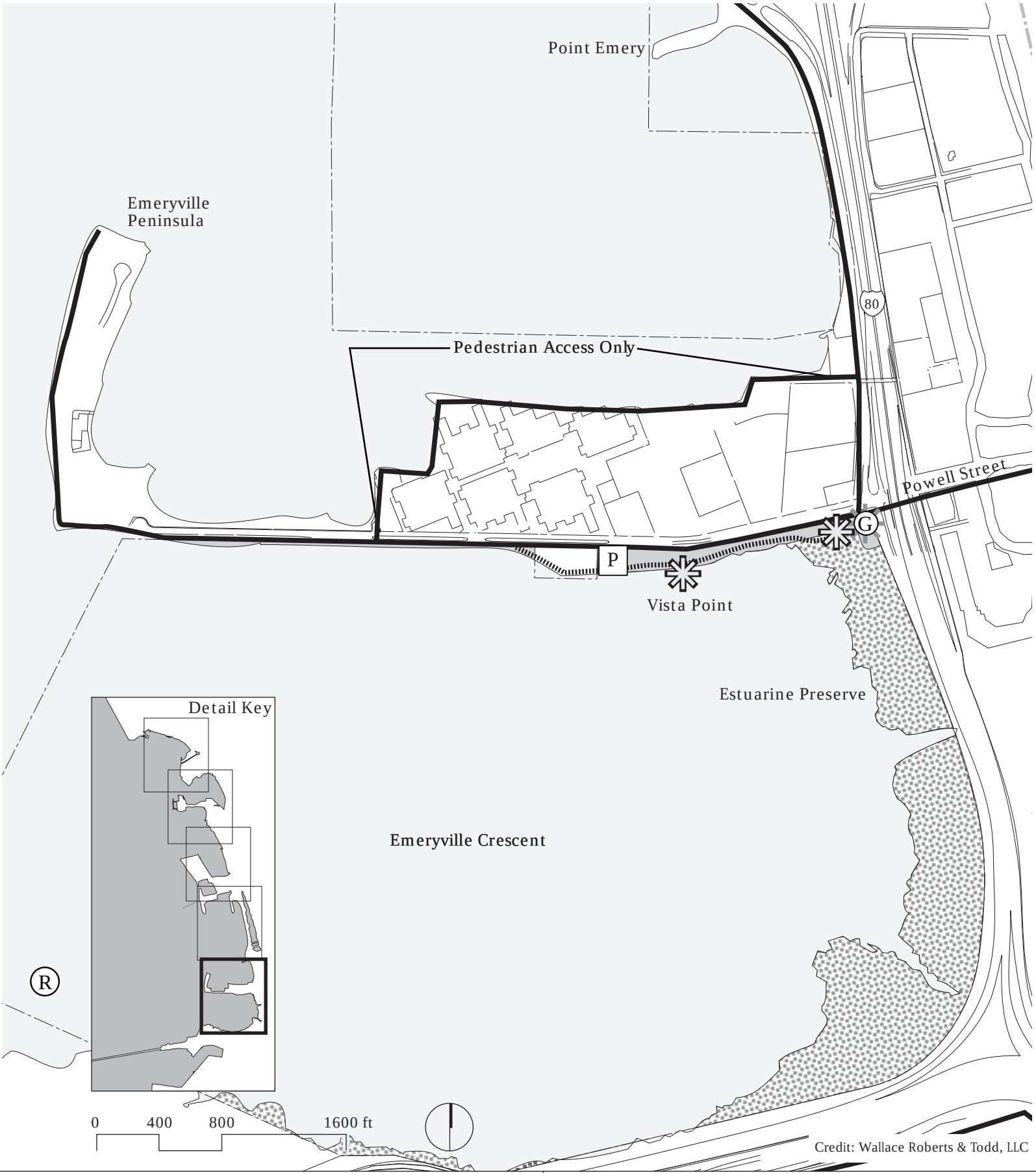
**(11) Transportation and Circulation**. Like the proposed *Draft General Plan*, no significant transportation and circulation impacts would result from the Conservation alternative. Given the reduced number of facilities proposed, the alternative would result in a proportionate reduction in vehicle trips.

**(12) Utilities**. Effects resulting from implementation of the Conservation alternative would be similar to those identified for the proposed project. However, since the amount of development and intensity of recreation uses are less than those of the proposed *Draft General Plan*, the effects on the water, wastewater system, electricity, gas, and telephone services, and solid waste removal services, would be less severe than the proposed project's potential effects.

### 3. Alternative B: Recreation Alternative

The following provides a brief description and an analysis of the Recreation alternative, and compares it to the proposed *Draft General Plan*.

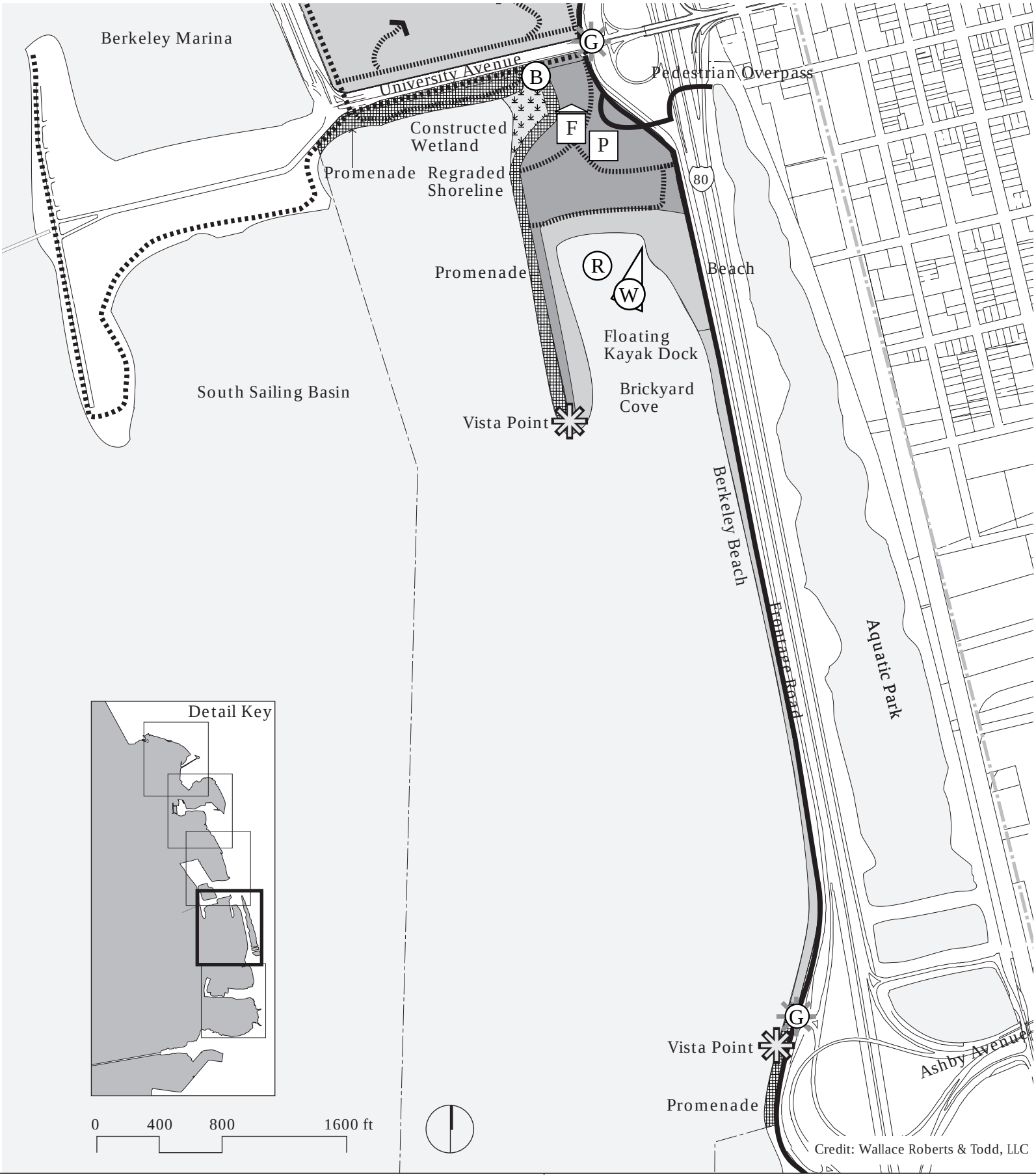
**a. Principal Characteristics.** The Recreation alternative assumes that a variety of new facilities would be added to enhance recreational opportunities. The *Draft General Plan* guidelines of the proposed project would still apply to the Recreation alternative. However, the *Draft General Plan* guidelines for the specific areas would change accordingly to reflect the increased efforts to enhance recreation opportunities. This alternative would provide additional waterfront promenade areas, sports fields, beach and water access facilities, boat launches, and additional food and rental concessions. Key elements of the Recreation alternative include the greater intensity of development and recreational use of the Berkeley Meadow and tideland areas. Specific changes in facilities and programs relative to the *Draft General Plan* for each of the four focus areas are provided in Table IV-2. Figures IV-2a through IV-2e provides a graphic representation of the Recreation alternative.




