GATEWAY PARK AREA:

EXISTING AND FUTURE CONDITIONS

MARCH 3, 2010

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PWP Landscape Architecture

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ESA

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For:

Gateway Park Working Group

Bay Area Toll Authority • California Department of Transportation • California Transportation Commission • San Francisco Bay Conservation and Development Commission
East Bay Regional Park District • City of Oakland • Port of Oakland • East Bay Municipal Utility District • San Francisco Bay Trail

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1. INTRODUCTION

This study is the final deliverable for Task 3: Document Existing and Future Conditions. It contains a compilation of site documentation and analysis used to understand the environs and influences on the site, as well as its context, conditions, constraints, and opportunities so as to lay the foundation for planning and concept design.

The consultant team consisted of:

- **Perkins + Will:** The prime on the project, Perkins + Will primarily focused on documenting and performing site analyses on the existing and planned circumstances, which included understanding the site and its planning context, ownership and schedules, and current and proposed developments.
- **Peter Walker Partnership (PWP):** PWP largely focused on understanding the site from the point of view of landscape analysis, reviewing prior reports and assessments, as well as understanding opportunities and constraints from individual site visits and observations.
- **BKF:** As the civil engineering expertise on the team, BKF primarily studied current and planned infrastructure improvements, including proposed access improvements, existing utilities, water, sewer, and gas and electric.
- **Fehr & Peers:** Specializing in transportation engineering, Fehr & Peers reviewed existing and planned pedestrian, bicycle, and vehicular circulation, as well as transportation facilities, to understand the opportunities and constraints for access to the Gateway Park site.
- **ESA:** Focusing on the environmental setting, including ecological, historical, and permitting conditions, ESA predominantly concentrated on understanding the natural and cultural aspects of the Gateway Park Area and the opportunities and constraints posed by existing vegetation, natural resources, noise levels, and shoreline conditions.

Area of Study and Influence

Figure 1. **from Visioning Conference II Presentation, February 4, 2009**

The consultant team worked closely with the Gateway Park Working Group (GPWG), city agencies, and regional planning agencies to record diverse perspectives on the Gateway Park Area (GPA). The team reviewed previous reports and documentation provided by the client and also researched related reports available to the public.

This study is organized by topic, where each topic is divided into sections that address:

Purpose

This section introduces the topic and its importance in terms of understanding the Gateway Park Area and its surrounding sites.

Key Findings

This section clearly summarizes the key findings gathered from the study and potential opportunities and constraints that may arise and affect the existing and future condition of the park.

Methodology and Assumptions

This section explains the techniques, through researched data, site surveys or meetings, which helped the consultant team arrive at their findings and conclusions.

Discussion of Findings

This section delves further into the collected data and resultant research which led to any key findings by the Gateway Park Consultant Team.

References

This section lists all the relevant materials used in collecting and understanding the data for the site.

The text for each topic is followed by a series of figures and diagrams that highlight existing or proposed site conditions, alluding to opportunities and unique considerations for planning of the Gateway Park Area.

2. TOPIC AREAS

Planning Context

This section introduces the unique setting of the Gateway Park Area and discusses the existing site conditions in terms of ownership, adjacent land uses, and potential opportunities within the contextual environment.

Ecology

Natural Resources

Focusing primarily, but not exclusively, on the natural areas north of the bridge, this section identifies existing plant communities, wildlife habitats, and locates sensitive species with the intent to discover opportunities to aid or include these resources in the future Gateway Park Area.

Noise

Due to the proximity of the site to adjacent highways and the Bay Bridge, it is important to study the sources of noise and their effect on sensitive land uses in and near the Project Area and identify opportunities to use landscape architecture and/or other design techniques.

Historic Resources and Protections

This section identifies the historic and cultural resources in the area and suggests potential opportunities to reuse these resources in while honoring the architectural character and ____ role of the facility.

Remediation Requirements

This section identifies prior, current, and future remediation requirements for the Gateway Park Area, as well as recognizing areas of potential contamination and regulatory frameworks in place to address these issues.

Site Structures, Easements, and Utilities

The purpose of this section is to consolidate and document information on the extensive existing infrastructure facilities and planned infrastructure improvements in the Gateway Park project area. The information is key to understanding how park development may impact the site and begin identifying how infrastructural constraints may define the extent or location of changes in the area.

Access

This section identifies the existing conditions of the transportation context and its challenges as well as opportunities for access to the Gateway Park Area and the surrounding vicinity. Gateway Park occupies a unique area that is surrounded by multiple modes of transportation, but there is limited access that directly serves the site.

Landscape Observations

Here the team compiled studies and analyses completed by various agencies and then took a fresh approach to the information from the perspective of park needs and goals. Challenges, ideas, and opportunities are identified based on a combination of factual information and perceived site observations.

Permitting Conditions

The purpose of this section is to summarize and describe the permit and regulatory requirements that will be involved in moving the Gateway Park project through alternatives and leading to the construction phase of the project.

PLANNING CONTEXT

1. PURPOSE

The purpose of this study is to summarize base information about the Gateway Park site and environs, focusing on regional context, East Bay context, ownership, adjacent land uses and potential development opportunities. The information will be used to highlight how the opportunities and constraints can help form the park and foster ideas for future functions that will better serve not only its adjacent uses but also future visitors, neighboring communities, and users of the new Bay Bridge.

2. KEY FINDINGS

The pivotal position of Gateway Park in the Regional Setting offers the potential for creating a powerful visual and open space landmark, which for its success must overcome tremendous challenges in terms of access and clarity of arrival.

A maze of local and regional highway and railroad infrastructure to the north and east of the Park Area currently serves as a barrier to access but must be transformed into a series of welcoming access corridors.

Taking its rightful place in the East Bay Setting, Gateway Park will need to fulfill an ongoing symbolic and programmatic role diverse and inviting enough to draw visitors across the divide of industrial uses and safely along the edges of continuing and growing Port uses.

A major new waterfront destination at Gateway Park will help to right the balance of regional open spaces in the East Bay, bringing more active uses in closer proximity to population densities.

Working with immediate neighbors to the Park Area offers the opportunity to provide a series of gateway or portal experiences – of the Bay's natural environment, of the multi-layered history of transportation on the site, of the powerful economic engine of the Port and its adjacent redevelopment, and as access to a new, unparalleled, visual experience of the region from the bridge itself.

Site Constraints

- In a largely industrial area that does not have or anticipate residential uses, the challenge will be in creating a compellingly visible, attractive, safe, and user-friendly environment that invites visitors to come and stay to enjoy the park.
- Six different agencies maintain ownership of various portions of the site area and therefore it is essential to have an effective coordination structure in order to achieve consensus and ensure a seamless transition as development proceeds on each of the Park parcels, and in coordination with other redevelopment initiatives.
- The relatively flat and low-lying designated parkland site will need to be able to establish itself in a greater area dominated by significant infrastructure, such as the large cranes, shipping containers, and ships periodically moving in and out of the Port. A mutually beneficial relationship to the new East Span of the Bay Bridge, which makes the site unique and presents a significant attraction, will also be essential so that the park is not lost as the bridge takes its landmark role on the Bay.
- Redevelopment of surrounding parcels for commercial, industrial, Port and transportation uses, if not well coordinated, could create safety challenges for pedestrians and bicyclists, could block visual access to the water or to the desired Park access pathways, and could create unattractive back-door uses along the Park access pathways.

Potential Site Opportunities

- The potential Park site is largely contained within the Oakland Army Base redevelopment area and many of its major connection routes from the east are also located within a redevelopment zone – the West Oakland area, as shown in **Figure 9**. This positions the site in a favorable time and place where future Park and Park access implementation strategies might be seamlessly coordinated with redevelopment sites and especially with infrastructure and linkage projects that better connect the area with its surrounding communities.
- The new Bay Bridge will be heavily trafficked by bicyclists and pedestrians, with the Gateway Park serving as the entryway or exit for accessing the bridge.
- The Gateway site is situated in a bustling Port environment, with a high density of youth and schools in nearby West Oakland. This allows for opportunities to create an educational component for the park, fostering a symbiotic relationship between the working waterfront, the Park and local schools and learning facilities.
- The Gateway Park area is rich in local and regional history, as the setting of both the old and new Bay Bridges, with three designated historic landmark buildings and a legacy of transit stemming from the Key System.
- Reuse opportunities for the three historic buildings will naturally depend upon the program of uses for Gateway Park and the most advantageous locations for those uses. At the present the opportunities are seen to include:

The IERBYS

Originally built in 1938 to service railway cars, the steel frame building offers open span space for a wide variety of potential uses and potential exhibits including use as a visitor center with facilities for equipment rental or exhibition space, or museum.

Key Pier Substation

Built in 1926, this concrete building originally served as the substation for the Key Railway System, supplying power to the streetcars that served Oakland. The open interior, lit by a skylight and high windows, is well suited to people-oriented uses and might offer excellent views into the Park or to the water. Among potential uses are a café, gift shop, or visitor's center.

Caltrans Substation

The newest of the three buildings, the Caltrans Substation was built in 1939 to serve and is used as an electrical substation. Due to its concrete construction and adjacency to the Key System Substation, the building can potentially be reused as a support or storage space for a gallery or equipment rental facility.

Further discussion of the historical character of the structures and the area continue in Ecology: Historic Resources and Protections.

3. METHODOLOGY AND ASSUMPTIONS

Base information was gathered from a variety of sources including: recent city, Port of Oakland, and local agency studies, prior consultant assessments, and site visits. Additionally, further data was gathered through meetings with local agency members. Specific sources included:

- HNTB Visioning Reports,
- HTNB Master Access Plan,
- City of Oakland RFP,
- Port of Oakland RFQ, and
- Meetings with CEDA and the Port of Oakland.

The demographic data was gathered from U.S. Bureau of Census 2000 and much of the mapped information came from the City of Oakland GIS data.

For purposes of the site analysis for the Gateway Park Area and its context, the existing conditions material was compiled and analyzed at three different scales:

- Regional - at a large scale covering the greater Bay Area context,
- East Bay - at the scale of the surrounding East Bay districts,
- Project - a focus on the immediate project area, which includes the land owned by Caltrans, East Bay Regional Park District, U.S. Army, City of Oakland, and Port of Oakland.

4. DISCUSSION OF FINDINGS

Regional Context

The Gateway Park Project Area is located in Oakland at the foot of both the existing East Span of the Bay Bridge and the replacement Bridge now under construction. It is situated in a key location, at the connection between the two great city centers of the Bay Area and on the daily commute route for more than 270,000 vehicles. Taking the combination of San Francisco and Oakland populations, the Gateway Park site serves an important nexus point for an urban population of 1.2 million people. Additionally, as population and development increase along the Bay's waterfront locations, such as the Oakland Estuary, Alameda, Mission Bay, and Treasure Island the Gateway Park site's area of influence becomes more significant, adding more people who will reside in its vicinity and consider the Park as a resource.

Surrounding the site, there is a significant amount of constant activity -- cranes and ships along the Port of Oakland berths, vehicles crossing the bridge nearby, railroads, airplanes overhead and regional access routes converging at the Bay Bridge. At the same time, the site is currently remote and isolated from the life of the area, offering remarkable regional and local views to the Oakland Hills, building towers in both downtown Oakland and San Francisco, and future development on Treasure Island with breathtaking immediate views of Oakland's working waterfront.

Within 3 miles of the site are 23,500 residents in West Oakland and over 7,000 residents living in Emeryville, but the residents are separated from the GPA by several highways (I-80, I-880) and freight rail lines, which are fenced at ground level. Population Density as per the Census 2000 Tracts shows us where the denser urban neighborhoods are. The darker brown areas in **Figure 4** reflect places where residents can walk to local amenities and where urban open spaces are to be expected. The Gateway site is currently not in a high density area and therefore it is very important to provide and focus on the enhancement of the connection experience to the site.

Looking at the entire East Bay Regional Park District, **Figure 5** strikingly shows how the areas where people are concentrated are currently separated from majority of the existing park system on the other side of the hills. This suggests that there is an opportunity for the areas along the bay side, including the Gateway Project Site, to become viable open spaces and serve as a convenient close-in destination for East Bay residents in particular.

East Bay Context

Working Waterfront

Central to the character of the Oakland waterfront is its industrial and maritime base, where the Port is currently the third busiest container port on the U.S. west coast and expecting activity in the Outer Harbor to increase significantly and with that increase, a need for improved rail and truck service. **Figure 6** shows the locations of the 8 container terminals, including 20 berths and 37 cranes, on 770 acres of land within the Oakland waterfront.[1]

Outer Harbor

In the 7th Street Terminal area along the western edge facing the Bay, this deep-water channel contains Berths 30 through 37, comprised of 170 acres of land.

In the Outer Harbor Terminal area, the area is divided and operated as two separate container terminals, Berths 24 through 26 and Berths 20 through 23, which occupy 105 acres and 72 acres, respectively. At the confluence of the West and Central Gateway sites, there is a future proposal to fill in Berth 21, which will add 22.5 acres of land.

Middle Harbor

The waterfront of Middle Harbor was converted into the Middle Harbor Shoreline Park, which now contains the International Maritime Center and is a designated wildlife habitat.

Inner Harbor

Along the Oakland Estuary, there are four terminals located along the Inner Harbor containing Berths 55 through 68, on a total of 400 acres of land, with 11 berths and a service yard, currently operated by the United Intermodel Service.

1 Port of Oakland. "Port of Oakland – Oakland Army Base: Request for Qualifications." June 2009.

Open Spaces, Educational Facilities, and Museums

- **Figures 7** and **Table 1.1** show the open spaces, museums, and schools currently near the Gateway Park site. West Oakland is a neighborhood that is well-served by recreational parks, with more than four baseball fields, basketball courts, and several tennis courts and one swimming pool facility all within three miles of the site. Four parks are located within 2 miles of the Gateway Park Area, including:
- Marina Park in Emeryville, a 7.56 acre waterfront park and nature preserve on the peninsula, with adjacent mixed-use residential and commercial.
- Raimondi Park in West Oakland, an 11.6 acre park with baseball and recreation fields.
- Middle Harbor Shoreline Park, a 38 acre passive park with picnicking areas and a viewing tower, recently opened in September 2004.
- Portview Park, a 23.7 acre park at the edge of Berth 40, with views of San Francisco and the Oakland cranes and contains a children's play area and a small café.
- East Shore State Park, an upland property along 8.5 miles of shoreline that extends from the City of Richmond in the north to Emeryville and Oakland in the south, ending near the east anchorage of the San Francisco Bay Bridge.