Eastshore Park Project EIR - Public Review Draft
Alternative B: Recreation

# Figure IV-2a: EMERYVILLE CRESCENT

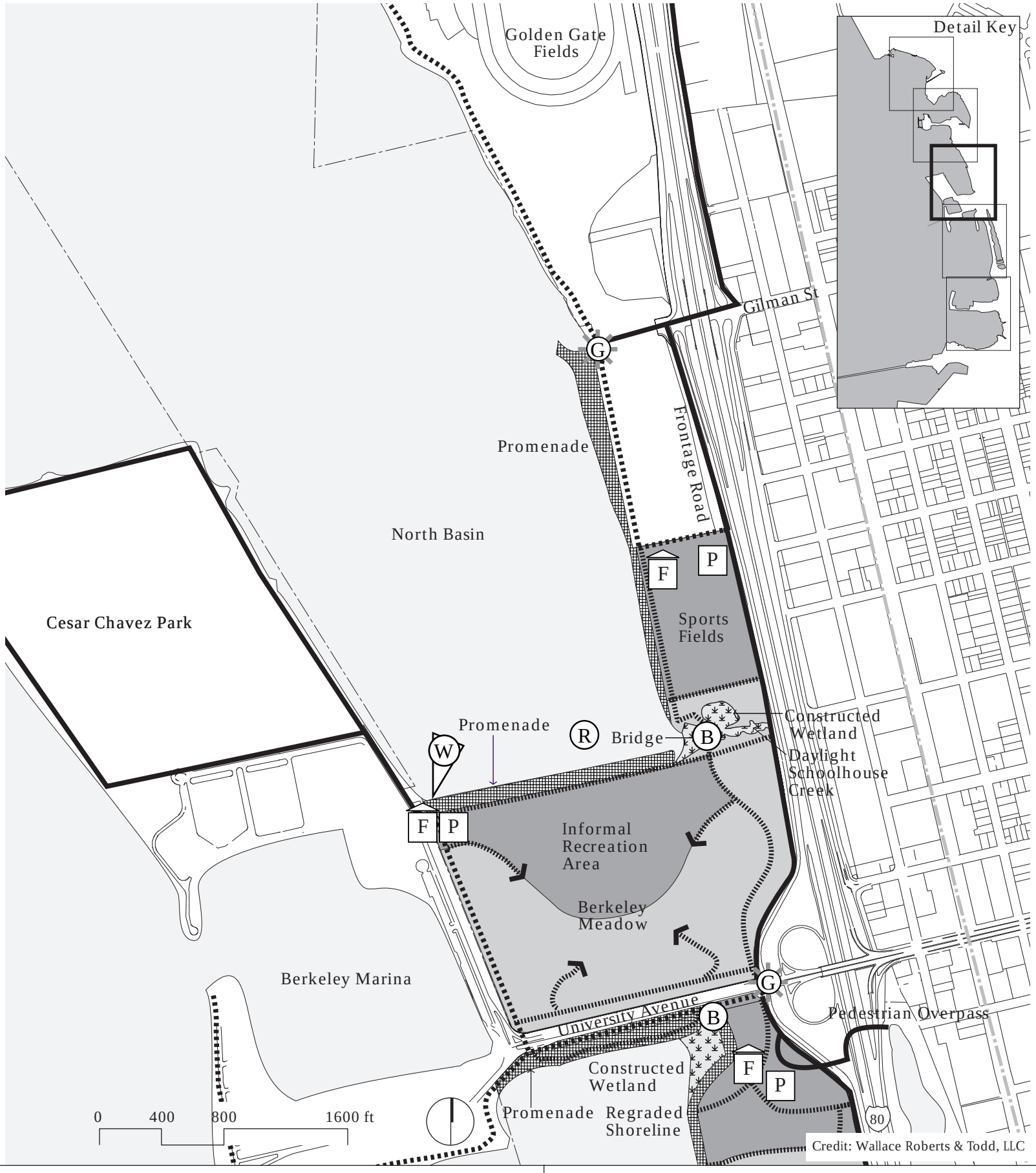
Recreation
Conservation
Preservation
Promenade
Constructed Wetland
Bridge
Restoration Area
Parking
Gateway
Vista Point
Bay Trail-Exist
Bay Trail-Prop'd
Park Trail
Facility
Water Access




Eastshore Park Project EIR - Public Review Draft
Alternative B: Recreation

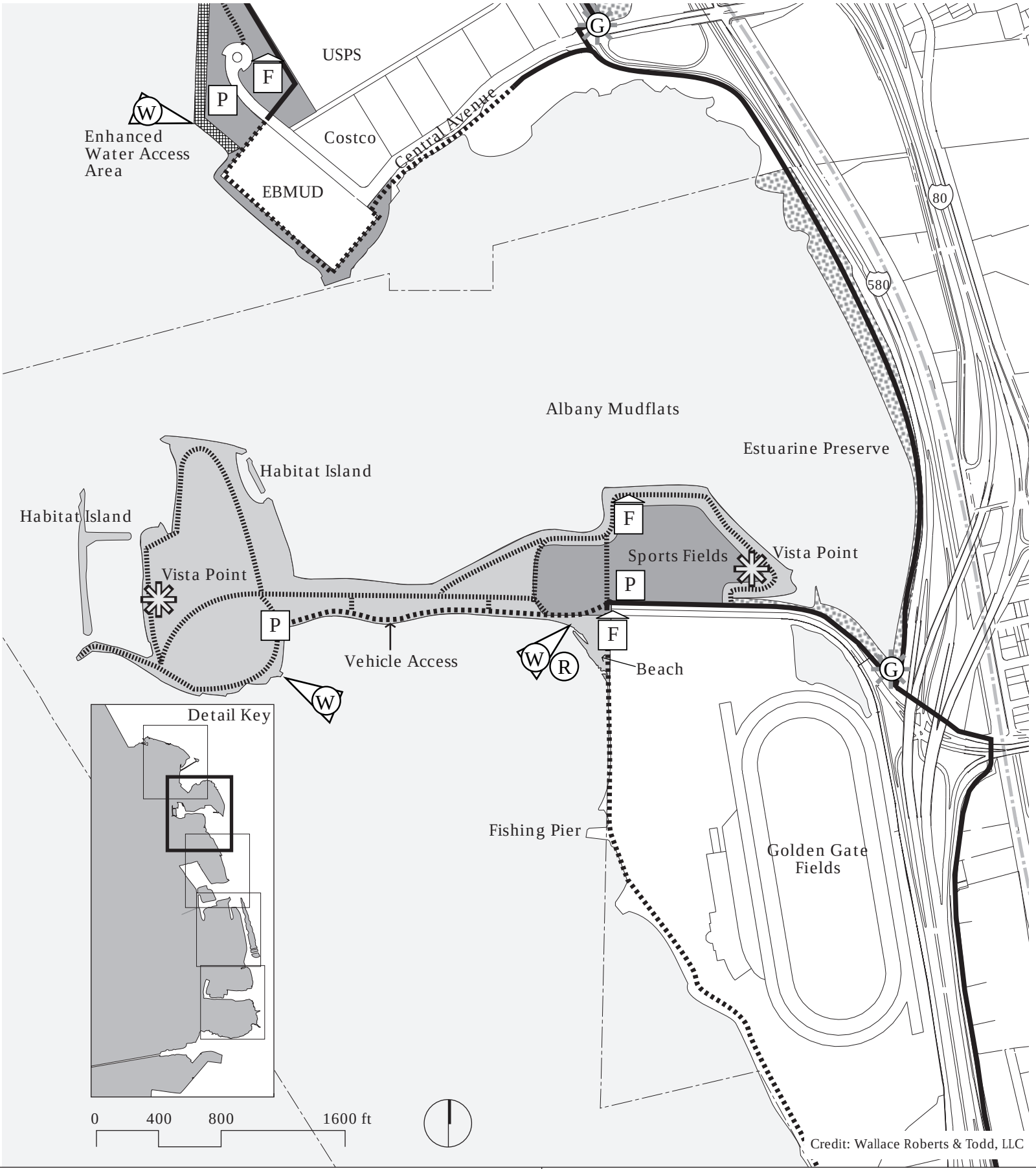
# Figure IV-2b: SOUTH BERKELEY NORTH EMERYVILLE

Recreation
Conservation
Preservation
Promenade
Constructed Wetland
B Bridge
R Restoration Area
P Parking
G Gateway
Vista Point
Bay Trail-Exist
Bay Trail-Prop'd
Park Trail
F Facility
W Water Access