Table 1.1

Within	PROGRAM		
	Active Recreation	Passive Recreation	Museum/Art/ Architecture
1 mile			
2 mile			
3 mile			
4 mile			

Boat Marina Facility
Playground
Baseball Field
Golf Facility
Swimming Pool
Tennis Courts
Passive Recreation
Museum

Additionally, there is also the Eastshore State Park, which stretches from Richmond and Albany through Berkeley, Emeryville, and Oakland and future proposed connections with the Gateway Park.

Figure 8 shows how the high number of active recreation parks corresponds with the high number of schools and education facilities in the area. Thirty-four percent of West Oakland's population is under the age of 19 and within three miles of the Gateway site, there are six elementary schools, two middle schools, and one high school. However, the current Academic Performance Index (API) for several of the nearest schools, including Prescott and Lafayette elementary schools, has been in decline. McClymonds High School, the primary high school serving West Oakland students, was converted into two smaller schools, BEST and EXCEL, in 2005 in order to promote higher education and increase graduation rates.

This suggests that there is opportunity for an educational component to be integrated with the Gateway Park, so that the Park can become a resource in facilitating hands-on learning. Include possibilities to tie into Oakland's history, such as the significance of the site as part of the Key Rail system and transportation, and/ or the considerable operation involved for Port activities.

Oakland Redevelopment Areas

Shown in **Figure 9**, there are seven Oakland redevelopment areas within four miles of the project site, including[2]:

- The Oakland Army Base redevelopment area where the majority of the Gateway Park Area is located;
- West Oakland, adopted in 2003, the area is 1,565 acres and divided into three subareas: Prescott/ South Prescott, Clawson, McClymonds/Bunche and West MacArthur/Hoover, with programs focused on façade and tenant improvements;
- Oak Center, a 56-block residential community adjacent to West Oakland and downtown with a rich historic district;
- Acorn, 24.55 acres of industrial and residential neighborhood, covering 14 city blocks;
- Central District, a 250-block area at the confluence of multiple transit systems and includes major Oakland retail, commercial, and residential destinations such as City Center, Old Oakland, Chinatown, portions of Lake Merritt, and Jack London Square;
- San Pablo/Broadway/MacArthur, two subareas of North Oakland, totalling 676 acres and mainly commercial with some residential;

This suggests that the site is in an environment that is ripe for change and there are opportunities to relate the Gateway Park site with adjacent developments and improve opportunities for access, especially as proposed bike and transit connections through West Oakland are realized.

Land Use

Within four miles of the project area, nearly half of the land uses are designated for General Industrial and Transportation, with a spur of business mix from the West Oakland/Grand Corridor stretching into the site's Area of Influence. The Port of Oakland is the third busiest port in California and fourth largest container port in the U.S., with plans to have a 24-hour shipping and container operation. This informs how we approach the design and use of the Gateway Park, how we protect and enhance the pedestrian and bicyclist experience as well as how we work to complement adjacent and neighboring uses. Industrial uses are a major component of the area and a good neighbor relationship with the Park must focus on wayfinding, safety, visual quality and water/bridge access which recognizing the essential economic development functions of the Port and related uses that must be amply accommodated.

2 Oakland CEDA. <http://oaklandnet.com/government/ceda/>

Project Site Area

There are currently six separate entities that hold title or interest to parcels in the Gateway Park Area. Shown in **Figure 11**, they include:

- East Bay Regional Park District, who will be transferred 19.97 acres (13 acres upland, 6.97 acres submerged) of land south of Burma Road from the U.S. Army once environmental remediation and agreements are completed.
- City of Oakland, who owns 170 acres of land, with 108-acres being developed by a master developer on West, Central, and East Gateway sites.
- Caltrans, who owns several portions in the area, including a 14-acre maintenance yard between the I-80 freeway and Burma Rd, and 4.2acres at the Western tip which may included as part of access for the park.
- East Bay Municipal Utility District, owns a 64 acre parcel north of the East Gateway site, where it operates its main wastewater treatment plant.
- Port of Oakland, who owns 200 acres south of the Central and East Gateway sites, holding ten container terminals, two intermodal rail facilities, and is the fourth largest container port in the nation.
- Private Rail, consisting of the Burlington Northern Santa Fe Railway Company (BNSF) and Union Pacific Railroad (UP). Union Pacific owns and operates the 250-acre Railport Oakland intermodal yard, while the 85-acre existing railyard operated by BNSF is owned by the Port and leased.

Several parcels of land are currently under consideration for land transfers or land swaps. Shown in the hatched area on **Figure 11**, the City of Oakland is in negotiations with Caltrans for a land swap of the area between the Caltrans Maintenance Complex and the East Gateway Area. Pending the decision to relocate Caltrans Maintenance Complex, the City of Oakland anticipates expanding the West Gateway Area to include commercial use on the maintenance complex site.

The current and proposed development for the City of Oakland portion is still in flux as the City continues to work through negotiations with the designated developer, the Gateway Park Consultant Team will want to better understand how the adjacent development use program might be realized and work cooperatively to integrate compatible uses. As such, a setting of mutual benefit can be established.

Figure 12 shows the suggested uses that were proposed in the City of Oakland's developer RFP. As part of the developer agreement, 16.5 acres of land along Outer Harbor at the edge of the Central gateway is deemed to become Shoreline Park, which could provide a seamless linkage to Gateway Park allowing full waterfront access. The City of Oakland separates their redevelopment site into three parts, including:

- West Gateway, a 34-acre parcel proposed for mainly commercial office with potential for some retail and mixed-uses.
- Central Gateway, a 60-acre parcel containing more light industrial uses, such as biotech, green tech, flex office and industrial, and truck and maritime-related activities. These uses should be compatible with adjacent heavy industrial and Port functions.
- East Gateway, a 33-acre parcel, with 19-acres designated for truck parking and servicing along Maritime Rd, and the remaining 14-acres used for manufacturing and distribution services, taking advantage of its easy accessibility from the surrounding highways and railports.

Originally slated to become an Auto Mall, the 28-acre area south of the EBMUD site, designated North Gateway, is now under reconsideration. Multiple potential users have the site under consideration ranging from Caltrans maintenance to EBMUD expansion, and potential relocation of nuisance uses from West Oakland as well as for use as a transit portal for future users entering the Gateway Park from the east.

5. REFERENCES

- City of Oakland Community and Economic Development Agency. [DVD-ROM] 2009.
- Oakland CEDA. <http://oaklandnet.com/government/ceda/>. 2009.
- U.S. Census Bureau. TIGERLine/Census Files, 2000.
- Gateway Park Area: Master Access Plan Charrette Information Packet. HNTB Corporation. Oakland, California. 15 September 2008.
- City of Oakland. Community and Economic Development Agency Redevelopment Division. "Request for Proposals for a Master Developer: Gateway Development Area of the Former Oakland Army Base." 22 January 2009.
- Port of Oakland. "Port of Oakland – Oakland Army Base: Request for Qualifications." June 2009.
- Site Surveys, October 14, 2009 and December 15, 2009.

FIGURES

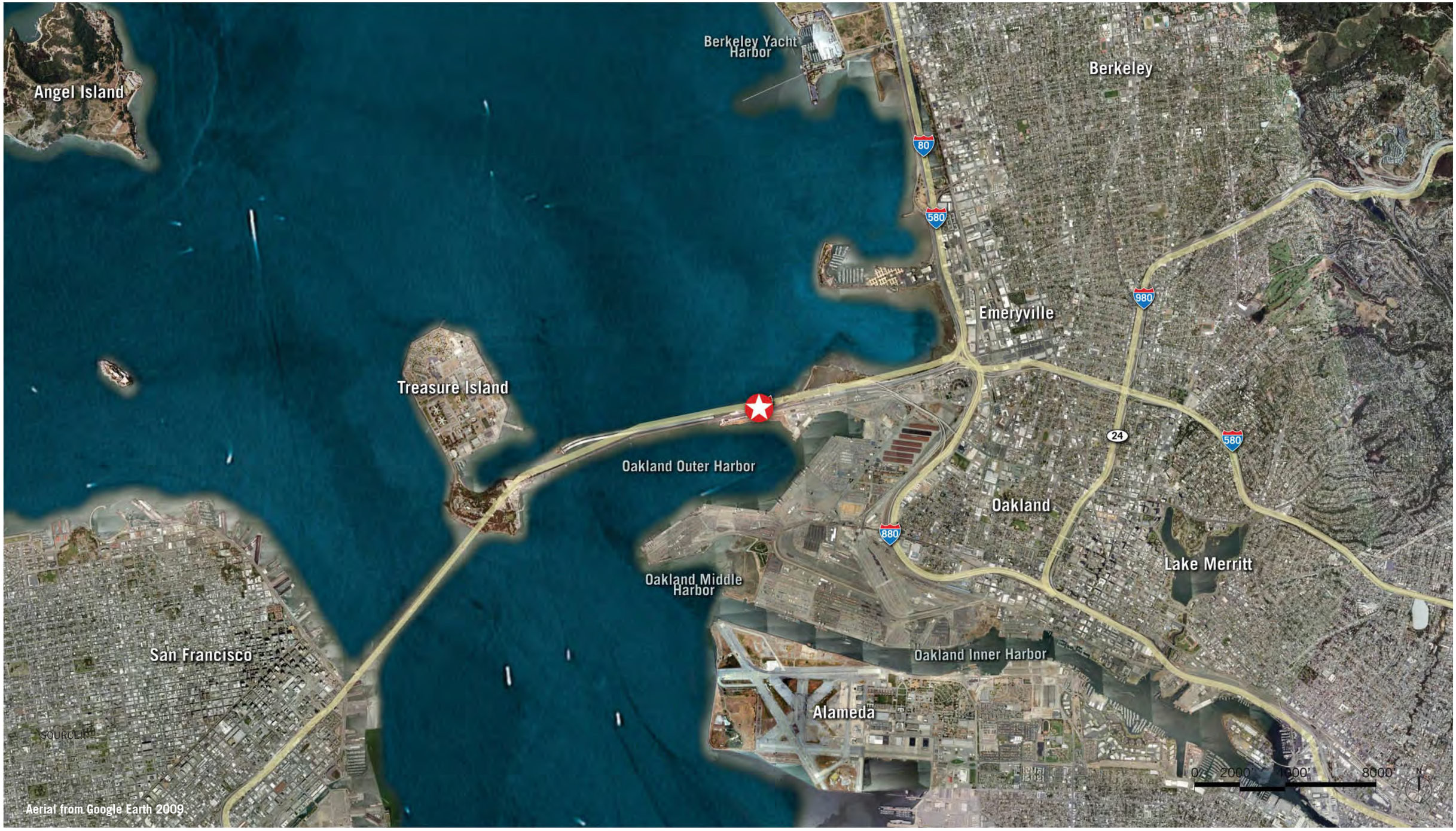

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Figure 2.

Gateway Park Area Project Study Report

Place in the Bay

03 March 2010

Gateway Project Site

in association with

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Fehr & Peers
Economic & Planning Systems, Inc.
ESA

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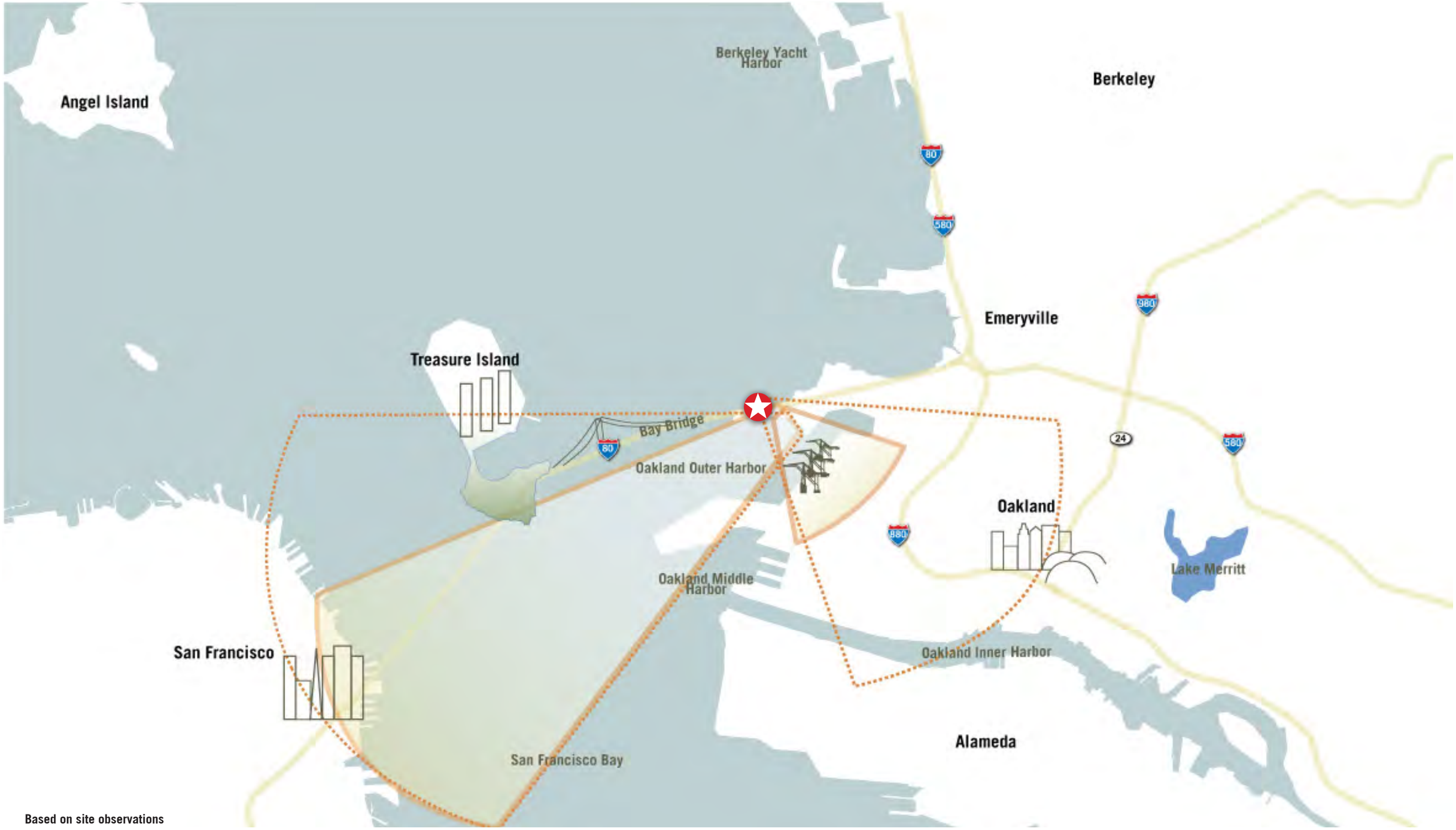

Based on site observations

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Figure 3.

Gateway Park Area Project Study Report

Visual Landmarks - from the Land and the Bridge

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Angel Island

Berkeley

Emeryville

Treasure Island*

Oakland

San Francisco

Alameda

80
580
980
24
580
880

0 2000' 4000' 8000' N

Source: U.S. Census Bureau 2000 TIGERLines
*Denotes projected people per square mile

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Figure 4.

Gateway Park Area Project Study Report

Population Density: People Per Square Mile

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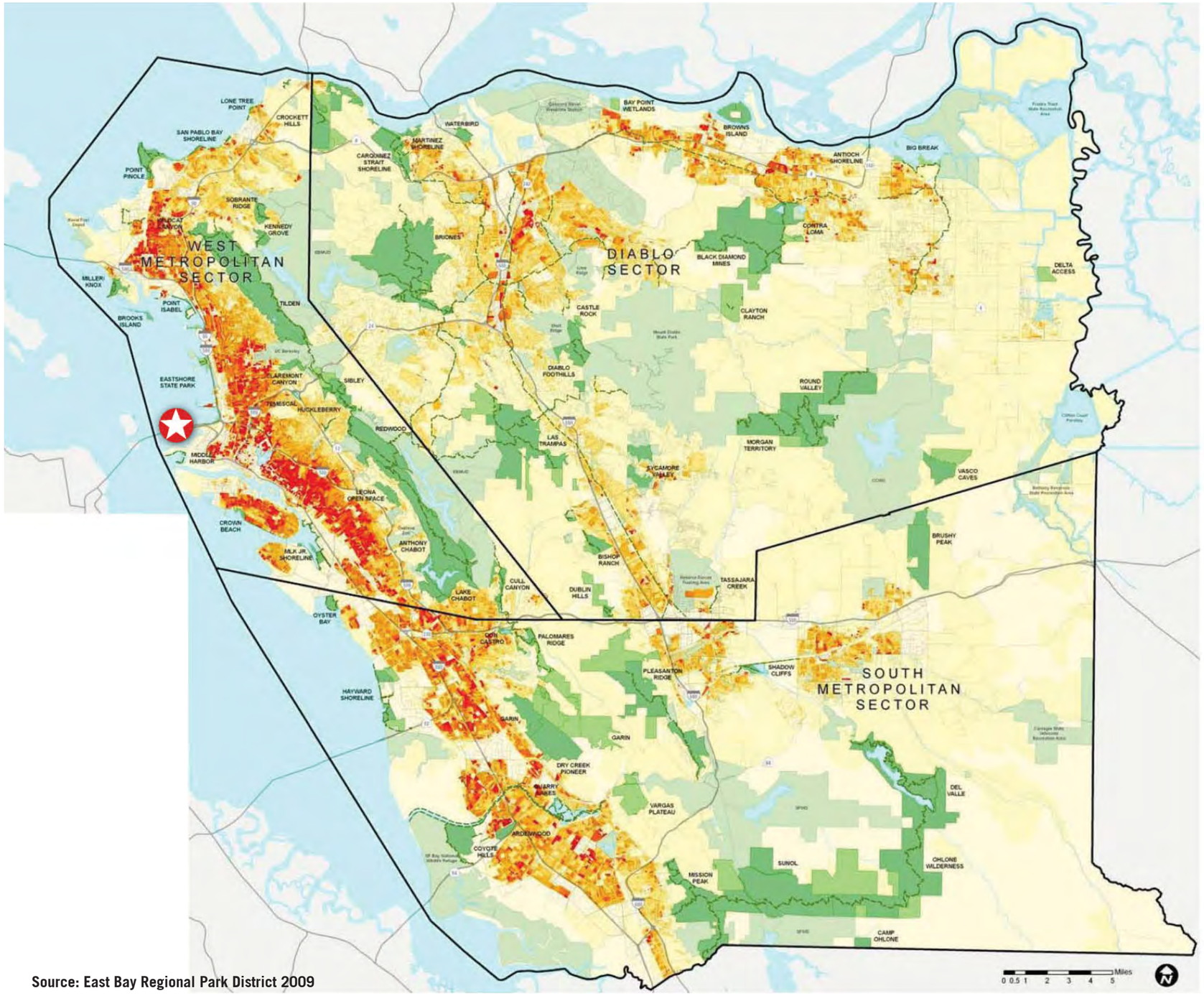

Legend

Population per Square Mile
2000 Census Block Population

- > 20,001
- 17,501 - 20,000
- 15,001 - 17,500
- 12,501 - 15,000
- 10,001 - 12,500
- 7,501 - 10,000
- 5,001 - 7,500
- 2,501 - 5,000
- 1 - 2,500
- 0

Transportation
- EBRPD Regional Trails
- Roads
- Highways / Freeways

Boundaries
- EBRPD Metropolitan Sector
- EBRPD Parkland
- EBRPD Land Bank
- Other Open Space

EAST BAY REGIONAL PARK DISTRICT

Source: East Bay Regional Park District 2009

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Figure 5.

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Population Density (2000 Census)

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PWP
BKF

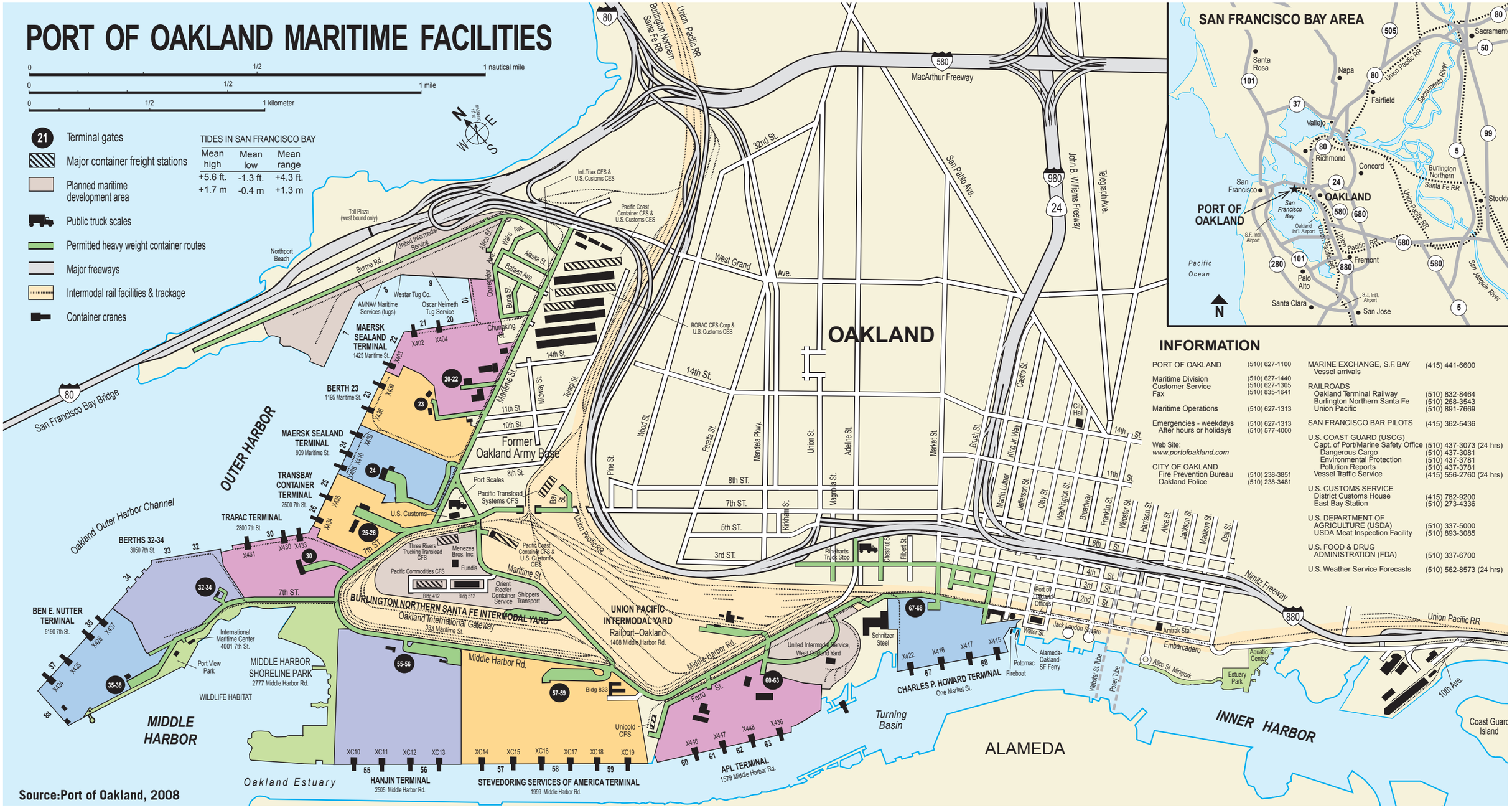
PORT OF OAKLAND MARITIME FACILITIES

0 1/2 1 nautical mile
0 1/2 1 mile
0 1/2 1 kilometer

- 21 Terminal gates
- Major container freight stations
- Planned maritime development area
- Public truck scales
- Permitted heavy weight container routes
- Major freeways
- Intermodal rail facilities & trackage
- Container cranes

TIDES IN SAN FRANCISCO BAY

Mean high	Mean low	Mean range
+5.6 ft.	-1.3 ft.	+4.3 ft.
+1.7 m	-0.4 m	+1.3 m



INFORMATION

PORT OF OAKLAND	(510) 627-1100
Maritime Division	(510) 627-1440
Customer Service	(510) 627-1305
Fax	(510) 835-1641
Maritime Operations	(510) 627-1313
Emergencies - weekdays	(510) 627-1313
After hours or holidays	(510) 577-4000
Web Site: *www.portofoakland.com*	
CITY OF OAKLAND	
Fire Prevention Bureau	(510) 238-3851
Oakland Police	(510) 238-3481
MARINE EXCHANGE, S.F. BAY Vessel arrivals	(415) 441-6600
RAILROADS	
Oakland Terminal Railway	(510) 832-8464
Burlington Northern Santa Fe	(510) 268-3543
Union Pacific	(510) 891-7669
SAN FRANCISCO BAR PILOTS	(415) 362-5436
U.S. COAST GUARD (USCG)	
Capt. of Port/Marine Safety Office	(510) 437-3073 (24 hrs)
Dangerous Cargo	(510) 437-3081
Environmental Protection	(510) 437-3781
Pollution Reports	(510) 437-3781
Vessel Traffic Service	(415) 556-2760 (24 hrs)
U.S. CUSTOMS SERVICE	
District Customs House	(415) 782-9200
East Bay Station	(510) 273-4336
U.S. DEPARTMENT OF AGRICULTURE (USDA)	(510) 337-5000
USDA Meat Inspection Facility	(510) 893-3085
U.S. FOOD & DRUG ADMINISTRATION (FDA)	(510) 337-6700
U.S. Weather Service Forecasts	(510) 562-8573 (24 hrs)

Source:Port of Oakland, 2008

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Figure 6.

Gateway Park Area Project Study Report

Port of Oakland Maritime Facilities

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Economic & Planning Systems, Inc.
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Source: Aerial Survey and City of Oakland Office of Parks and Recreation

Marina Park
East Shore State Park
Radio Beach
Portview Park [23.7ac]
Middle Harbor Shoreline Park [38ac]
Raimondi Park [11.6ac]
de Fremery Park [11.7ac]
Lowell Park [10.3ac]
Ebony Museum of Art
Oakland Museum of California
Jefferson Square Recreation Ctr [3.8ac]
Poplar Rec Area [3.6ac]
Park [0.42ac]
Park [28.7ac]
Mosswood Park [16.9ac]
Park [1.2ac]
Oak Glen Park [4.2ac]
Claremont Country Clu [110.8ac
Mtn View Cmt [274.4ac
African American Museum
Lafayette Sq [2.4ac]
Museum of Children's Art
Lincoln Square Recreation Ctr [2.5ac]
Harrison Sq [2.6ac]
Madison Park [2.5ac]
Peralta Park [11.5ac]
Lakeside Park [101ac]
Camron-Stanford House
Athol Plz [2.1ac]
F M Smith Par [3.3ac]

SHELLMOUND ST
POWELL ST
SAN PABLO AV
ADELINE ST
SHATTUCK AV
COLLEGE AV
MARKET ST
W MACARTHUR BLVD
MANDELA PKWY
W GRAND AV
W MARITIME ST
24TH ST
12TH ST
7TH ST
FERRO ST
KIRKHAM ST
MARTIN LUTHER KING JR WY
FRANKLIN ST
WEBSTER ST
TELEGRAPH AV
BROADWAY
MACARTHUR BLVD

N
0 5001,000 2,000 3,000 4,000 Feet

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Figure 7.