Eastshore Park Project EIR - Public Review Draft
Alternative B: Recreation

# Figure IV-2c: BERKELEY MEADOW/NORTH BASIN



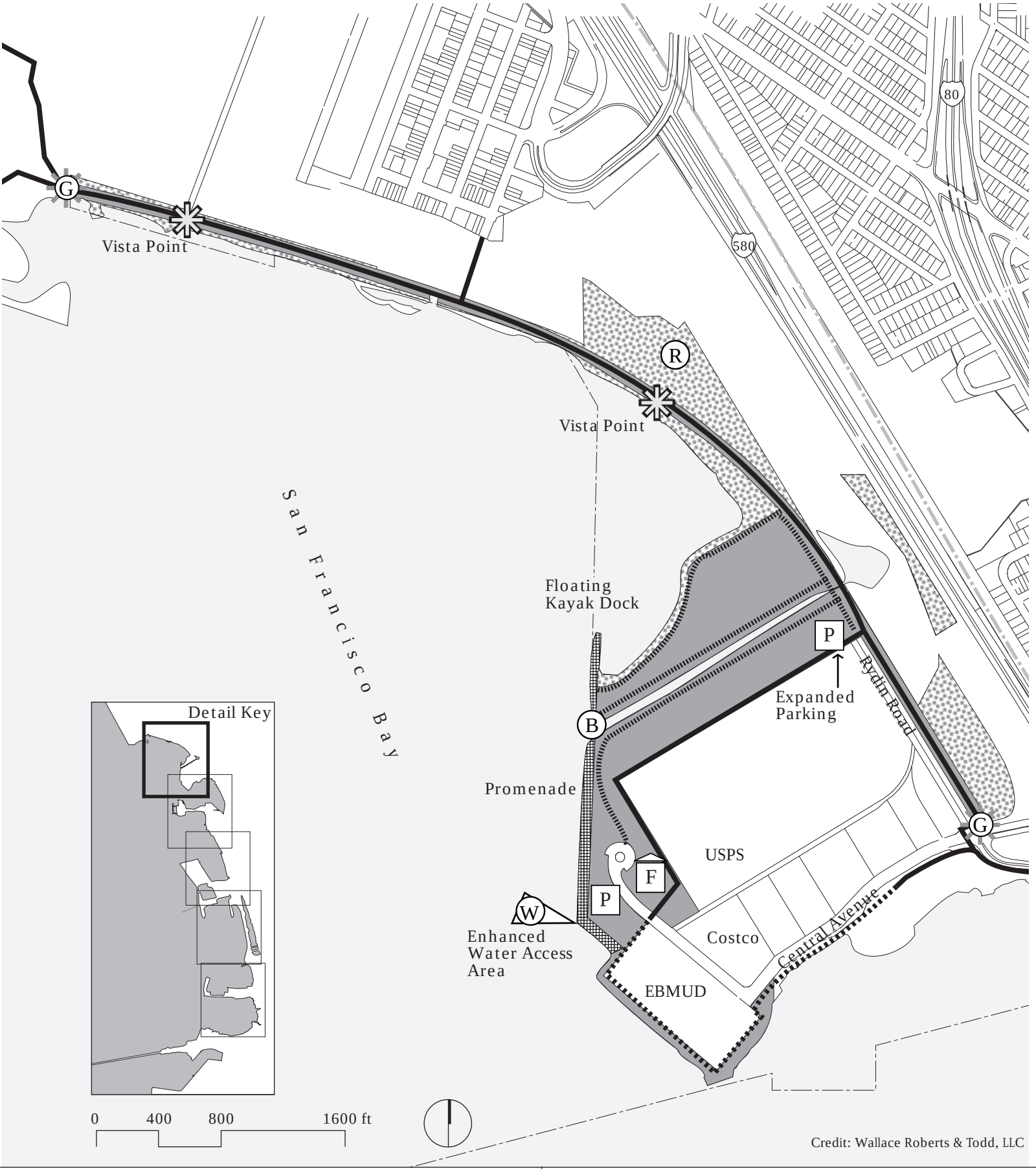

Eastshore Park Project EIR - Public Review Draft
Alternative B: Recreation

# Figure IV-2d:
# ALBANY SHORELINE

Recreation
Conservation
Preservation
Promenade
Constructed Wetland

B Bridge
R Restoration Area
P Parking
G Gateway
Vista Point

Bay Trail-Exist
Bay Trail-Prop'd
Park Trail
F Facility
W Water Access




Eastshore Park Project EIR - Public Review Draft
Alternative B: Recreation

# Figure IV-2e: PT. ISABEL/SOUTH RICHMOND SHORELINE

Recreation
Conservation
Preservation
Promenade
Constructed Wetland
Bridge
Restoration Area
Parking
Gateway
Vista Point
Bay Trail-Exist
Bay Trail-Prop'd
Park Trail
Facility
Water Access

**b. Analysis of Recreation Alternative.** Table IV-1 provides a summary of the impacts that could result from implementation of the Recreation alternative compared to the impacts that could result from implementation of the proposed *Draft General Plan*. The Recreation alternative could result in the following impacts:

**(1) Aesthetics**. The Recreation alternative proposes new construction and structures. However, because development projects under the Recreation alternative would be subject to the same height restrictions and design guidelines included in the *Draft General Plan*, implementation of this alternative would result in visual impacts that are similar to the proposed project's.

Implementation of the Recreation alternative would not result in significant impacts to scenic vistas.

**(2) Air Quality**. Implementation of the Recreation alternative would result in similar impacts to those identified for the proposed project. However, the greater level of development, increased number of parking spaces and associated trips could result in more emissions from vehicular traffic, and construction activities than for the proposed project. However, the increase in emissions from these sources is not anticipated to result in a significant impact, when measured against the pertinent significance criteria.

**(3) Biological Resources**. Implementation of the Recreation alternative could result in significant impacts to biological resources as this alternative proposes more intensive development, particularly at the Berkeley Meadow and North Basin Strip. The potential for impacts resulting from this alternative would generally be greater than that of the proposed *Draft General Plan* since the amount and degree of development proposed in this alternative is greater than the proposed *Draft General Plan* and the level of visitation would be higher. However, biological resources impacts would be reduced to less-than-significant levels with the implementation of the guidelines in the *Draft General Plan*. No impacts to wetlands and other waters subject to Corps and RWQCB jurisdictions would occur because all impacts would be offset through appropriate wetland restoration activities.

**(4) Cultural Resources**. Impacts similar to those identified for the proposed project would occur with implementation of the Recreation alternative. The potential for impacts to cultural resources resulting from ground-breaking construction would be greater than the potential impacts from the proposed project. Impacts resulting from environmental resource enhancements would be less than the proposed project.

**(5) Geology and Soils**. The Recreation alternative would result in the same less-than-significant impacts identified in Chapter III.E, Geology and Soils, as this alternative proposes new development and environmental enhancements at the project site.

**(6) Hazards**. The Recreation alternative would result in similar less-than-significant impacts as those identified in Chapter III.F, Hazards.

**(7) Hydrology and Water Quality**. Implementation of the Recreation alternative would result in the same less-than-significant impacts as those identified in Chapter III.G, Hydrology and Water Quality. However, those impacts, which are associated with the development of park and recreational watercraft use and facilities; small craft launches; turf areas; multiple-use sports fields;

and additional parking areas, could be worse than those of the project since the amount of development would be greater.

**(8) Land Use and Public Policy**. The proposed land uses in the Recreation alternative are similar to those proposed in the *Draft General Plan*. Like the *Draft General Plan*, the Recreation alternative would not physically divide an established community, nor would it conflict with any applicable habitat conservation plan or natural community conservation plan.

Because vehicular access to the Albany Bulb and the development of a parking area there are proposed in this alternative, new land uses would be introduced that could conflict with established uses and could also conflict with applicable land use plans or policies adopted for the purpose of avoiding or mitigating an environmental effect. Established land uses on the Albany Bulb include passive recreational uses (such as walking, bird watching, and picnicking) that could be adversely affected by allowing public vehicular access to the Bulb. Additionally, the *1995 Proposal for the Albany Portion of the Eastshore State Park*[4] calls for the preservation of the Albany Bulb and Neck and allows for only pedestrian and bicycle access to the Bulb via a pedestrian trail and a Bay Trail spur on the Neck. Thus, the implementation of the Recreation alternative would result in two new significant impacts related to land use and public policy.

**(9) Noise**. The Recreation alternative would result in similar less-than-significant impacts as identified in Section III.I. However, because this alternative proposes a greater amount of development and parking spaces, less-than-significant noise impacts from stationary sources, vehicular traffic, and construction activities could be worse than that of the proposed project. Additionally, more active-recreation facilities are proposed in areas that could be impacted by noise associated with Interstate 80 (I-80), such as the North Basin Strip, and associated noise impacts could be more severe under this alternative.

**(10) Public Services**. The Recreation alternative, like the proposed *Draft General Plan*, includes the development of park and recreational facilities. However, the level and amount of development in this alternative is greater than that proposed in the *Draft General Plan*. Additionally, the Recreation alternative proposes a higher intensity of recreational use, especially water-borne recreation at the project site. Thus, the implementation of the Recreation alternative could result in the same less-than-significant impacts related to police protection and fire and emergency services that are worse than the proposed project because of the higher level of development and intensity of recreational use at the project site. No significant impacts related to parks and recreation would result from the implementation of this alternative.

**(11) Transportation and Circulation**. Like the proposed project, no significant transportation and circulation impacts would result from the Recreation alternative.

**(12) Utilities**. Since the amount of development and level of recreation use intensity would be greater under this alternative than with implementation of the proposed *Draft General Plan*, impacts associated with provision and use of wastewater, water, electricity, gas and telephone services, and solid waste removal services could be greater than the project's impacts.

[4] City of Albany, 1995. *A Proposal for the Albany Portion of the Eastshore State Park*. June.

## C. ENVIRONMENTALLY-SUPERIOR ALTERNATIVE

CEQA requires that an environmentally-superior alternative be identified in the EIR. The No Project alternative (existing project site conditions) would not provide for any of the environmental enhancements proposed by the Project; thus, issues related to aesthetics, cultural resources, geology and soils, hazards, and hydrology and water quality would remain unchanged, as discussed above. As noted, continued deterioration of certain resources or environmental conditions on the site would also constitute an impact of the No Project alternative. Additionally, the No Project alternative would not meet the primary goal of the project, which is to create a recreational facility harmonious with its natural setting.

Both the Conservation alternative and the Recreation alternative would result in impacts similar to the proposed *Draft General Plan*; they would differ from the *Draft General Plan* only in terms of the level and amount of proposed development and environmental enhancement programs. In general, the potential for adverse impacts would be less and less noticeable under the Conservation alternative and greater under the Recreation alternative, but like the proposed project, guidelines in the *Draft General Plan* would reduce any impacts to a less-than-significant level. Although both these alternatives meet the primary goal and objectives of the project, each alternative presents a less balanced approach than the proposed project. Thus, each of these alternatives would not meet each of the primary objectives equally, nor would they meet the needs of the widest range of park users.

The proposed *Draft General Plan* would not result in significant impacts with the implementation of the guidelines proposed, as discussed in Chapter III of this EIR. The proposed *Draft General Plan* also meets the primary goal and objectives of the project and addresses the needs of the widest range of potential park users. Both the Conservation and Recreation alternatives would fail to meet all the goals and objectives, and could result in potentially significant impacts or in less-than-significant impacts similar to those identified for the proposed *Draft General Plan*.

Thus, because implementation of the proposed *Draft General Plan* would not result in unmitigable significant environmental impacts, presents the most balanced approach of the available alternatives, and provides a shoreline park with both recreation and environmental enhancement opportunities for the people of the San Francisco Bay region and the State of California, the proposed *Draft General Plan* is the Environmentally-Superior alternative.

# V. CEQA-REQUIRED ASSESSMENT CONCLUSIONS

As required by CEQA, this chapter presents discussions related to growth-inducing impacts; significant irreversible changes; cumulative impacts; effects found not to be significant; unavoidable significant effects; and the relationship between short-term and long-term uses of the environment. The focus of this chapter is on the *Eastshore Park Project General Plan* (*Draft General Plan*). Subsequent development projects to implement the *Draft General Plan* could have project-specific impacts which would be addressed, as appropriate, on a project-by-project basis pursuant to CEQA.

## A. GROWTH-INDUCING IMPACTS

A project is considered growth-inducing if it would directly or indirectly foster economic or population growth or the construction of additional housing.[1] Examples of projects likely to have significant growth-inducing impacts include extensions or expansions of infrastructure systems beyond what is needed to serve project-specific demand and development of new residential subdivisions or industrial parks in areas that are currently only sparsely developed or are undeveloped. Because this document is a first-tier (i.e., program-level) EIR on the proposed *Draft General Plan*, which will guide future development of the Eastshore Park, it is especially important to assess potential growth-inducing impacts.

The objectives of the *Draft General Plan* are to reclaim the waterfront for the recreational enjoyment of the public and to enhance the natural resources of the East Bay shoreline. The *Draft General Plan* would not introduce significant amounts of development that would encourage future growth. Any development or improvement that would result from the implementation of the proposed *Draft General Plan* would not directly or indirectly foster significant economic or population growth and proposed development and improvements would not result in an expansion of existing urban services beyond what is needed for the proposed *Draft General Plan*. Additionally, the proposed *Draft General Plan* does not include the development of additional housing within any of the cities. Thus, implementation of the proposed *Draft General Plan* would not result in any significant growth-inducing impacts and/or significantly exceed growth that is projected for the cities of Oakland, Emeryville, Berkeley, Albany, and Richmond.

## B. SIGNIFICANT IRREVERSIBLE CHANGES

An EIR must identify any significant irreversible environmental changes that could result from the implementation of a proposed General Plan. These may include current or future uses of non-renewable resources, and secondary or growth-inducing impacts that commit future generations to similar uses. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified.[2] The *CEQA Guidelines* describe three distinct categories of significant irre

[1] *CEQA Guidelines*, 2000. Section 15126.2(d).

[2] Ibid.

versible changes: 1) changes in land use which would commit future generations; 2) irreversible changes from environmental actions; and 3) consumption of non-renewable resources.

### 1. Changes in Land Use Which Would Commit Future Generations

The proposed General Plan is generally consistent with the five municipal land use plans. Based on a long history of industrial uses along the Bay shoreline, a large portion of North Pt. Isabel is designated for industrial uses. The area will be developed as a park unit for future generations and not as commercial and semi-industrial uses proposed by the previous owners.

### 2. Irreversible Changes from Environmental Actions

Irreversible changes to the environment could occur from accidental releases of hazardous materials associated with facility development. However, compliance with hazardous materials regulations and policies, as outlined in Section III.F, Hazards, would reduce this potential impact to a less-than-significant level. No other irreversible changes would result from the adoption and implementation of the proposed *Draft General Plan*.

### 3. Consumption of Non-Renewable Resources

The issue of consumption of non-renewable resources includes increased energy use, conversion of agricultural lands, and lost access to mining reserves. Development associated with the implementation of the proposed *Draft General Plan* would require additional energy. However, due to the open space and recreational nature of the *Draft General Plan*, the number of facilities within Eastshore Park that would require energy would be low and, thus, would not result in a substantial increase in energy use. No agricultural lands would be converted and no access to mining reserves would be lost with implementation of the proposed *Draft General Plan*.

## C. CUMULATIVE IMPACTS

CEQA defines cumulative impacts as "two or more individual effects, which, when considered together, are considerable, or which can compound or increase other environmental impacts." Section 15130 of the *CEQA Guidelines* requires that an EIR evaluate potential environmental impacts that are individually limited but cumulatively significant. These impacts can result from the proposed project along, or together with other projects. "The cumulative impact from several projects is the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects." Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time.[3]

### 1. Methodology

When evaluating cumulative impacts, CEQA allows the use of either a list of past, present, and probable future projects, including projects outside the control of the (lead) agency, or a summary of projections in an adopted planning document. This cumulative analysis uses the summary of projections based on information from the traffic analysis. A buildout of all the traffic analysis zones within the project's vicinity based on future development identified within each jurisdiction's General Plan provided the basis for the cumulative buildout scenario used as the basis for the cumulative traffic, and

[3] *CEQA Guidelines*, 2000. Section 15355.

subsequent air quality and noise analyses in this document. Appendix C presents a description of the development projected for the cumulative condition. In addition, a number of projects were considered as part of the cumulative development for this analysis and listed in Appendix F.

## 2. Cumulative Effects of the Proposed Draft General Plan

The following analysis examines the cumulative effects of the proposed *Draft General Plan*. The potential cumulative effects of the proposed *Draft General Plan* are summarized below for each of the topics that are analyzed in Chapter III of the EIR.

**a. Aesthetics.** Implementation of the proposed *Draft General Plan* would not result in any significant cumulative impacts on visual resources that could not be mitigated to less-than-significant levels. Policies included in the *Draft General Plan* guide the placement and height of future development to ensure the preservation of scenic vistas. The cumulative effects on visual resources from cumulative development would not be significant and adverse, as they would be required to comply with the design guidelines of each respective city.

**b. Air Quality.** Because the proposed project would not have individually significant operational air quality impacts, the determination of significant cumulative impacts is based on an evaluation of the consistency of the project with local General Pans and the Regional Air Quality Plan. If a project is proposed in a city or county with a General Plan that is consistent with the Clean Air Plan (CAP) and the project is consistent with the General Plan (i.e., does not require a General Plan Amendment [GPA]), then the project will not have a significant cumulative impact.

If the project is not consistent with the General Plan that is consistent with the CAP, the cumulative impact analysis should consider the difference(s) between the project and the original (pre-GPA) land use designation for the site with respect to motor vehicle use and potential land use conflicts. A project would not have a significant cumulative impact if: 1) vehicle miles traveled (VMT) from the project would not be greater than the VMT that would be anticipated under the original land use designation, and 2) the project would not result in sensitive receptors being in close proximity to sources of objectionable odors, toxics or accidental release of hazardous materials.[4]

The current General Plans of the cities of Oakland, Emeryville, Berkeley, Albany, and Richmond are consistent with the most recent CAP adopted by the BAAQMD. The project proposes to provide recreation and resource-enhancement opportunities for the benefit and welfare of the citizens of the State of California. The project would add additional parking spaces and recreational areas to meet the needs of a growing population.