Gateway Park Area Project Study Report

Open Space and Museums

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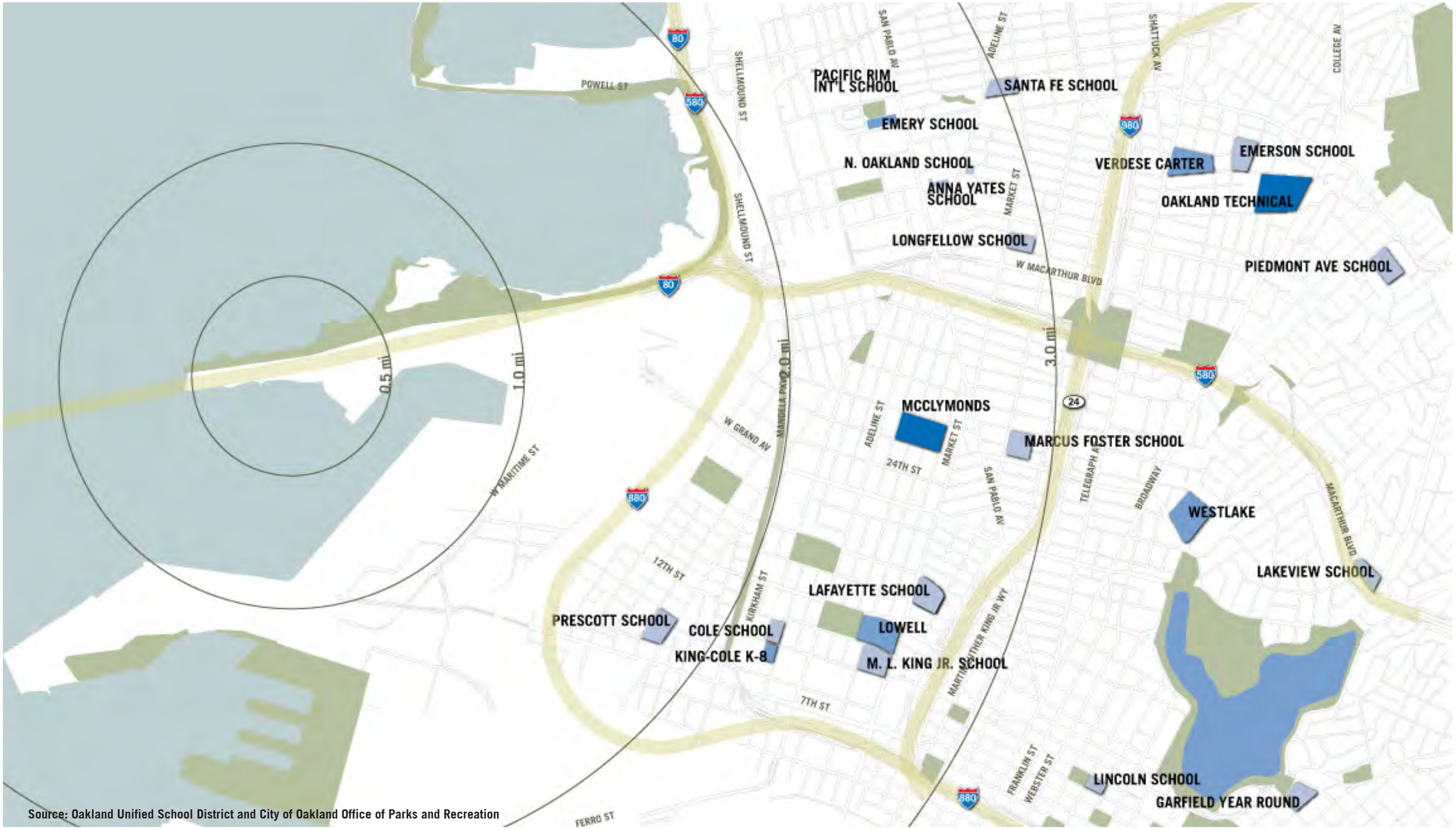
PWP
BkF



Source: Oakland Unified School District and City of Oakland Office of Parks and Recreation

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Figure 8.

Gateway Park Area Project Study Report

Open Space and Public Schools/Educational Facilities

03 March 2010

General Industrial/Transp
Hillside Residential
Housing and Business Mix
Institutional
Mixed Housing Type
Neighborhood Center
Regional Commercial
Resource Conservation
Urban Open Space
Urban Residential

in association with

HDR/The Hoyt Company
Fehr & Peers
Economic & Planning Systems, Inc.
ESA

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BkF

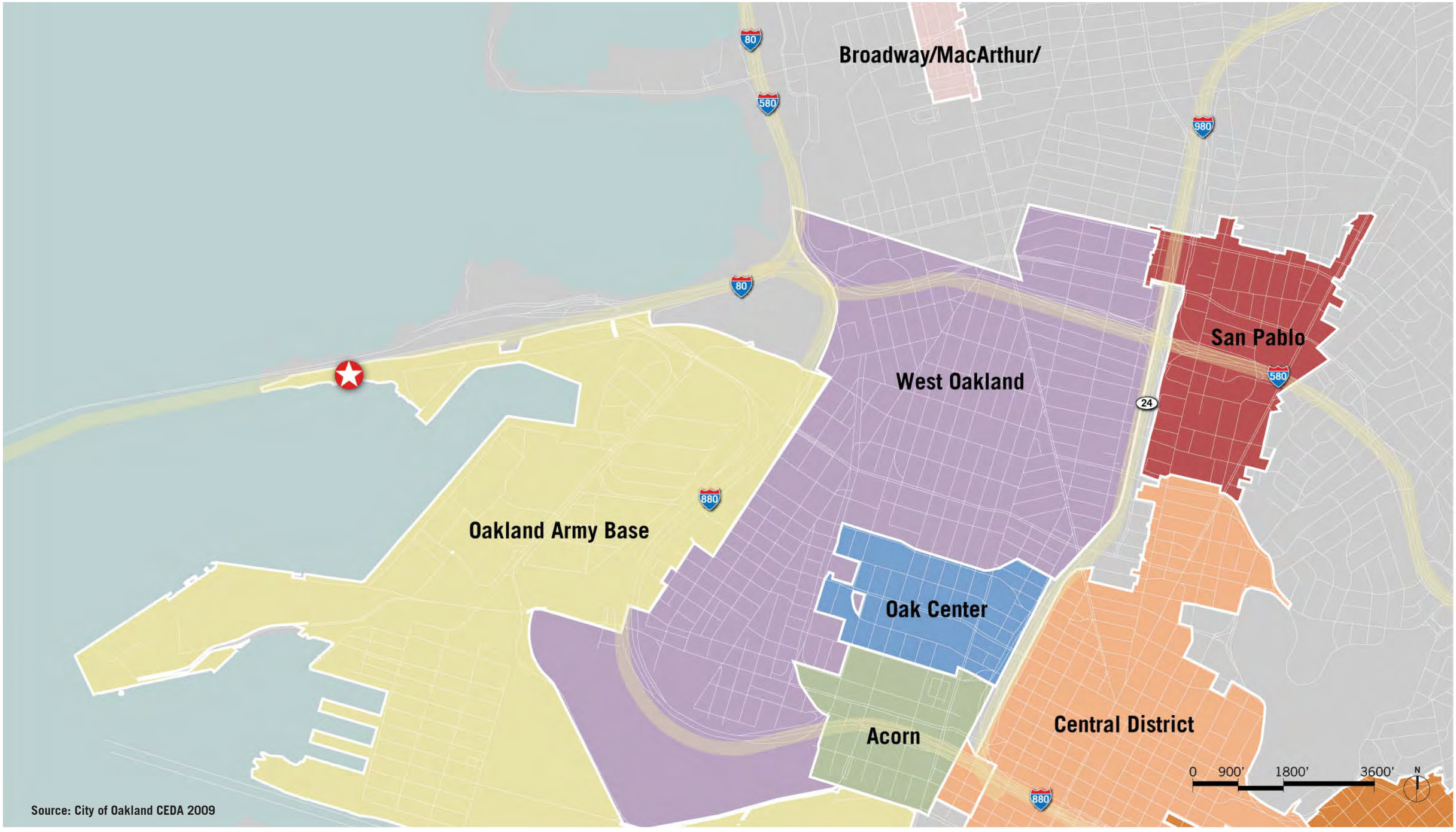

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Figure 9.

Gateway Park Area Project Study Report

Oakland Redevelopment Areas

03 March 2010

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Figure 10.

Gateway Park Area Project Study Report

General Plan Designated Land Use

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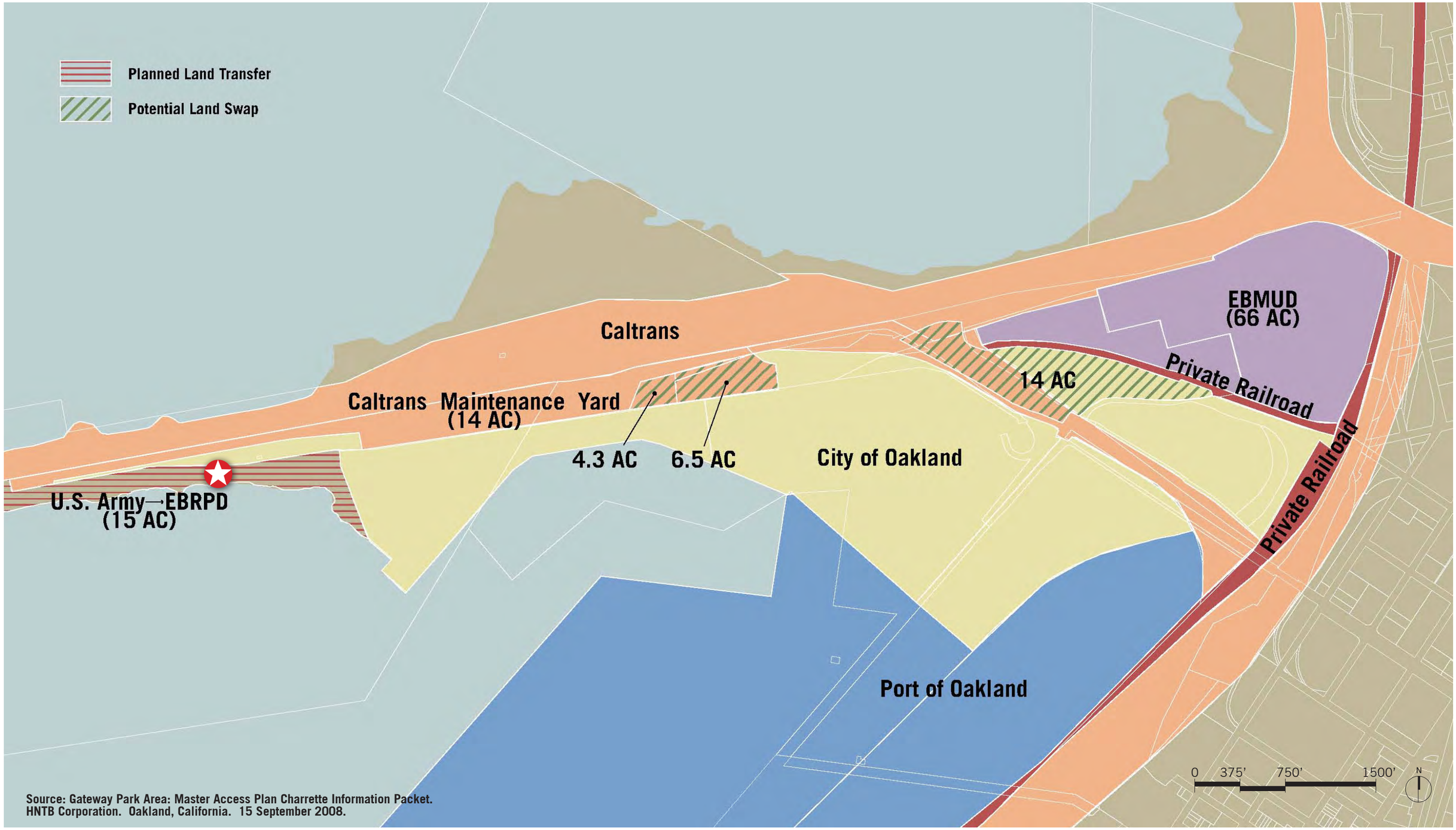

Source: Gateway Park Area: Master Access Plan Charrette Information Packet. HNTB Corporation. Oakland, California. 15 September 2008.

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Figure 11.

Gateway Park Area Project Study Report

Existing and Projected Property Ownership

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Planned Land Transfer

Potential Land Swap

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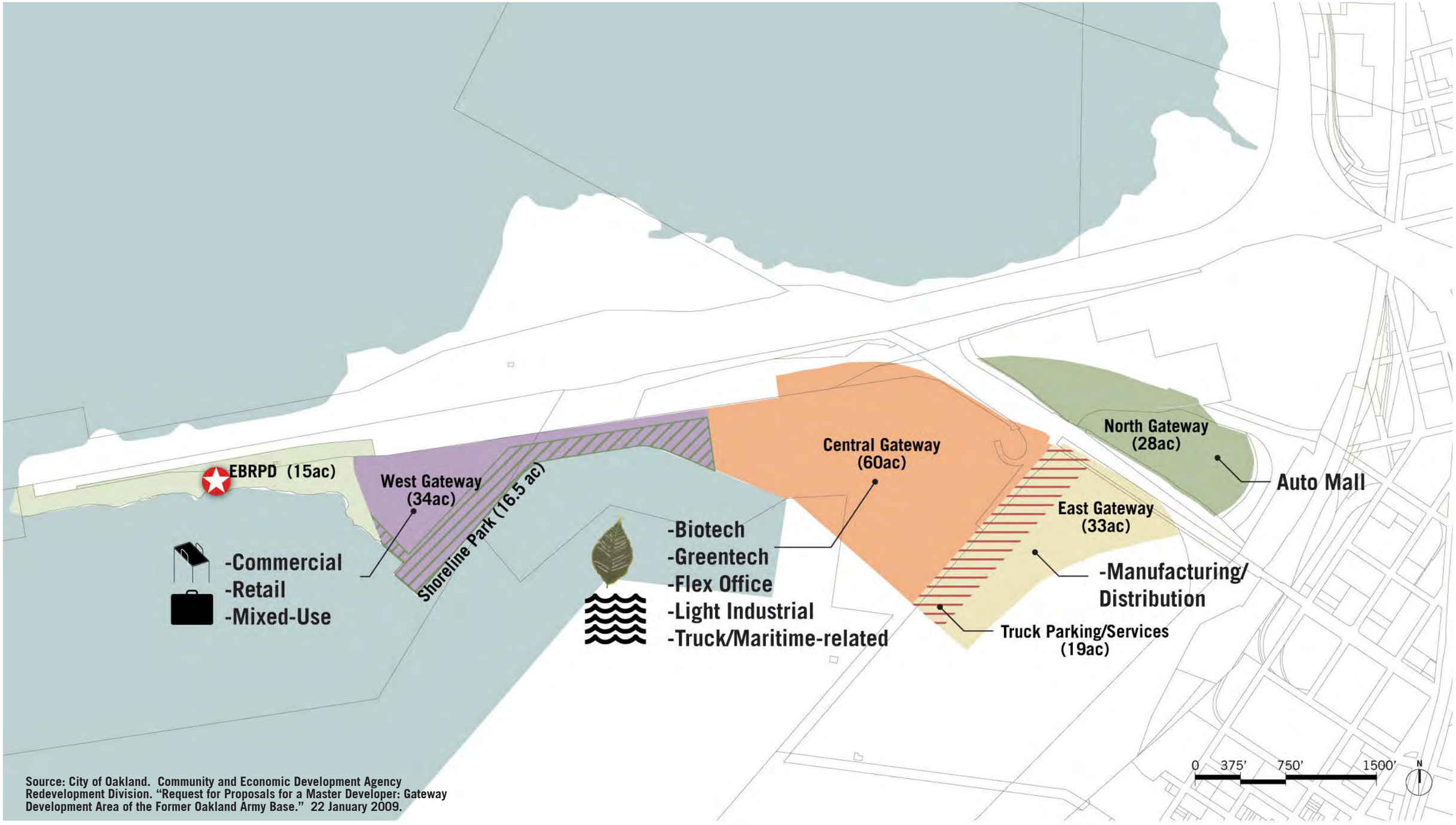
PWP

BKF



Source: City of Oakland. Community and Economic Development Agency Redevelopment Division. "Request for Proposals for a Master Developer: Gateway Development Area of the Former Oakland Army Base." 22 January 2009.