Therefore, the rate of increase in VMT for the park is equal to or lower than the rate of increase in population. In addition, by increasing the number of parking spaces at the park, it reduces the need for residents to drive to parks further away from the project area. Therefore, the proposed project would comply with the CAP transportation control measures (TCMs), and would satisfy the first criterion for less-than-significant cumulative air quality impact.

[4] *Bay Area Air Quality Management District (BAAQMD) CEQA Guidelines*, April 1996.

The proposed project would not result in sensitive receptors being in close proximity to sources of objectionable odors, toxics or accidental release of hazardous materials. This satisfies the second criterion for less than significant cumulative air quality impact. Therefore, the proposed project would not result in significant cumulative air quality impacts.

**c. Biological Resources.** No significant cumulative impacts on biological resources are expected due to implementation of the proposed *Draft General Plan* and other future development projects in the vicinity. The Eastshore Park project proposes to protect and enhance most of the open space/habitat within the park, and incorporates policies that would mitigate all biological impacts to a less-than-significant level. Except for three projects (noted below), the projects planned in the vicinity would not affect any substantial open space areas, and would be required to mitigate any impacts on wetlands or streams to a less-than-significant level.

The Bay Bridge East Span project would affect a large (primarily aquatic) open space area adjacent to Eastshore Park, but the Bay Bridge project will incorporate substantial local mitigation for impacts on eelgrass beds, wetlands, and shorebird roosts, as well as numerous measures to avoid or minimize biological impacts during construction. The Berkeley Marina Pathway project would implement a trail that is included as part of the *Draft General Plan* (and thus, was assessed in this EIR). The trail would be extended westward from the park along University Avenue. The western portion of the trail, outside of Eastshore Park, is not expected to have any significant biological impacts. The Berkeley Waterfront Plan includes the widening of Marina Boulevard and creation of a bike trail, a planted buffer, and parking spaces along the west side of the Berkeley Meadow and, thus, could have impacts on northern harriers and other raptors that nest or forage in the Meadow. However, these impacts would, presumably, be mitigated as part of the implementation of the Berkeley Waterfront Plan project. The *Draft General Plan* also includes policies to minimize impacts due to visitor access to the Meadow. Thus, the Eastshore Park project, in combination with other planned projects, is not expected to have significant cumulative biological impacts.

**d. Cultural Resources.** The Eastshore Park project, in combination with other planned projects in the vicinity, is not expected to cause significant adverse impacts to cultural resources. Proposed new development in the vicinity of Eastshore Park would not contribute to any cumulative regional loss of cultural resources, as these projects would be required to undergo independent environmental review.

**e. Geology and Soils.** The proposed *Draft General Plan* does not propose any changes to the geology at the project site. New development at the project site would not increase the risk of geologic hazards. As it is likely that many of the park's visitors will be from the Bay Area or California, their visit to the project site would not expose them to any greater risks than other parts of the East Bay shoreline because California is seismically-active in general. Thus, implementation of the proposed *Draft General Plan* would not result in significant cumulative impacts related to geology and soils.

**f. Hazards.** Although hazardous materials may exist below the surface of portions of the project site, *Draft General Plan* guidelines identified in Section III.F, Hazards, would reduce the risks of exposure to construction workers and future users to a less-than-significant level. As the future use of the project site will include open space, recreation, preservation, and conservation, the proposed *Draft General Plan* would not introduce new hazardous materials to the site related to ongoing operation.

As a result, implementation of the proposed *Draft General Plan* would not result in significant cumulative impacts related to hazardous materials.

**g. Hydrology and Water Quality.** The proposed *Draft General Plan* would not lead to any cumulative impacts related to hydrology and stormwater drainage. Enhancements to the shoreline and hydrologic resources of the project site, in addition to control measures and drainage systems to address anticipated storm water runoff where necessary, will limit potential impacts. However, construction period activities and the operation and maintenance of General Plan facilities in combination with other cumulative impacts associated with activities off of the project site could add to both the overall volume of the storm water runoff carried by the drainage systems and to the amount of contaminants carried in the runoff, adversely effecting water quality in the receiving waters of the San Francisco Bay. Identification of and adherence to pertinent and applicable resource protection requirements for the construction and operation of projects as defined by Regional Water Quality Control Board (RWQCB), California Department of Fish and Game (CDFG), U.S. Army Corps of Engineers (Corps), and Bay Conservation and Development Commission (BCDC) will further reduce the potential for cumulative impacts. Coordination with local municipalities and project specific mitigation measures will be incorporated into the *Draft General Plan* Specific Project Plans to reduce these impacts to a less-than-significant level.

**h. Land and Public Policy.** There would not be any significant land use changes under the proposed *Draft General Plan*, as the land use designations in the proposed *Draft General Plan* (Preservation, Conservation, and Recreation) are similar to those outlined in municipal plans for lands within the proposed project. The overall changes in land use that would occur with implementation of the proposed *Draft General Plan* would be minimal. Land use designation changes, from Industrial to Recreation and Preservation, would be small compared to the overall area of the project site, as well as the area of the five municipalities. Additionally, the change in land use would result in fewer environmental impacts than industrial uses. Therefore, no significant cumulative impact on land use would occur with the proposed *Draft General Plan* in combination with the other reasonably foreseeable projects in the adjacent municipalities.

**i. Noise.** The proposed project would not result in any significant cumulative noise impacts on adjacent off-site uses from its short-term construction and long-term operations onsite. The only potential cumulative noise impact from the proposed project would be associated with vehicular traffic on roadway links in the project vicinity. Table III.I-11, Year 2025 Plus Project ADT Traffic Noise Levels, in the project impact analysis section shows cumulative (Year 2025) traffic noise levels, which take into account projected vehicular trips from all current and approved developments in the project area, along roadway links in the project vicinity. The proposed project would add up to 0.1 dBA to area roadway links over the corresponding Year 2025 baseline (without the project) levels. A noise level change of 0.1 dBA is not discernible by the human ear and is considered less than significant. No significant cumulative noise impacts would occur on offsite sensitive uses.

**j. Public Services.** Demand for public services would increase with the implementation of cumulative projects. New development, such as residential, commercial, office, industrial, and park facilities, and increased population would all need additional police protection and fire and emergency services at the project site and in the adjacent municipalities. As the providers of these services regularly review the growth in population and new projects to identify any resultant need for additional staffing, cumulative effects related to these services would be less-than-significant with the im

plementation of project-specific guidelines to address these issues. The implementation of the *Draft General Plan* would result in the creation of a new park along the East Bay shoreline. Thus, no significant cumulative impact related to parks and recreation would result from the *Draft General Plan*.

**k. Transportation and Circulation.** The traffic analysis in Section III.K, Transportation and Circulation, of this EIR takes cumulative and future conditions into account. No cumulative traffic impacts were identified in Section III.K and no additional cumulative traffic impacts are anticipated.

**l. Utilities.** Development of the proposed *Draft General Plan*, in conjunction with planned future development in the vicinity, would cumulatively increase the demand on the utility providers in the project area. None of the various utility and infrastructure services analyzed would experience significant impacts due to the proposed *Draft General Plan* that could not be mitigated. Buildout of the cumulative projects would not result in cumulative impacts related to physical capacities, service levels, or funding availability as projections take growth into consideration. No significant cumulative impacts related to utilities and infrastructure are anticipated.

## D. EFFECTS FOUND NOT TO BE SIGNIFICANT

Each of the CEQA-defined environmental factors is considered within Chapter III, Setting, Impacts, and Mitigation Measures, of this EIR. However, some topical issues were found not to be significant and were not further evaluated in this EIR. These topical issues are identified and briefly discussed in this section.

### 1. Agricultural Resources

There are no known agricultural resources located within the Eastshore Park project site. Thus, the proposed *Draft General Plan* would not have an adverse effect on agricultural resources.

### 2. Energy and Mineral Resources

General Plan policies encourage resource conservation, as well as recreational uses for the Eastshore Park project site. The potential development and improvements proposed by the *Draft General Plan* would require minimal amounts of energy, would not require additional energy capacity to serve the project, and would not adversely affect peak and base period demands for electricity. Additionally, since General Plan policies encourage pedestrian, bicycle, and non-motorized boats as the primary modes of transportation within the park, as well as public transit access to the park, its projected transportation energy use requirement could be minimal. Thus, the proposed *Draft General Plan* would not have an adverse effect on energy resources.

There are no known mineral resources within the Eastshore Park project site. Therefore, the proposed *Draft General Plan* would not have an adverse effect on mineral resources.