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Figure 12.

Gateway Park Area Project Study Report

Proposed Uses per City of Oakland RFP

03 March 2010

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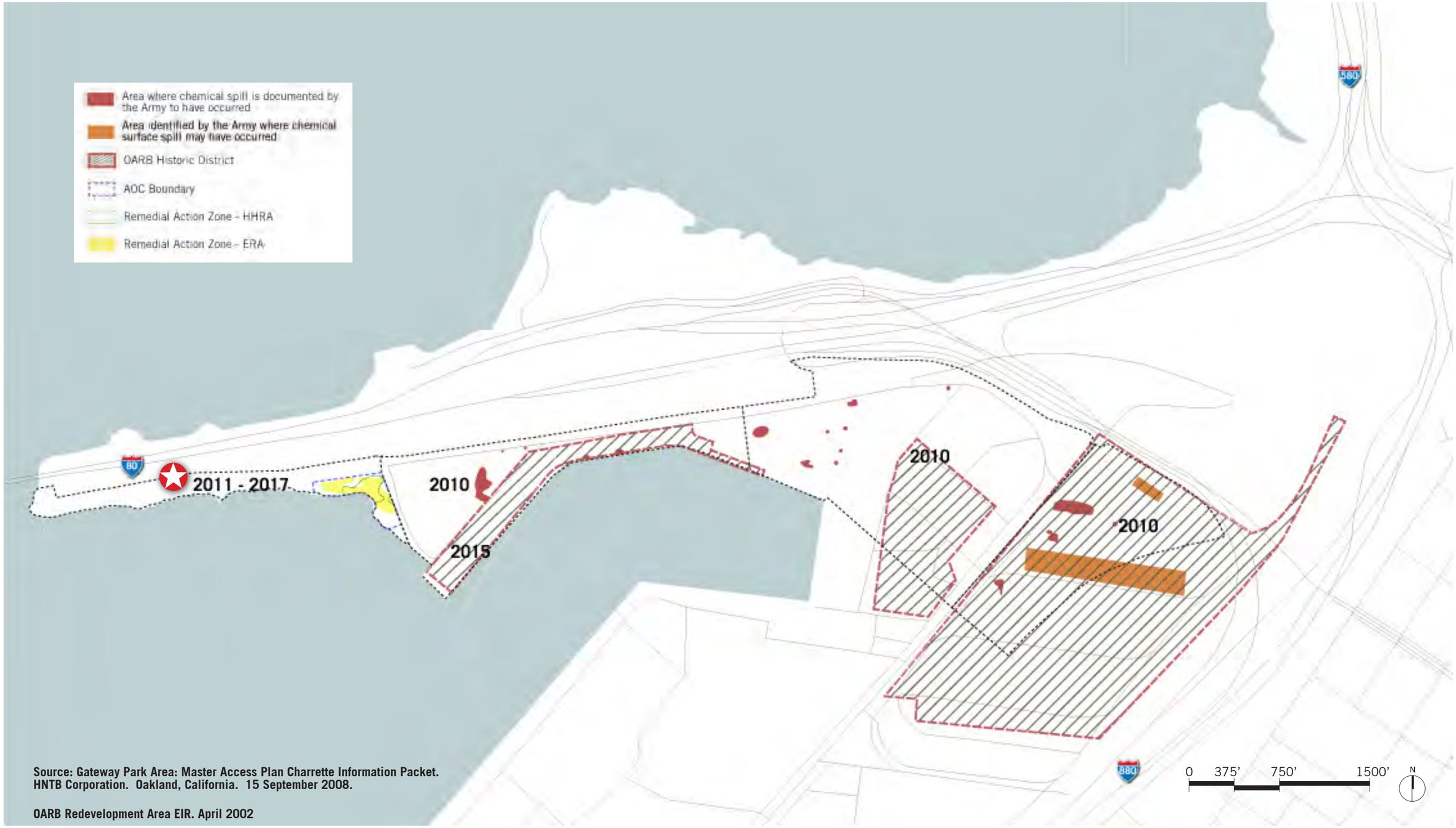
BkF



Source: Gateway Park Area: Master Access Plan Charrette Information Packet. HNTB Corporation. Oakland, California. 15 September 2008.

OARB Redevelopment Area EIR. April 2002

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Figure 13.

Gateway Park Area Project Study Report

Contaminated Areas and Planned Site Availability

03 March 2010

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PWP
BkF

ECOLOGY

NATURAL RESOURCES

1. PURPOSE

This section identifies the plant communities, wildlife habitats, and sensitive species occurring in the Project area and identifies potential opportunities and constraints with regards to these resources with the implementation of the Gateway Park project. The Project area encompasses habitats adjacent to and within the Gateway Park Project Area. For this section, the Study Area includes primarily the East Bay Regional Park District property.

2. KEY FINDINGS

Opportunities

- Replace non-native invasive vegetation with native vegetation that would provide potential habitat for resident and migratory species.
- Replace disturbed land and/or man-made elements with natural topography and native vegetation to expand potential habitat.
- Increase habitat availability for nearby special-status species.
- Provide connectivity of habitat between Gateway Park and the Emeryville Crescent.
- Provide opportunities for passive recreation such as wildlife viewing, walking and bicycling in a natural setting.
- Restore sensitive dune habitat north of the San Francisco Bay Bridge.

Constraints

- There may be nesting birds using trees, shrubs, and ground within the Study Area. Nesting birds could be adversely impacted by construction noise, direct habitat loss, and recreational uses.
- Dune and marsh habitat should be protected from all recreational uses.
- Wintering waterfowl could be adversely impacted by aquatic recreational uses.

3. METHODOLOGY AND ASSUMPTIONS

The findings of this section are based on existing reports that characterize the biological resources at the Project area including:

- The San Francisco-Oakland Bay Bridge East Spans Seismic Safety Project Final Environmental Impact Statement/Statutory Exemption (FHWA, 2001)
- California Natural Diversity Database (CNDDB) (CDFG, 2009);
- Review of the California Native Plant Society (CNPS) online database (CNPS, 2009);
- Review of United States Fish and Wildlife Service (USFWS) data (USFWS, 2009);
- Review of the California Department of Fish and Game's (CDFG) most recent list of special animals and plants (which also includes federally-listed and candidate plants).

In addition, ESA biologists surveyed the Project site on December 9, 2009 to identify and catalog wildlife and plant species present, as well as plant communities, wildlife habitats, habitat for sensitive species, and wetland resources.

Regulatory Setting

Federal Endangered Species Act

Under the Federal Endangered Species Act (FESA), the U.S. Secretary of the Interior and the U.S. Secretary of Commerce jointly have the authority to list a species as threatened or endangered (16 USC 1533[c]). Pursuant to the requirements of FESA, an agency reviewing a proposed project within its jurisdiction must determine whether any designated or proposed federally listed threatened or endangered species, or designated or proposed critical habitat for such species may be present in the project area. The USFWS also publishes a list of candidate species for listing and "Species of Concern." Species on this list receive special attention from federal agencies during environmental review, although they are not protected otherwise under the FESA. The candidate species are taxa for which the USFWS has sufficient biological information to support a proposal to list as Endangered or Threatened.

California Endangered Species Act

Under the California Endangered Species Act (CESA), the CDFG has the responsibility for maintaining a list of threatened species and endangered species (CDFG Code 2070). The CDFG also maintains a list of "candidate species," which are species that the CDFG has formally noticed as being under review for addition to either the list of endangered species or the list of threatened species. The CDFG also maintains lists of "Species of Special Concern" which are roughly analogous to the federal Species of Concern described above. Pursuant to the requirements of CESA, an agency reviewing a proposed project within its jurisdiction must determine whether any state-listed endangered or threatened species may be present in the project. In addition, the CDFG encourages informal consultation on any proposed project that may impact a candidate species.

Regulation of Activities in Wetlands

The regulations and policies of various federal agencies such as the U.S. Army Corps of Engineers (the Corps), the U.S. Environmental Protection Agency (U.S. EPA), USFWS, mandate that the filling of wetlands be avoided unless it can be demonstrated that no practicable alternatives exist. The Corps has primary federal responsibility for administering regulations and issuing permits to fill federal waters and wetlands within the project site. In this regard, the Corps acts under two statutory authorities, the Rivers and Harbors Act (Sections 9 and 10), which governs specified activities in "navigable waters," and the Clean Water Act (Section 404), which governs specified activities in "waters of the United States," including wetlands and special aquatic sites. U.S. EPA, USFWS and several other agencies provide comment on Corps permit applications. U.S. EPA provides the primary criteria for evaluating the biological impacts of Corps permit actions in wetlands.

The State's authority in regulating activities in wetlands and waters resides primarily with the CDFG and the State Water Resources Control Board (SWRCB). The CDFG provides comment on Corps permit actions under the Fish and Wildlife Coordination Act. CDFG is also authorized under State Fish and Game Code Sections 1600–1607 to develop mitigation measures and enter into a Stream Alteration Agreement (SAA) with applicants that propose a project that would obstruct the flow or alter the bed, channel, or bank of a river or stream in which

there is a fish or wildlife resource, including intermittent and ephemeral streams. The SWRCB, acting through the nine Regional Water Quality Control Boards (RWQCBs), must certify that a Corps permit action meets state water quality objectives (Section 401, Clean Water Act).

The San Francisco Bay Conservation and Development Commission (BCDC) is authorized by the McAteer Petris Act to analyze, plan and regulate San Francisco Bay and its shoreline. It implements the San Francisco Bay Plan, and regulates filling and dredging in the Bay, its sloughs and marshes, and certain creek and tributaries. BCDC jurisdiction includes the Bay and a shoreline band that extends inland 100 feet from the high tide line. BCDC permits are required for all work within either the Bay or the shoreline band.

Other Statues, Codes, and Policies Affording Limited Species Protection

Birds

The 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 U.S. Secretary of the Interior. This act encompasses whole birds, parts of birds, and bird nests and eggs. Birds of Prey are protected in California under the CDFG Code (Section 3503.5, 1992). 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 a "taking" by the CDFG.

Plants

The legal framework and authority for the State's program to conserve plants are woven from various legislative sources, including CESA, the California Native Plant Protection Act (CDFG Code Section 1900–1913), the CEQA Guidelines, and the Natural Communities Conservation Planning Act.

Vascular plants listed as rare or endangered by the California Native Plant Society (CNPS) Online Inventory, but which may have no designated status or protection under Federal or State endangered species legislation, are defined as follows:

- List 1A: Plants Presumed Extinct
- List 1B: Plants Rare, Threatened, or Endangered in California and elsewhere
- List 2: Plants Rare, Threatened, or Endangered in California, but more numerous elsewhere
- List 3: Plants about Which More Information is Needed – A Review List
- List 4: Plants of Limited Distribution – A Watch List.

An extension reflecting the level of threat to each species is appended to each rarity category as follows:

- .1 – Seriously endangered in California
- .2 – Fairly endangered in California
- .3 – Not very endangered in California

In general, plants appearing on CNPS List 1A, 1B, or 2 are considered to meet the criteria of Section 15380 of the California Environmental Quality Act (CEQA) Guidelines, which define endangered, rare and threatened species. Additionally, plants listed on CNPS List 1A, 1B or List 2 meet the definition of Section 1901, Chapter 10 (Native Plant Protection Act) and Sections 2062 and 2067 (California Endangered Species Act) of the California Department of Fish and Game Code.

4. DISCUSSION OF FINDINGS

Project Setting

The Gateway Park Study Area consists primarily of ruderal vegetation, occurring at the former Oakland Army Base property. Small patches of northern foredune and landscaped vegetation occur along the north side of the Study Area. Because much of the Study Area that is south of the San Francisco-Oakland Bay Bridge (SFOBB) is developed land, this section also discusses the substantial natural resources that are within the project vicinity.

On the north side of the SFOBB, the Study Area is primarily bounded by the Emeryville Crescent Marsh, a 103.5-acre marsh shoreline dominated by pickleweed (*Salicornia virginica*), between Powell Street in Emeryville and the eastern landfall of the SFOBB on the northern and eastern extents and a frontage road that is adjacent to Interstate 80 freeway on the southern extent. The Interstate 80 freeway separates the frontage road and the Oakland Army Outer Harbor. Radio Point Beach, and an unimproved 500-foot road used for Bay views, fishing and bird watching, are located less than a half-mile west of KIQI radio antenna towers.

Vegetation and Wildlife Habitats

The Study Area consists primarily of ruderal vegetation, occurring at the former Oakland Army Base property. Small patches of northern foredune and landscaped vegetation, as well as areas of ruderal vegetation, occur along the north side of the Oakland Touchdown of the SFOBB. Terrestrial vegetative communities and associated wildlife species are summarized below. **Appendix A** provides a list of plant and wildlife species observed by ESA biologists during the site visit.

Landscaped Non-Native Plant Communities

Ornamental landscape species used in the Study Area include iceplant (*Carpobrotus edulis*), Monterey pine (*Pinus radiata*), eucalyptus (*Eucalyptus* sp.) and black acacia (*Acacia melanoxylon.*). Landscaped areas are not considered to be sensitive habitat for plant or wildlife species. Common wildlife species that may occur in landscaped areas include European starling (*Sturnus vulgaris*), house sparrow (*Passer domesticus*), Anna's hummingbird (*Calypte anna*), Virginia opossum (*Didelphis virginiana*), Norway rat (*Rattus norvegicus*), striped skunk (*Mephitis mephitis*), and raccoon (*Procyon lotor*).