### 3. Population, Employment, and Housing

Implementation of the proposed *Draft General Plan* is not anticipated to result in any impacts related to population, employment, or housing. The *Draft General Plan* would not induce substantial population growth in the area as it does not propose any new housing or businesses, nor does it require the extension of roads or other infrastructure. Full buildout of the proposed project would result in a park

along the East Bay shoreline, resulting in a potential increase in the number of visitors to the project site. Additionally, the Eastshore Park will attract people who already reside in the adjacent cities of Oakland, Emeryville, Berkeley, Albany, and Richmond. The *Draft General Plan* would not displace any people or housing that would necessitate the construction of replacement housing elsewhere, as the project site has already been set aside for parkland, and there is currently no housing or persons residing at the project site. It is anticipated that the implementation of the *Draft General Plan* would result in an increase in jobs with the potential development of concession buildings, the interpretive centers, and other facilities that will require staff. However, it is unlikely that the number of new jobs generated by the *Draft General Plan* would substantially exceed the projected number of jobs in each of the adjacent cities. The proposed *Draft General Plan* would not result in any adverse effects on the population, employment, and housing within the cities of Oakland, Emeryville, Berkeley, Albany, and Richmond.

### 4. Schools and Libraries

Since the General Plan would not result in a substantial increase in the cities' populations, it is not anticipated that its implementation would adversely affect the schools and libraries within the cities of Oakland, Emeryville, Berkeley, Albany, and Richmond. Additionally, the increase in numbers of people at the project site would not significantly impact schools and libraries in the adjacent cities.

## E. UNAVOIDABLE SIGNIFICANT EFFECTS

The proposed *Draft General Plan* would not result in any unavoidable significant effects, as discussed in Chapter III of this EIR.

## F. RELATIONSHIP BETWEEN SHORT-TERM AND LONG-TERM USES OF THE ENVIRONMENT

As outlined in Chapter III of this EIR, implementation of the proposed *Draft General Plan*, would not result in any significant impacts. Potential environmental impacts would be offset with the implementation of the proposed guidelines in the *Draft General Plan*. The long-term purpose of the proposed *Draft General Plan* is to provide direction and guidance for the future development of the Eastshore Park. The General Plan is intended to be sensitive to the project site's environmental resources and is subject to California State standards and guidelines, many of which ensure that strategic choices take appropriate account of long-term costs and benefits.

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# FIGURES AND TABLES

**FIGURES**

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## C. REFERENCES

AC Transit. Website: www.actransit.org.

Albany, City of, 1995. *A Proposal for the Albany Portion of the Eastshore Park*. Submitted to the East Bay Regional Park District, Oakland, CA. June 1995. City of Albany, Albany, CA.

City of Albany, 1992.

Albany, City of. *Draft General Plan and Draft EIR*. November, 1991. Amtrak. Website: www.amtrak.com..

Association of Bay Area Governments. 1991. *San Francisco Estuary Report. Status and Trends Report on Wetlands and Related Habitats in the San Francisco Estuary, December 1991*. Oakland, CA.

Association of Bay Area Governments, 1995. Hazard Map, Dam Failure Inundation Areas, Association of Bay Area Governments.

Association of Bay Area Governments, 2001. San Francisco Bay Trail Plan. Website: www.abag.ca.gov/bayarea/baytrail/baytrailplan.

Barbour, M.G. & J. Major. 1988. *Terrestrial Vegetation of California, new expanded edition*. California Native Plant Society Special Publication Number 9. California Native Plant Society, Sacramento, CA.

Bay Area Air Quality Management District, 2002. *Ambient Air Quality Standards & Bay Area Attainment Status*, January.

Bay Area Air Quality Management District, 1996. *BAAQMD CEQA Guidelines – Assessing the Air Quality Impacts of Projects and Plans*. April.

Bay Area Rapid Transit District. Website: www.bart.gov.

Bay Area Stormwater Management Agencies Association, 1997, Start at the Source, a Residential Site Planning & Design Guidance Manual for Stormwater Quality Protection.

Berkeley, City of, 2001. *City of Berkeley General Plan, Transportation Element*. December 18.

City of Berkeley, Municipal Code, Chapter 13.40, 1994.

Berkeley Planning Commission (BCP) , 1976. *Berkeley Master Plan*. December.

Bishop, C.C, et al. 1973, *Geologic and Geophysical Investigation for Tri-Cities Seismic Safety and Environmental Resources Study,* Preliminary Report 19, California Division of Mines and Geology.

Bodega Bay Institute. 1978. *The Crescent: An Environmental Assessment of the Emeryville Crescent.* June.

California Air Resources Board, 2000.

California Air Resources Board/Bay Area Air Quality Management District Data, 1997 to 2001.

California Cap Company, 1922. "The California Cap Company: A Story of the Development of the Blasting Cap Industry, with Sidelights on Manufacturing" in *The Detonator.* July 26-28.

California Department of Fish and Game (CDFG). 2001. *California Natural Diversity Database* (CNDDB). The Resources Agency, Department of Fish and Game, Natural Heritage Division, Sacramento, CA.

California Department of Parks and Recreation, et. al., 2001. Eastshore Park Project. Website: www.eastshorestatepark.org.

California Department of Transportation (Caltrans). Website: www.dot.ca.gov.

Caltrans. 1995. *ALA-80 High Occupancy Vehicle Lane Project. Final Biological Mitigation Report*. Prepared in support of ACE Permit # 16686S49. Caltrans District 4, Office of Environmental Planning, North. August.

California Department of Transportation Division of Highways (Caltrans), circa 1933. *Plan and Profile of State Highway in Alameda County, Between Distribution Structure and University Avenue*. Title Sheet of the "As Built Plans" Document No. 40000955.

California Department of Transportation, Department of Public Works, Division of Highways (Caltrans), 1935. *Plan and Profile of State Highway in Berkeley, Between Folger Avenue and Gilman Street*. Partial copy of "As Built Plans".

California Department of Transportation, Department of Public Works, Division of Highways (Caltrans), 1952. *Plan and Profile of State Highway in Oakland and Emeryville, Eastshore Freeway Between Distribution Structure and Ashby Avenue*. As Built Plans, Contract No. 52-4TC 37-F, Document No. 40000949.

California, Department of Transportation (Caltrans), 1998. *Project Plans for Construction on State Highway In Alameda and Contra Costa Counties In Albany and Richmond from El Cerrito Overhead to Central Avenue.* Contract No. 04-181784.

California Native Plant Society. 2000. *Inventory of Rare and Endangered Plants of California* (6th edition, electronic version). Rare Plant Scientific Advisory Committee, David P. Tibor, Convening Editor. Sacramento, California.

California, State of, Seismic Hazard Zone Preliminary Review Map. (California), 1999. Parts of the Oakland West Quadrangle, Division of Mines and Geology. September 30.

Catellus Resources Group, 1996. East Shore Park Transaction Proposal. May.

Contra Costa County Community Development Department, 1989. *Revised Preliminary Historic Resources Inventory*.

Contra Costa County Planning Department, 1976. *Preliminary Historic Resources Inventory*.

Dibblee, Thomas W. Jr., 1980. *Preliminary Geologic Map of the Richmond Quadrangle, Alameda and Contra Costa Counties, California.* Open-File Report 80-1100. Department of the Interior, United States Geological Survey.

Donaldson Associates, 1999. *Environmental Initial Study for the I-80 Bicycle/Pedestrian Overcrossing Project*. April 1.

East Bay Municipal Utility District, 2002. Website: www.ebmud.com. February 25.

East Bay Regional Park District, 2001. Point Isabel Dog Owners Association and Friends, Inc. (PIDO).

East Bay Regional Park District (EBRPD). 1985. *Brooks Island Regional Preserve*. *Final Land-use Development Plan/Environmental Impact Report.* Adopted: September 10, 1985; Resolution.

East Bay Regional Park District (EBRPD). 1976. *Resource Inventory and Analysis for Brooks Island Regional Preserve*. Accepted February 17, 1976. East Bay Regional Parks District, Oakland, California.

Egan, M. David, 1988. *Architectural Acoustics*.

City of Emeryville, Office of Noise Control, State Department of Health Services..

City of Emeryville, 1988.

Emmett, M. 1996. *Eelgrass* (Zostera marina *L.*) *Distribution Adjacent to the Proposed Eastshore Park*. *In* California's Environments: Understanding our Past, Assessing our Future. D. Sloan and D. Kelso, (Eds.). Senior Seminar, Environmental Sciences Group Major, University of California, Berkeley, CA.

ERM, 1998. BCDC Application, Form, and Supplemental Information. August.

ERM, 1998. Soil Remediation Closure Report – East Shore Properties. November.

ERM, 1998. Soil Remediation Closure Report – Emeryville Crescent Property. October.

Federal Highway Administration, 1978. Federal Highway Administration Highway Traffic Noise Prediction Model (FHWA-RD-77-108). December.

Fehr & Peers Associates, Inc., 2000. *Albany Bayview Office Project Traffic Analysis*. November 30.

Fehr & Peers Associates, Inc., 1997. *North Hollis Master Plan Traffic Counts*. March.

Geo/Resource Consultants, Inc., 1992. Site Characterization Report – West Frontage Road. July.