Ruderal Vegetation

Areas that have been heavily disturbed contain ruderal vegetation generally dominated by non-native herbaceous[1] species. Ruderal vegetation occurs at the Study Area on the former Oakland Army Base property and at scattered sites along the north side of the existing roadway to the north of the toll plaza and along the unimproved road leading north from the frontage road. These areas provide winter roosting areas for shorebirds during high tides. Some of the shorebird species known to use these areas include western sandpiper (*Calidris mauri*), semipalmated plover (*Charadrius semipalmatus*), and dunlin (*Calidris alpina*).

1 Herbaceous plants are those that have no woody parts, such as grasses, annual species, and many perennial species.

Northern Foredunes

Northern foredunes are located on the northeastern shoreline of the Study Area area just inland from Radio Point Beach. The dominant plant species include beach bur (*Ambrosia chamissonis*), fig-marigold, commonly known as iceplant, and saltgrass (*Distichilis spicata*). A band of marsh gumplant (*Grindelia stricta* var. *angustifolia*), a CNPS List 4 species, occurs in a depression behind the foredune area. This depressional area also contains potential jurisdictional wetlands and large patches of iceplant. Beach and foredune habitat are uncommon around San Francisco Bay, have potential to support special-status plants and wildlife, and should therefore be considered sensitive habitat.

Estuarine Environment and Associated Species

The SFOBB is located in the Central Bay Segment of the San Francisco Bay Estuary. The estuary is commonly divided into several segments (listed from north to south): Suisun Bay, Carquinez Strait, San Pablo Bay, Central Bay, and South Bay. The San Francisco Bay Estuary sits at the terminus of the Sacramento-San Joaquin Delta, a system that drains 40 percent of the land area of California. The San Francisco Bay Estuary and the Sacramento-San Joaquin Delta together form one of the largest estuarine systems in North America. Aquatic habitats in the estuary range from deep channel bottoms to shallow marsh pools.

Numerous species of waterfowl use this habitat, particularly in the winter months, including lesser scaup (*Aythya affinis*), surf scoter (*Melanitta perspicillata*), ruddy duck (*Oxyura jamaicensis*), western grebe (*Aechmophorus occidentalis*), and canvasback (*Aythya valisineria*). Other avian species that are often observed in the project area include the recently federally de-listed brown pelican (*Pelecanus occidentalis*) and western gull (*Larus occidentalis*). A common marine mammal found foraging in the project area is the harbor seal (*Phoca vitulina*).

Northern Coastal Salt Marsh

A narrow strip of northern coastal salt marsh occurs along the north side of Radio Point Beach adjacent to the Study Area. Dominant plant species found in northern coastal salt marshes include pickleweed and saltgrass. Animals that have the potential to occur within coastal salt marsh vegetation include the salt marsh harvest mouse (*Reithrodontomys raviventris*), a federally endangered and California fully protected species. However, the salt marsh harvest mouse is not likely to occur at Radio Point Beach because the isolated, narrow band of habitat is not sufficient to support even a small population.

This vegetative community also occurs within the Emeryville Crescent outside the project area. Salt marsh habitat along the Emeryville Crescent provides important breeding and foraging habitat for a variety of migratory and resident wildlife species, including the salt marsh harvest mouse. Migratory bird species common to salt marsh habitat include northern pintail (*Anas acuta*), mallard (*Anas platyrhynchos*), least sandpiper (*Calidris minutilla*), and willet (*Catoptrophorus semipalmatus*). Resident species that commonly use this habitat include great blue heron (*Ardea herodias*), marsh wren (*Cistothorus palustris*), red-winged blackbird (*Agelaius phoeniceus*), the federally and state-endangered California clapper rail (*Rallus longirostris obsoletus*), and California vole (*Microtus californicus*).

Intertidal Sand Flats

Intertidal flats occur on the north shore of the Study Area. These areas have a larger grain size (>0.6 millimeter [0.02 inch]) than is typical of mudflats (<0.1 millimeter [0.004 inch]), and are more accurately described as sand flats. These intertidal flats have rivulets and channeling which are attributes of sand flats and not mudflats. The larger grain size of sand flats is due to higher wave energy. Both sand flats and mudflats are special aquatic sites protected under Section 404 of the Clean Water Act.

Sand flats are sparsely vegetated intertidal areas that occur from approximately mean lower low water (MLLW) to mean tide level (MTL) and are exposed at low tides and inundated at high tides. They provide protection to banks and upland shoreline from wave energy and sediment. Sand flats around San Francisco Bay provide habitat for many species of invertebrates, including diatoms, polychaetes, oligochaetes, amphipods, isopods and crustaceans. During low tide, sand flats provide foraging and roosting areas for nearly one million shorebirds that utilize the Bay during spring and fall migration. Shorebirds using the sand flats in the project area would include western sandpiper (*Calidris mauri*), least sandpiper, dunlin (*Calidris alpina*), long- and short-billed dowitcher (*Limnodromus griseus,* and *L. scolopaceus,* respectively), and American avocet (*Recurvirostra americana*). The habitat value of the sand flats in the project area is diminished by the abrupt transition with adjacent uplands and the lack of adjacent wetland habitats. The existing shoreline adjacent to the sand flats at the Study Area is protected with rock riprap and the uplands are dominated by non-native vegetation.

During high tide, sand flats provide foraging habitat for fish, including longfin smelt (*Spirinchus thaleichthys)*, staghorn sculpin (*Leptocottus armatus*), starry flounder (*Platichthys stellatus),* and leopard shark *(Triakis semifasciata).* One of the few mammals that are occasionally present on sand flats is the Pacific harbor seal.

Eelgrass Beds

Eelgrass beds occur in some of the shallow waters within the Study Area. Eelgrass provides important nursery habitat and protection for many fish and invertebrate species, including herring. In addition, avian species are often observed foraging among vegetated shallows.

Eelgrass is typically present on shallow, gradually sloping sand, sand/mud, and sand/shell debris habitats. Eelgrass beds stabilize shorelines by dampening the wave energy that transports sediment to and from the shore, preventing erosion. They also improve water quality by collecting and filtering organic matter and sediments. This filtering acts as a nutrient pump, transferring waterborne nutrients to the sediments and invertebrates. Eelgrass is easily affected by changes in water quality and turbidity. Beds are extremely dynamic, expanding and contracting by as much as several hectares per season, depending on the quality of the site. Consequently, eelgrass beds can serve as an indicator community for the overall health of an estuary.

Wetlands and Waters of the United States

Wetland resources in the project study area include "special aquatic sites" regulated by the Corps under Section 404 of the federal Clean Water Act and Waters of the U.S. regulated under Section 10 of the Rivers and Harbors Act. Special aquatic sites found in the project area include non-tidal wetlands, tidal wetlands, sand flats, and eelgrass beds. Potential jurisdictional wetlands were delineated in the field using methods outlined in the 1987 Army Corps of Engineers Wetland Delineation Manual. Jurisdictional wetlands are defined when three conditions exist: 1) presence of hydric soils, 2) presence of saturated, inundated or ponded/flooded hydrologic conditions during the growing season, and 3) presence of hydrophytic vegetation. The following is a description of the wetlands, mudflats, eelgrass beds, and waters of the U.S. in the project area.

Wetlands

Wetlands possess unique functions and values that vary depending on the type of wetland, its size, surrounding land uses, and the degree to which it has been previously disturbed. Wetland functions are defined as the physical, chemical, and biological attributes of a wetland, such as flood storage, species habitat, or groundwater discharge. Other functions of wetlands may have specific "values" that are considered beneficial to society, such as groundwater recharge, recreation, or aesthetics. Each wetland type was evaluated separately to determine general wetland functions and values. The following are standard functions used to assess each wetland type:

- Wildlife diversity/abundance;
- Aquatic diversity/abundance; and
- Uniqueness/heritage.

There are several wetland sites in the Study Area. One tidal wetland site is a narrow strip located along the high tide line of Radio Point Beach. Vegetation in this area consists of saltgrass and searocket (*Cakile maritima)*, both hydrophytic plants that are considered wetland indicator species. This vegetation is growing at or slightly above the high tide line. A muted tidal wetland occurs behind the foredune area outside of the project area.

Two small non-tidal wetland areas were previously documented within the project area on Port of Oakland property, located just south of the existing highway. One wetland area at this site is 0.03 hectare (0.07 acre) and includes rabbit foot grass (*Polypogon monspeliensis)*, a wetland indicator species. This site appears to have been recently used for construction staging and storage, and it is likely that the topographic depression was created by these activities. West of this site there is another non-tidal wetland area also located on Port of Oakland property. This wetland is 0.02 hectare (0.05 acre) and consists of wetland indicator species, including brass buttons (*Cotula coronopifolia*), sourclover (*Melitotus indica*), and rabbit foot grass. These sites were not located during ESA's site visit. However, ESA did note two relatively small wetlands dominated by pickleweed and apparently subject to tidal influence within the project area that appear to be hydrolgically connected to the Bay through drainage grates. It was not clear if these were the same features referred to in the documentation for the SFOBB.

Sand Flats

Sand flats were delineated for the Bay Bridge seismic retrofit and are present in the Study Area between the mean high water (MHW) line, elevation 0.8 meter (2.7 feet National Geodetic Vertical Datum), and the MLLW. The lower limits of the sand flats were determined from aerial photographs taken during approximately a 0.85 tide. The upper limits of the sand flats were determined in the field using GPS equipment.

Sand flats occur along the north side of the Study Area at the eastern bridge abutment. Approximately 2.1 hectares (5.1 acres) of sand flats are located between Radio Point Beach and the eastern bridge abutment. These sand flat areas provide a moderate level of functions and values as foraging habitat for a variety of bird species.

Eelgrass Beds

Preliminary surveys of eelgrass habitat in the project area were conducted in 1997 and 1998 as part of the *San Francisco-Oakland Bay Bridge East Spans Seismic Safety Project Environmental Impact Statement* (SFOBB EIS) (FHWA, 2001). More detailed surveys were conducted in 1999 and 2000 (a pre-construction survey only for Replacement Alternative N-6). Eelgrass beds were surveyed in the field during MLW when the potential for observing the edge of eelgrass beds or individual stands is easiest. Fathometer surveys and bottom grab samples were taken when eelgrass was not visible from the water surface or when visibility was otherwise not suitable to determine eelgrass distribution. Eelgrass beds are present in the San Francisco Bay Estuary from Mean Lower Low Water (MLLW), elevation -0.9 meter (2.9 feet National Geodetic Vertical Datum), to 1.5 meters (5 feet) below MLW. Eelgrass survey methods included use of specialized acoustic (sonar) equipment to locate and map the occurrence of the eelgrass beds. Divers were used to verify the sonar readings, determine eelgrass bed density, and the density of the existing grass shoots.

Approximate locations of eelgrass beds are shown on **Figure 14**. The eelgrass beds in the project vicinity totaled approximately 15.7 hectares (38.8 acres) north of the Study Area at the time of the October 1999 surveys conducted for the SFOBB EIS (FHWA, 2001).

The most extensive eelgrass beds were identified north of the Study Area. The distribution of these eelgrass beds extends in depths ranging from about 1.1 to 1.5 meters (3.5 to 5.0 feet) and has exhibited dramatic fluctuations in size and density from year to year. Eelgrass beds in this area are patchy, occurring within 3.0 to 4.6 meters (10 to 15 feet) of each other. Approximately 2,493 individual eelgrass patches were recorded in this area during the 1999 surveys with patches varying from 1.5 to 3.6 meters (5 to 12 feet) in diameter (FHWA, 2001)

Eelgrass is easily affected by environmental factors such as changes in water quality and turbidity. This habitat type is extremely dynamic, expanding and contracting by as much as several hectares per season, depending on the quality of the site and environmental factors.

Waters of the U.S

Waters of the U.S. within the study area include "waters…that are subject to the ebb and flow of the tide shoreward to the Mean High Water mark" that are used to transport interstate or foreign commerce, as described under Section 10 of the Rivers and Harbors Act (33 Code of Federal Regulation Part 322.2). The project area is bisected by a navigation opening that is under the jurisdiction of the USCG. Section 10 jurisdiction extends to the MHW mark on the north and south sides of the SFOBB. Section 404 jurisdiction extends to the High-tide Line (HTL) on the north and south sides of the bridge. Impacts to special aquatic sites, including sand flats and eelgrass beds, are regulated under Section 404 of the Federal Clean Water Act.

Jurisdiction of the Bay Conservation and Development Commission

Under the McAteer-Petris Act, the BCDC has jurisdiction over all areas of the Bay that are subject to tidal action. BCDC's San Francisco Bay jurisdiction includes subtidal areas, intertidal areas, and tidal marsh areas that are between mean high tide and 1.5 meters (5 feet) above mean sea level. In addition, BCDC has jurisdiction over a 30.5-meter (100-foot) shoreline band surrounding the Bay from the mean high tide line. For this project, the area subject to BCDC jurisdiction includes the Study Area. BCDC's jurisdiction does not extend to federally owned areas such as the Navy or US Coast Guard property, because they are excluded from state coastal zones pursuant to the Coastal Zone Management Act.

Plants and Wildlife

This section identifies special status plant and wildlife species protected under the federal and state Endangered Species Acts with potential to occur in the vicinity of the project area, as documented by lists compiled from various sources. Based on those lists, surveys of the habitat in the project area were conducted, and consultations with biologists were completed to identify specific species and habitats potentially impacted by the project alternatives. Many of the species identified through these sources have the potential to occur within the greater regional area but are not present within the project area due to the lack of suitable habitat. This section also identifies bird species that are known to occur within the project area and are protected by the Migratory Bird Treaty Act. **Table A-1**, attached, provides a comprehensive list of the species discussed below.

Plants

A list of special-status plant species, shown in **Table A-1**, contains 40 species that have the potential to occur in the Study Area. This list was compiled based on the list of species provided by USFWS, a review of the CNDDB, and CNPS's Inventory Database. A survey for plants and wildlife was conducted on December 9, 2009 to assess potential habitat at the project site for known and potentially occurring special-status species. While special-status plant species have the potential to occur in the project area, results of the surveys conducted for the SFOBB EIS indicate that the marsh gumplant is the only listed species to occur in the project area. Habitat within the Study Area is impacted by human use and the presence of non-native species. The project site is Bay fill and has been colonized by many non-native species as well as a few native shrubs and sub-shrubs. Habitat here is unsuitable or not present for nearly all special-status plant species. A brief description of the marsh gumplant is provided below.

Marsh Gumplant (*Grindelia stricta* var. *angustifolia*). Marsh gumplant is included on List 4 of the CNPS Inventory. It has no federal or state status; however, it is considered to be locally significant and has been included in the CNPS list of species which have limited distribution. This species was observed during botanical surveys in the Study Area and occurs within the project area.

Wildlife

A list of special-status species and their legal status are provided in **Table A-1**. This table contains species that could possibly be found in the Study Area. These species were compiled based on the list of species provided by the USFWS and a review of the CNDDB. The wildlife species described below have the potential to occur in the project area because suitable or marginally suitable supporting habitat is present. Additionally, all migratory bird species such as western gulls, peregrine falcons, and double-crested cormorants are protected by the Migratory Bird Treaty Act. A brief description of special-status wildlife species with high to moderate potential to occur or that are known to occur in the project area is provided below.

Salt marsh harvest mouse (Reithrodontomys raviventris).

East bay marshes provide habitat for the salt marsh harvest mouse, a federally-endangered species endemic to the San Francisco bay and the waters that feed into it. Extensive habitat loss and modification has been the main cause of the species' decline and listing. Saline marsh areas dominated by pickleweed are preferred by salt marsh harvest mouse for breeding and foraging, but it may venture to upland grasslands in spring or summer to forage when grass is high enough to provide cover. Several mice were found on the western edge of the Emeryville Crescent Marsh in 1982 and 1986 (CDFG, 2008), and one was found within the Emeryville city limit in 1982 (San Francisco Estuary Institute [SFEI], 2008). Even though these records are not current, there is no reason to think the saltmarsh harvest mouse is no longer in these marshes.

Alameda song sparrow (Melospiza melodia pusillula).

The Alameda song sparrow prefers fresh, brackish, and salt marsh habitats. Alameda song sparrow occurs in coastal salt marsh habitat at the Emeryville Crescent, adjacent to the SFOBB Toll Plaza. There have been no observations of the Alameda song sparrow nesting in the project area; however, marsh gumplant, which occurs on the north side of the Study Area and within the project area, may provide nesting habitat for the Alameda song sparrow. The Alameda song sparrow has been observed perching on individual gumplants within the project area. The Alameda song sparrow is designated as a California species of special concern.

Northern harrier (*Circus cyaneus*).

This species, like other raptors and birds in general, is protected under California Code 3503 and 3503.5, which prohibits the taking or destroying of any bird or nest in the order of Falconiformes (falcons, kites, and hawks) and Strigiformes (owls). Northern harrier nest and forage along wet meadows, sloughs, savanna, prairie, and marshes, feeding on small mammals, such as California vole and mice. Destruction of marsh habitat is the primary reason for the decline of this species. Northern harrier may use the marshes and grasslands in the northern portions of the project site and surrounding area for foraging and nesting.

American peregrine falcon (*Falco peregrinus anatum*).

This species has been removed from federal listing, but is still protected by the Migratory Bird Treaty Act and the California Endangered Species Act (CESA).The peregrine falcon was fairly common in California before 1947, with at least 100 nesting pairs counted (USFWS 1992). Two pairs of peregrine falcons nest and roost on the SFOBB. One pair nests on the West Span and one pair on the East Span. Courtship behavior and other nesting activities can begin as early as December for these pairs. Eggs are usually laid in early March, and the young generally fledge in the third week of May.

California black rail (*Laterallus jamaicensis coturniculus).*

Suitable habitats for the state-threatened California black rail exist in the Emeryville Crescent as well as areas north of the Emeryville Marina. The black rail requires densely-vegetated marsh areas with little tidal fluctuation to construct nests. Rails forage in dense pickleweed and bulrush stands as well as mudflats. A survey in 1999 found one to two individuals in marshland north of the bay bridge toll plaza, and additional breeding populations exist in San Pablo and Suisun bays (CDFG, 2009; Spautz et al., 2005). The California black rail is threatened under the California Endangered Species Act.

California brown pelican (Pelecanus occidentalis californicus).

Recently delisted (from both state and federal lists), brown pelicans are found in estuarine, marine subtidal, and marine pelagic waters throughout coastal California (Thelander et al. 1994). Important habitat for pelicans during the non-breeding season includes roosting and resting areas, such as offshore rocks, islands, sandbars, breakwaters, and pilings. Suitable areas need to be free of disturbance. They rest temporarily on the water or isolated rocks, but roosting requires a dry location near food and a buffer from predators and humans. California brown pelicans use open water areas for feeding and use rocks, jetties, and piers for roosting. Brown pelicans feed on small surface-schooling fish, primarily anchovy (Zeiner et al. 1990). California brown pelicans migrate from their breeding zones in the Channel Islands and Mexico as early as mid-May, to disperse throughout coastal California. The California brown pelican is a common post-breeding resident (May through November) of the open waters of the central San Francisco Bay.

California clapper rail (Rallus longirostris obsoletus).

The California clapper rail is a year-round resident of coastal salt marshes. The clapper rail prefers emergent marshes containing pickleweed, cordgrass and bulrush and shallow mudflats with adjacent cover for foraging. Individuals hide their nests among a canopy of wetland vegetation dominated by pickleweed and cordgrass. This species is known to occur in the Emeryville Crescent area. Appropriate nesting and foraging habitat does not exist in the Study Area. Several surveys conducted in the last 20 years have detected clapper rail in the marsh. The most recent survey by the San Francisco Bay Invasive Spartina Project (Spautz, 2006) detected 9 to 14 individuals at seven different locations. Another recent survey by Caltrans in 2005, detected two clapper rails north of the Bay Bridge toll plaza. Both of these surveys were conducted at the western extension of the crescent located north of the bay bridge toll plaza. Both the State and Federal Endangered Species Acts include the clapper rail as an endangered species.

California least tern (*Sterna antillarum browni*).

The California least tern nests in colonies on bare or sparsely vegetated areas near the coast. This species is found in the Bay Area during the breeding season from May through August. Nesting habitat which supports the California least tern is not known to occur within the Study Area. However, there is potentially suitable habitat for this species present in the project area. The California least tern is designated as an endangered species under both the State and Federal Endangered Species Acts.

Common loon (Gavia immer).

The common loon nests in freshwater marshes, although it also forages and roosts in marine environments. This species has the potential to occur in waters adjacent to the Study Area. This species is listed as a California species of special concern.

Cooper's hawk (*Accipiter cooperii*). Cooper's hawk ranges over most of North America and may be seen throughout California, most commonly as a winter migrant. Nesting pairs have declined throughout the lower-elevation, more populated parts of the state. Cooper's hawk forages in open woodlands and wooded margins and nests in tall trees, often in riparian areas. This species is not expected to nest within the Study Area but may forage over the marshes and the open project area and roost in trees there.

Double-crested cormorant (*Phalacrocorax auritus*).

On the CDFG watch list, the cormorant is a year-long resident along the entire coast of California and is known to frequent inland lakes and fresh, salt, and estuarine waters. Fish make up the bulk of the double-crested cormorant's diet, while crustaceans and amphibians are known to be taken as food items to a lesser degree. It feeds during the day and is known to roost beside water on offshore rocks, islands, steep cliffs, trees, or engineered structures (wharves, jetties, and bridges) barren of vegetation. Nests are built in habitats similar to those used for roosting, with the further requirements that the area be inaccessible to predators, that it be near a foraging area, and that it have a dependable food supply. This species has the potential to occur in waters adjacent to the Study Area and may also roost on structures in the waters off the shoreline.

Elegant tern (*Sterna elegans*).

The elegant tern nests in the Gulf of California, Baja California and southern California. It is a coastal bird and is frequently found in bays and esturaries. This species has the potential to forage in the sand flats of the Study Area. This species is listed on the California Watch List and is a former federal species of concern.

Long-billed curlew (Numenius americanus).

The long-billed curlew is a shorebird that is on the CDFG Watch List and is a former federal species of concern. It does not breed in the Bay Area, but it winters here. It is primarily a coastal species and is found in marshes and on beaches. Therefore it could potentially forage in the Study Area.

Saltmarsh common yellowthroat (*Geothlypis trichas sinuosa*).

The saltmarsh common yellowthroat inhabits fresh and brackish wetland areas as well as upland habitat throughout the San Francisco Bay Area. Saltmarsh common yellowthroats use the Emeryville Crescent as wintering habitat. Observations of three individuals perched on marsh gumplant (*Grindelia stricta*) located adjacent to the SFOBB Toll Plaza were made in December 1989 by Caltrans (FHWA, 2001). The saltmarsh common yellowthroat is a California species of special concern and may use habitat in the project area for foraging and breeding purposes.

Western Snowy Plover (Charadrius alexandrinus nivosus).

The western snowy plover is a small shorebird with pale coloration, making it almost completely camouflaged against a sandy background. This species remains in the state year-round where it populates open beach and coastal marsh areas. Snowy plovers have been designated as a threatened species under the Federal Endangered Species Act. The CESA includes the western snowy plover as a species of special concern. Only marginally suitable breeding habitat for this species occurs in the Study Area along Radio Point Beach and in the adjacent dunes. The species forages over mudflats and sand flats. Sand flats are present in the Study Area, but snowy plovers have not been observed in the project area.

White-tailed kite *(Elanus leucurus).*

White-tailed kites are present year-round in the Bay Area, although the population increases from September through May. Kites forage in low marsh vegetation, riparian grasslands, and agricultural areas and nest in moderately tall trees such as oaks and willows. Foraging habitat is present in the Emeryville Crescent. This species is a Fully Protected Bird under Section 3511 of the CDFG Code.

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FIGURES

TABLE A-1
SPECIAL-STATUS SPECIES with potential to occur in the Gateway park Study area

Common Name Scientific Name	Listing Status USFWS/ CDFG/ CNPS	General Habitat	Potential for Species Occurrence Within the Study Area[a]
SPECIES LISTED OR PROPOSED FOR LISTING			
Amphibians			
California tiger salamander *Ambystoma californiense*	FT/CSC	Wintering sites occur in grasslands occupied by burrowing mammals; breed in ponds and vernal pools	Absent. No suitable habitat.
California red-legged frog *Rana aurora draytonii*	FT/CSC	Breed in stock ponds, pools, and slow-moving streams with emergent vegetation for escape cover and egg attachment	Absent. No suitable habitat
Reptiles			
Alameda whipsnake *Masticophis lateralis euryxanthus*	FT/ST	Scrub brushland with adjacent woods or grasslands containing rocky outcrops.	Absent. No suitable habitat
Birds			
Western snowy plover *Charadrius alexandrinus nivosus*	FT/CSC	Nests in the sand along shores, peninsulas, bays, estuaries.	Moderate potential. Potential suitable nesting habitat exists along Radio Point Beach.
American peregrine falcon *Falco peregrinus anatum*	Delisted/ SE	Found in a variety of habitats. Nests on ledges, cliffs, and buildings.	Moderate potential. Individuals documented nesting on SFOBB. While there is no suitable nesting habitat in the Study Area individuals may forage and roost within the Study Area
California black rail *Laterallus jamaicensis coturniculus*	–/ST	Freshwater marshes, wet meadows and shallow margins of saltwater marshes bordering larger bays. Nests and forages in tidal emergent wetland with pickleweed and cordgrass. The species is also Fully Protected under the California Fish and Game Code.	Moderate potential. 1-2 individuals observed in 1999 at Emeryville Crescent Marsh
California brown pelican *Pelecanus occidentalis californicus*	Delisted/–	Rocky, sandy or vegetated offshore islands, beaches, open sea, harbors, estuaries and breakwaters.	Observed as transient over the Study Area. Not expected to nest there but may forage and occasionally roost in the area.
California clapper rail *Rallus longirostris obsoletus*	FE/SE	Saltwater and brackish marshes traversed by tidal sloughs in the vicinity of San Francisco Bay. Nests and forages in emergent wetlands with pickleweed, cordgrass, and bulrush	High potential. Individuals observed at Emeryville Crescent Marsh in 2006.
California least tern *Sternula antillarum browni*	FE/SE	Nests along the coast from San Francisco Bay; breeds on bare or sparsely vegetated flat substrates, sand beaches and alkali flats	Moderate potential. Suitable habitat within the Study Area. Nest site at Alameda Naval Air Station, southwest of Oakland; last record in CNDDB in 1996.
Mammals			
Salt-marsh harvest mouse *Reithrodontomys raviventris*	FE/SE	Saline emergent wetlands of San Francisco Bay; pickleweed is primary habitat. The species is also Fully Protected under the California Fish and Game Code.	Low. Individuals observed in Emeryville Crescent Marsh in 1982. However, potentially suitable habitat within the Study Area is isolated and small in size.
Plants			
Robust spineflower *Chorizanthe robusta var. robusta*	FE/–/1B.1	Cismontane woodland, coastal dunes, and coastal scrub	Low potential. Potentially suitable habitat is marginal due to invasion by iceplant.
Santa Cruz tarplant *Holocarpha macradenia*	FT/ SE/1B.1	Coastal prairie, valley and foothill grassland; light, sandy soil or sandy clay	Absent. No suitable habitat.
Beach layia *Layia carnosa*	FE/ SE/1B.1	Coastal dunes	Low potential. Potentially suitable habitat is marginal due to invasion by iceplant.
SPECIES OF SPECIAL CONCERN			
Birds			
Cooper's hawk *Accipiter cooperii*	–/3503.5	Nests in riparian growths of deciduous trees and live oak woodlands	Moderate potential. Cooper's hawks are relatively common in the urban Bay Area. The species is not expected to nest within the Study Area but may forage and roost there.
Northern harrier *Circus cyaneus*	–/CSC	Coastal salt and fresh-water marsh; nests on ground in shrubby vegetation, usually at marsh edge; nest built of a large mound of sticks in wet areas	High potential. The species is not expected to nest within the Study Area but may nest in the Emeryville Crescent Marshes and forage and roost within the Study Area.
White-tailed kite *Elanus leucurus*	–/FP/–	Nests near wet meadows and open grasslands, in dense oak, willow, or other tree stands	Moderate potential. While there is no nesting substrate for this species in the Study Area, kites may forage and roost there.
Common loon *Gavia immer*	–/CSC	Nests in freshwater marshes; forages and roosts in marine environments.	High potential. This species is known to winter in San Francisco Bay. May forage in waters adjacent to the Study Area.
Saltmarsh common yellowthroat *Geothlypis trichas sinuosa*	FSC/CSC	Resident of San Francisco Bay region, in fresh and salt water marshes; requires thick continuous cover down to water surface for foraging and tall grasses, tule patches and willows for nesting	Moderate potential. Only marginally suitable habitat within the study area. Not expected to nest there but likely nests in the Emeryville Crescent Marshes and may forage within the Study Area.
Alameda song sparrow *Melospiza melodia pusillula*	FSC/CSC	Resident of salt marshes bordering south arm of San Francisco Bay; inhabits salicornia marshes; nests low in grindelia bushes	High potential. May nest in Grindelia on the project site and within the Study Area north of SFOBB.
Long-billed curlew *Numenius americanus*	FSC/WL	Winters in the Bay Area; found in marshes and beaches.	High potential to occur in the Study Area in winter.
Double-crested cormorant *Phalacrocorax auritus*	–/WL	Nests along Oakland-San Francisco Bay Bridge	High potential. There is no nesting substrate within the project area for this species but was observed as transient through the area and foraging in adjacent Bay waters/
Elegant tern *Sterna elegans*	FSC/WL	Found frequently in bays and estuaries.	Moderate potential to occur in project area along sand flats. Not expected to nest here but may forage and roost within the Study Area.
Mammals			
Pallid bat *Antrozous pallidus*	–/CSC	Inhabits a variety of habitats ranging from desert scrub, to grasslands, to coniferous and mixed hardwood forests, to buildings; in northern and central California, associated primarily with oak woodlands. Feeds mostly on ground-dwelling arthropods.	Low potential. Historical buildings on the project site have low potential to provide roosting habitat. Generally expected to occur as a migratory transient.
Hoary bat *Lasiurus cinereus*	–/*	Prefers open habitats, with access to trees for cover and open areas or habitat edges for feeding	Low potential. No suitable habitat. Only expected to occur as a migratory transient.
Big free-tailed bat *Nyctinomops macrotis*	–/CSC	Low-lying arid areas in southern California, needs high cliffs or rocky outcrops for roosting site.	Low potential. No suitable habitat. Only expected to occur as a migratory transient.
Alameda Island mole *Scapanus latimanus parvus*	–/CSC	Only known from Alameda Island; found in annual and perennial grasslands	Low potential. Only marginally suitable habitat present with little evidence of burrowing mammals.
Plants			
Bent-flowered fiddleneck *Amsinckia lunaris*	–/–/1B.2	Cismontane woodland, valley and foothill grassland	Absent. No suitable habitat.
Alkali milk-vetch *Astragalus tener* var. *tener*	–/–/1B.2	Alkali playa, valley and foothill grassland, vernal pools	Absent. No suitable habitat.
San Joaquin spearscale *Atriplex joaquiniana*	–/–/1B.2	Chenopod scrub, alkali meadow, valley and foothill grasslanwd	Absent. No suitable habitat.
Round-leaved filaree *California macrophylla*	–/–/1B.1	Cismontane woodland, valley and foothill grassland	Absent. No suitable habitat.