Goals Project. *2000*. Baylands Ecosystem Species and Community Profiles. Life Histories and Environmental Requirements of Key Plants, Fish and Wildlife. *Prepared by the San Francisco Bay Area Wetlands Ecosystem Goals Project. P.R. Olofson, editor. S.F. Bay Regional Water Quality Control Board, Oakland, Calif.*

Goals Project. *1999*. Baylands Ecosystem Habitat Goals. *A Report of Habitat Recommendations prepared by the San Francisco Bay Area Wetlands Ecosystem Goals Project*. First Reprint. U.S. Environmental Protection Agency, San Francisco, Calif./S.F. Bay Regional Water Quality Control Board, Oakland, Calif.

Goldman, Harold B., 1969. *Geologic and Engineering Aspects of San Francisco Bay Fill*. Special Report 97, California Division of Mines and Geology.

Harding Lawson Associates, 1984a. *Preliminary Geotechnical Study, Santa Fe Land Improvement Company, Albany Waterfront Project, Albany California, HLA Job No. 13127,001.04.*

Harding Lawson Associates, 1984b. Revised, *Preliminary Geotechnical Study, Santa Fe Land Improvement Company, Emeryville Waterfront Project, Emeryville, California, HLA Job No. 13127,006.04*. November.

Harlan Tate Associates. 1990. *Seep Study - Albany Landfill, Albany Point State Park, Albany Point State Park*. Prepared for City of Albany, Albany, California. October 31, 1990. Harlan Tait Associates, San Francisco, CA.

Health and Safety Code Section 25501.

Hickman, J.C. 1993. *The Jepson Manual; Higher Plants of California*. University of California Press, Berkeley, CA.

Holland, R.F. 1986. *Preliminary Descriptions of the Terrestrial natural Communities of California.* State of California, The Resources Agency, Department of Fish and Game, Sacramento, CA.

Hoover, M. Brooke, H. E. Rensch, E. Rensch, and W. N. Abeloe, 1990. *Historic Spots in California*. 4th edition. Revised by Douglas E. Kyle. Stanford University Press, Stanford, California.

Institute of Transportation Engineers. *Trip Generation*. Sixth Edition. 1997.

Johnson, Marilynn S., 1993. *The Second Gold Rush: Oakland and the East Bay in World War II*. University of California Press, Berkeley.

Kirkpatrick, William, 1999. Manager of Water Distribution Planning, EBMUD. Letter to Andrew Thomas of the City of Berkeley. May.

Knudsen, K.L, et al., 1997, *Quaternary Geology and Liquefaction Susceptibility Maps, San Francisco, California 1:100,000 Quadrangle*, United States Geological Survey Open File Report 97-715, Sheet 2 of 2.

Lake, D. 2001a. *Unusual and Significant Plants of Alameda and Contra Costa Counties*. 6th edition. California Native Plant Society, East Bay Chapter.

Lake, D. 2001b. *Habitats of Unusual and Significant Plants of Alameda and Contra Costa Counties.* 6th edition. California Native Plant Society, East Bay Chapter.

Lake, D. 2001c. *Regions of Unusual and Significant Plants of Alameda and Contra Costa Counties.* 6th edition. California Native Plant Society, East Bay Chapter.

Levine-Fricke, 1989a. *Geotechnical and Earthquake Engineering Report, Santa Fe Albany Waterfront Project, Albany, California. L-F 1616*. January.

Levine Fricke, 1989. Environmental Site Assessment, The Emeryville Crescent Property. July.

Levine Fricke, 1989. Final SWAT Investigation Report, Santa Fe Pacific Albany Landfill Site. December.

Levy, Richard, 1978. Costanoan. In *Handbook of North American Indians, Volume 8: California*, Robert F. Heizer, pp. 485-495. Smithsonian Institution, Washington, D.C.

LSA Associates, Inc., 2002.

LSA Associates, Inc., 2002. *Eastshore Park Project Resource Inventory.* Prepared for California Department of Parks and Recreation, East Bay Regional Parks District, and California State Coastal Conservancy. May.

LSA Associates Inc. 2001. *City of Berkeley Draft General Plan Environmental Impact Report.* February.

LSA Associates, Inc. (LSA) 1998. *Delineation of Clean Water Act Jurisdictional Areas, Berkeley Meadows. Berkeley Property*. Prepared for Shute, Mihaly & Weinberger, San Francisco, CA. February 10.

LSA Associates, Inc. (LSA) 1998. *Functional Assessment of Wetlands at Berkeley Meadows, Berkeley, California*. Prepared for Shute, Mihaly & Weinberger, San Francisco, CA. February 10.

Margolin, Malcolm, 1978. *The Ohlone Way : Indian Life in the San Francisco-Monterey Bay Area*. Heyday Books, Berkeley, California.

Metropolitan Transportation Commission, Transit Information. Website: www.transitinfo.com

Metropolitan Transportation Commission. Website www.mtc.ca.gov.

Mikesell, Stephen D, 1990. *Historic Highway Bridges of California*. California Department of Transportation, Sacramento, California.

Moratto, Michael J., 1984. *California Archaeology*. Academic Press, Orlando, Florida.

Munz, P.A., and D.D. Keck. 1968. *A California Flora and Supplement*. University of California Press, Berkeley, CA.

Myers, William A., editor, 1977. *Historic Civil Engineering Landmarks of San Francisco and Northern California*. The History and Heritage Committee, San Francisco Section, American Society of Civil Engineers, San Francisco.

National Academy of Science, 1977. *Noise Assessment Guidelines for Environmental Impact Statements.*

NOAA/CDFG-OSPR (National Oceanic and Atmospheric Administration/California Department of Fish and Game, Office of Oil Spill Prevention and Response). 1998. *San Francisco Bay Environmental Sensitivity Index*.

National Park Service, 1998. *National Register Bulletin: Guidelines for Evaluating and Documenting Traditional Cultural Properties*. National Park Service, Cultural Resources, National Register, History and Education, Washington, D.C.

Nelson, Nels C., 1909. Shellmounds of the San Francisco Bay Region. *University of California Publications in American Archaeology and Ethnology* 7(4):309-356.

Oddi, M. 1982. *The South Richmond Marshes: An Ecological Analysis*. pp. 207-221 *In* The East Bay Shore Line; Selected Environmental Issues. D. Sloan (Ed.). Senior Seminar, Environmental Sciences Group Major, University of California, Berkeley, CA.

Olson, D. 1982. *The Salt Marsh Harvest Mouse in the Emeryville Crescent Marsh.* pp. 135-162 *In* The East Bay Shore Line; Selected Environmental Issues. D. Sloan (Ed.). Senior Seminar, Environmental Sciences Group Major, University of California, Berkeley, CA.

The Planning Collaborative, Inc. 1988. *Point Isabel to Miller-Knox Park*. August.

The Planning Collaborative, Inc. 1985. *Phase One Report; Albany Waterfront Specific Plan*. Prepared for the City of Albany, Albany, CA. July 1985. The Planning Collaborative, Inc.

Pettitt, George A., 1973 *Berkeley: The Town and Gown of It*. Howell-North Books, Berkeley, California.

Pitcher, Don, and M. Margolin, 1989. *Berkeley Inside/Out: A Guide to Restaurants, Entertainment, People and Politics*. Heyday Books, Berkeley, CA.

Radbruch, Dorthy, H., 1957, *Areal and Engineering Geology of the Oakland West Quadrangle, California*, United States Geologic Survey Miscellaneous Geologic Investigations Map I-239.

Resource Management International, Inc. (RMI) 1996. *Albany Bay Trail/Buchanan Street Project Biological Resources Evaluation.* Prepared for the City of Albany. March 1996. RMI, San Rafael, CA.

City of Richmond Municipal Code.

Robinson , D. 1982. *The Brickyard*. pp. 173-182 *In* The East Bay Shoreline; Selected Environmental Issues. D. Sloan (Ed.). Senior Seminar, Environmental Science Group Major. University of California, Berkeley, CA.

RWQCB, 1999. Albany Landfill: Transmittal of Final Order No. 99-068, Updating Water Discharge Requirements and Rescinding Order No. 84-089. September.

RWQCB, 1998. Certificate of Completion, East Shore State Park Properties, Alameda and Contra Costa Counties. December 18.

RWQCB, 1998. Notice of Tentative Waste Discharge Requirements for Albany Landfill. February.

RWQCB, 1998. Site Cleanup Requirements for Catellus Properties in Berkeley and Albany, Order No. 98-072. July.

RWQCB, 1997. Site Cleanup Requirements for Catellus Development Corporation, Emeryville Crescent Properties, Order No. 97-069. May.

San Francisco Bay Conservation and Development Commission, 2001. San Francisco Bay Plan.

San Francisco Bay Regional Water Quality Control Board. 1995. *Water Quality Control Plan.* June 21.

SFEP (San Francisco Estuary Project). 1991. *Status and Trends Report on Wetlands and Related Habitats in the San Francisco Estuary.* Prepared by the Association of Bay Area Governments, Romberg Tiburon Centers, and U.S. Fish and Wildlife Service. December.

SFEP (San Francisco Estuary Project). 1992a. *Status and Trends Report on Wildlife of the San Francisco Estuary*. Prepared by the U.S. Fish and Wildlife Service. January.

SFEP (San Francisco Estuary Project). 1992b. *Status and Trends Report on Aquatic Resources of the San Francisco Estuary*. Prepared by the B. Herbold, A. Jassaby, and P. Moyle, U.C. California, Davis. March.

Sawyer, J. O. & T. Keeler-Wolf. 1995. *A Manual of California Vegetation*. California Native Plant Society, Sacramento, CA.

Seed, R.B., et al., 1990. *Preliminary Report on the Principal Geotechnical Aspects of the October 17, 1989 Loma Prieta Earthquake*. Report No. UCB/EERC-90/05. Earthquake Engineering Research Center, College of Engineering, University of California, Berkeley.

Shuford, W. D. 1993. The Marin County Breeding Bird Atlas: A Distributional and Natural History of Coastal California Birds. Bushtit Books, Bolinas, CA.

Skinner, M.W. and B.M. Pavlik, Eds. 1994. Inventory of Rare and Endangered Vascular Plants of California. 5th edition. California Native Plant Society, Sacramento, California.

Sowers, Janet, 1995. *Creek and Watershed Map of Oakland and* Berkeley. Oakland Museum of California.

State Lands Commission. Public Trust Rights and Needs in the Emeryville Tide and Submerged Lands. March 1989.

Streamborn. 1999. *Letter Report: Surface Water Monitoring, Albany Landfill, Albany, CA.* Prepared for City of Albany, Albany, CA. May 25, 1999. Streamborn, Albany, CA.

Streamborn, 1997. Evaluation of Public Health and Environmental Risks Potentially Posed by the Albany Landfill and Evaluation of Capping to Mitigate the Potential Risks. April.

Tetra Tech, 2001. Draft letter regarding the East Shore State Park Annual Inspection. March 9.

Tetra Tech, 1994. Phase II Site Assessment Fleming Point Property. August.

Tetra Tech, 1994. Slag Characterization Investigation – Northern Portion Emeryville Crescent Property. October.

Tetra Tech, 1993. Phase I Environmental Site Assessment for Emeryville Crescent. October.

Tetra Tech, 1993. Phase I Environmental Site Assessment for Stege Flat. September.

Tetra Tech, 1993. Site Investigations Summary – Emeryville Crescent Property. October.

Tetra Tech, 1993. Technical Evaluation of Environmental Assessment – Emeryville Crescent Property. August.

Tetra Tech. 1994a. *Work Plan, Phase II Site Investigation, Berkeley Peninsula Properties, Berkeley, California.*

Tetra Tech. 1994b. *Slag Characterization Investigation, Northern* Portion, Emeryville Crescent Property, Emeryville and Oakland, California.

Tetra Tech. 1994. *Regional Environmental Setting Update for Berkeley Peninsula Property, Eastshore Park.* Prepared for East Bay Regional Park District, Oakland, CA. Tetra Tech, San Francisco, CA. October.

3E Engineering, 1989. *Request for Proposals, Environmental Testing Program, North Waterfront Park at the City of Berkeley Landfill*. December.

Transportation Research Board. *Highway Capacity Manual (HCM2000)*. 2000.

Turner, A. 1982. *Historical Shoreline Changes: Natural and Artificial.* In The East Bay Shoreline: Selected Environmental Issues. D. Sloan (ed.). Senior Seminar, Environmental Sciences Group Major, University of California, Berkeley, CA.

U.S. Army Corps of Engineers/Port of Richmond. 1996. *Final Supplemental Environmental Impact Statement/Environmental Impact Report, Richmond Harbor Navigation Improvements.* State Clearinghouse Number 877051916. April.

*Wagner, D.L., Bortugno, E.J., and McJunkin, R.D., 1991.* Geologic Map of the San Francisco-San Jose Quadrangle, California, 1:250,000*, California Division of Mines and Geology Regional Map Series, Map No 5a (geology sheet 1 of 5)*

Western Ecological Services Company, Inc. (WESCO), 1990. Liquid Gold Site/Hoffman Marsh Biological Investigations Final Report. December 7.

Working Group on California Earthquake Probabilities, 1990, Probabilities of large earthquakes in the San Francisco Bay region, California; USGS Circular 1053.

*Working Group, 1999,* Earthquake Probabilities in the San Francisco Bay Region: 2000 to 2030 – A Summary of Findings*, United States Geologic Survey Open File Report 99-517.*

Wollenberg, Charles, 1985. *Golden Gate Metropolis: Perspectives on Bay Area History*. Institute of Governmental Studies, University of California, Berkeley.

## D. CONTACTS

Akagi, Daniel, 2001. Assistant Civil Engineer, City of Berkeley. Personal communication. March.

Baye, Peter, 2001 U.S. Fish and Wildlife Service. Personal communication with LSA Associates, Inc. March 29.

Bell, Larry, 2001. Facilities Manager, Richmond Field Station. Personal communication with LSA Associates, Inc.

Birch, Larry, 2002. Richmond Sanitary Service. Personal communication with LSA Associates, Inc. January 8.

Blomberg, Jorgen and Jeff Haltiner, 2002. Philip Williams & Associates. Personal communication with LSA Associates, Inc January 8.

Bonnarens, Maura, 2002. EBMUD. Personal communication with LSA Associates, Inc. March 1.

Brady, Larry, 2001. Police Lieutenant, City of Richmond. Personal communication with LSA Associates, Inc., March.

Caswell, Roger, 2001. Base Realignment and Closure Environmental Coordinator, Oakland Army Base. Personal communication. March.

Chernin, Deborah, City of Berkeley, Personal communication. August, 2001.

Chew, Rodney, 2001. Engineer, PG&E. Personal communication. March.

Chongchaikit, Pochana, 2001. Senior Transportation Engineer, Caltrans. Personal communication. April.

Dawson, Ray, 2002. East Bay Regional Park District. Personal communication with LSA Associates, Inc. March.

Delizo, Rex, 2001. Engineer, Stege Sanitary District. Personal communication. March.

Donald, Patti, 2001. Shorebird Nature Center, Berkeley. Personal communication with LSA Associates, Inc May 21.

Greenberg, Corinne, 2001. Golden Gate Audubon Society. Personal communication with LSA Associates, Inc. September 11.

Gross, Billy, 2001. City of Albany, Personal Communication. March.

Harris, Richard, 1999. Water Conservation Division, EBMUD. Personal communication with LSA Associates, Inc. July.

Harrison, Dave, 2001. Business Representative, PG&E. Personal communication. April.

Hatfield, Brian, 2002. U.S. Geological Survey, Biological Resources Division. Personal communication with LSA Associates, Inc. January 30.

Jeremiason, Thomas, 2001. Police Sergeant, City of Berkeley. Personal communication with LSA Associates, Inc. March.

Kaufman, Maurice, 2001. City of Emeryville Public Works Department. Personal communication. March.

Klairmont, Lisa, San Francisco Bay Area Water Transit Authority. Personal communication. March, 2001.

Lake, Dianne, 2001. California Native Plant Society, East Bay Chapter. Personal communication with LSA Associates, Inc. September 17.

Lee, Peter, 2001. City of Berkeley, Personal communication. March.

Linsley, Steve, 2001. Supervisor, City of Richmond Wastewater Laboratory. Personal communication. April.

McGowen, Bill, 2001. Engineer, EBMUD. Personal communication. March.

Murrell, Diana, 2001. City of Emeryville, Personal communication, March.

Ohlson, Kristin, 2001. Personal communication with LSA Associates, Inc April 30.

Olson, Brad, 2001. East Bay Regional Park District. Personal communication with LSA Associates, Inc September 18.

Perez, Isaac, 2001. Senior Transportation Engineer, Caltrans Hydraulics Branch. Personal communication. April.

Pinto, Erin, 2001. Associate Engineer, City of Albany. Personal communication. March.

Rainey, Calvin, 2001. Assistant General Manager, Golden Gate Fields. Personal communication. April.

Rein, Dennis, 2002. Fire Chief, East Bay Regional Park District. Personal communication with LSA Associates, Inc., April.

Schwartz, Susan. Friends of Five Creeks. Personal communication with LSA Associates, Inc. April 12, 2001.

Siauw, Jack, 2001. Project Engineer, Caltrans. Personal communication. April 2.

Small, Pete, 2002. Police Lieutenant, EBRPD. Personal communication with LSA Associates, Inc., March.

Smith, Debra, 2001. San Francisco Estuary Invasive *Spartina* Project. Personal communication with LSA Associates, Inc March.

Stenzel, Lynne, 2001. Point Reyes Bird Observatory. Personal communication with LSA Associates, Inc April 2.

Strauss, Emilie, 2001. Personal communication with LSA Associates, Inc April 26.

Tam, Steven, 2001. City of Richmond, Personal communication. March.

Yee, Henry, 2001. City of Berkeley Engineering Department. Personal communication. March.

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