Common Name Scientific Name	Listing Status USFWS/ CDFG/ CNPS	General Habitat	Potential for Species Occurrence Within the Study Area[a]
Bristly sedge *Carex comosa*	–/–/2.1	Freshwater marshes and swamps	Absent. No suitable habitat.
San Francisco Bay spineflower *Chorizanthe cuspidata* var. *cuspidata*	–/–/1B.2	Coastal bluff scrub, coastal dunes, coastal prairie, coastal scrub	Low potential. Only marginally suitable habitat present.
Point Reyes bird's beak *Cordylanthus maritimus* ssp. *palustris*	–/–/1B.2	Upper zones of coastal salt marsh	Low potential. Historical occurrence in Emeryville marshes but not found there in recent surveys. Believed to be extirpated from the area.
Blue coast gilia *Gilia capitata* ssp. *chamissonis*	–/–/1B.1	Coastal dunes, coastal scrub	Low potential. Only marginally suitable habitat present.
Seaside tarplant *Hemizonia congesta* ssp. *congesta*	–/–/1B.2	Coastal scrub, valley and foothill grassland	Absent. No suitable habitat.
Kellogg's horkelia *Horkelia cuneata* ssp. *sericea*	–/–/1B.1	Closed-cone coniferous forest, coastal scrub, chaparral	Absent. No suitable habitat.
Rose leptosiphon *Leptosiphon rosaceus*	–/–/1B.1	Coastal bluff scrub	Absent. No suitable habitat.
Choris' popcorn-flower *Plagiobothrys chorisianus* var. *chorisianus*	–/–/1B.2	Chaparral, coastal scrub, coastal prairie	Absent. No suitable habitat.
Adobe sanicle *Sanicula maritima*	–/SR/1B.1	Meadows and seeps, valley and foothill grassland, chaparral, coastal prairie	Absent. No suitable habitat.
Saline clover *Trifolium depauperatum* var. *hydrophilum*	–/–/1B.2	Marshes and swamps, valley and foothill grassland	Absent. No suitable habitat.

STATUS CODES

Federal Categories (U.S. Fish and Wildlife Service)

FE = Listed as Endangered by the Federal Government
FT = Listed as Threatened by the Federal Government
FPE = Proposed for Listing as Endangered
FPT = Proposed for Listing as Threatened
FC = Candidate for Federal Listing
FSC1 = Former Federal Species of Concern
FSLC = Federal Species of Local Concern
BPA = Federal Bald Eagle Protection Act

California Native Plant Society (CNPS)

List 1A = Plants presumed extinct in California
List 1B = Plants rare, threatened, or endangered plants in California and elsewhere
List 2 = Plants rare, threatened, or endangered in California but common elsewhere.
0.1 = Seriously endangered in California
0.2 = Fairly endangered in California
0.3 = Not very endangered in California

R-E-D Code
This code is divided into three classes or degrees of concern, represented by the number 1, 2, or 3 (higher numbers indicate greater concern):
Rarity - addresses the extent of the plant's distribution and number of individuals.
Endangerment - addresses the plant's vulnerability to extinction.
Distribution - addresses overall range of the plant.

State Categories (California Department of Fish and Game)

CE = Listed as Endangered by the State of California
CT = Listed as Threatened by the State of California
CR = Listed as Rare by the State of California
FP= Fully Protected Species under CDFG Code Section 3511
* = Special Animals
CSC = California Species of Special Concern
WL = Watch List

[a] High Potential = Species is expected to occur and habitat meets species requirements.
Moderate Potential = Habitat is only marginally suitable or is suitable but not within species geographic range.
Low Potential = Habitat does not meet species habitat or range requirements as currently understood in the scientific community.

Appendix A
Wildlife and Plant species observed at gateway park

(Site visit conducted December 9, 2009)

Scientific name	Common name
Birds	
Aechmophorus occidentalis	western grebe
Ardea herodias	great blue heron
Branta canadensis	Canada goose
Bucephala clangula	common goldeneye
Buteo jamaicensis	red-tailed hawk
Carpodacus mexicanus	house finch
Charadrius vociferus	killdeer
Corvus corax	American crow
Dendroica coronata	yellow-rumped warbler
Oxyura jamaicensis	ruddy duck
Phalacrocorax auritis	double-crested cormorant
Pipilo maculatus	California towhee
Podiceps auritis	horned grebe
Sayornis nigricans	black phoebe
Sturnus vulgaris	European starling
Zenaida macroura	mourning dove
Zonotrichia leucophrys	white-crowned sparrow
Mammals	
Phoca vitulina	harbor seal
Spermophilus beechyi	California ground squirrel (a few burrows observed)
Thomomys bottae	Botta's pocket gopher (a few burrows observed)
Plants	
Acacia melanoxylon	black acacia
Argyranthemum frutescens	Canary Island marguerite
Atriplex patula	spear saltbush
Avena sp.	wild oats
Baccharis pilularis	coyote brush
Brassica nigra	black mustard
Carduus pycnocephalus	Italian thistle
Carpobrotus edulis	iceplant
Cirsium vulgare	bull thistle
Conyza canadensis	Canadian horseweed
Cordateria jubata	jubata grass
Distichlis spicata	saltgrass
Dittrichia graveolens	stinkwort
Echium fatuosum	pride of Madeira
Epilobium sp.	willow herb
Erodium cicutarium	red filaree
Eschscholzia californica	California poppy
Eucalyptus conferruminata	bushy yate
Foeniculum vulgare	fennel
Geranium molle	dovefoot geranium
Gnaphalium luteo-album	common cudweed
Grindelia stricta var. angustifolia	marsh gumplant
Helminthotheca echiodes	bristly ox-tongue
Heterotheca grandiflora	telegraph weed
Lactuca serriola	prickly lettuce
Lantana montevidensis	trailing lantana
Limonium californicum	sea lavender
Limonium sp.	statice
Lolium multiflorum	Italian ryegrass
Malva nicaeensis	bull mallow
Medicago polymorpha	California burclover
Myrica californica	Pacific wax myrtle
Pinus radiata	Monterey pine
Plantago lanceolata	narrrowleaf plantain
Plantago maritima	seaside plantain
Polygonum punctatum	common knotweed
Populus nigra var. italica	Lombardy poplar
Raphanus sativus	wild radish
Rumex crispus	curly dock
Salicornia virginica	perennial pickleweed
Salsola soda	Russian thistle
Senecio vulgaris	common groundsel
Vulpia myuros	rat-tail fescue

(Footnotes)

1 Former Federal Species of Concern: Species designated as such in this document were listed by the Sacramento FWS office until 2006, when they stopped maintaining their list. These species are still considered to be at-risk species by other federal and state agencies, as well as various organizations with recognized expertise such as the Audubon Society.

Gateway Park Working Group

Figure 14.

Gateway Park Area Project Study Report

Existing Ecological Conditions

03 March 2010

in association with

HDR/The Hoyt Company
Fehr & Peers
Economic & Planning Systems, Inc.
ESA

PERKINS + WILL
PWP
BkF

Gateway Park Working Group

Figure 15.

Gateway Park Area Project Study Report

Ecological Opportunities

03 March 2010

in association with

HDR/The Hoyt Company
Fehr & Peers
Economic & Planning Systems, Inc.
ESA

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NOISE

6. PURPOSE

This section identifies the sources of noise and sensitive land uses in and near the Project area and identifies potential opportunities and constraints to on these resources with the implementation of the Gateway Park project. As described in this section, the Project area encompasses areas adjacent to and within the Gateway Park Project Study Area.

7. KEY FINDINGS

Measured noise levels in the vicinity of Gateway Park area ranged from 64 to 71 dBA L_{eq} and the proposed Gateway Park location currently has no noise-sensitive activities or uses. It is possible that noise from the bridge could be reduced by the nature of the new side by side concrete structure.

Opportunities

- Utilize unique landscape architecture and design techniques to reduce noise levels in park area with natural sound barriers (e.g. trees).
- Introduce additional recreational features or functions that may also block or reduce sound from the area such as:
  - A living wall with interpretive signage
  - A rock climbing wall
  - A band shell and amphitheater
  - Noise cancelling water features (e.g fountains, waterfalls)
  -

Constraints

- Exposure to noise from adjacent highway and the Bay Bridge could be a nuisance or deterrent for park visitors. It is possible that noise from the bridge could be reduced by the nature of the new side by side concrete structure.

8. METHODOLOGY AND ASSUMPTIONS

The findings of this section are based on existing reports that characterize the sources of noise and sensitive receptors at the Project area including:

- The San Francisco-Oakland Bay Bridge East Spans Seismic Safety Project Final Environmental Impact Statement/Statutory Exemption (FHWA, 2001)
- Oakland Army Base Redevelopment Environmental Impact Report (ORA, 2002)

Noise and Vibration Measurements, Model Calibration, and Noise Modeling

The existing noise environment in the proposed Gateway Park area was characterized through the evaluation of field noise measurements. Long-term measurements (at least 24 hours) were made at representative locations. Fourteen short-term measurements (approximately 15 minutes long) were also made at representative locations and land uses. These included the location of the proposed Gateway Park. The short-term and long-term measurements were used to calibrate the noise model, providing more accurate modeling of existing and future noise levels generated by traffic.

Future peak-hour noise levels were predicted using the "Sound32" noise model. This model is based on the Federal Highway Administration (FHWA) noise prediction model STAMINA and uses California Vehicle Noise Emission Levels. Traffic data were developed for the model based on volumes and speed scenarios that would create the loudest hourly peak noise levels. Each scenario was tested, and the "worst-case" traffic speed and volume condition (i.e., 1,600 vehicles per lane per hour traveling at 97 kilometers [60 miles] per hour) was selected for further modeling that created the maximum predicted noise conditions.

Background

Sounds

Sound is mechanical energy transmitted by pressure waves through a medium such as air. Noise is defined as unwanted sound. Sound is characterized by various parameters that include the rate of oscillation of sound waves (frequency), the speed of propagation, and the pressure level or energy content (amplitude). In particular, the sound pressure level has become the most common descriptor used to characterize the loudness of an ambient sound level. Sound pressure level is measured in decibels (dB), with zero dB corresponding roughly to the threshold of human hearing, and 120 to 140 dB corresponding to the threshold of pain.

Sound pressure fluctuations can be measured in units of hertz (Hz), which correspond to the frequency of a particular sound. Typically, sound does not consist of a single frequency, but rather a broad band of frequencies varying in levels of magnitude (sound power). When all the audible frequencies of a sound are measured, a sound spectrum is plotted consisting of a range of frequency spanning 20 to 20,000 Hz. The sound pressure level, therefore, constitutes the additive force exerted by a sound corresponding to the sound frequency/sound power level spectrum.

The typical human ear is not equally sensitive to all frequencies of the audible sound spectrum. As a consequence, when assessing potential noise impacts, sound is measured using an electronic filter that de-emphasizes the frequencies below 1,000 Hz and above 5,000 Hz in a manner corresponding to the human ear's decreased sensitivity to low and extremely high frequencies instead of the frequency mid-range. This method of frequency weighting is referred to as A-weighting and is expressed in units of A-weighted decibels (dBA).[2] Frequency A-weighting follows an international standard methodology of frequency de-emphasis and is typically applied to community noise measurements. The A-weighted scale is used to describe all noise levels discussed in this section.

2 All noise levels reported herein reflect A-weighted decibels unless otherwise stated.

Noise Exposure and Community Noise

An individual's noise exposure is a measure of the noise experienced by the individual over a period of time. A noise level is a measure of noise at a given instant in time. However, noise levels rarely persist consistently over a long period of time. Rather, community noise varies continuously with time with respect to the contributing sound sources of the community noise environment. Community noise is primarily the product of many distant noise sources, which constitute a relatively stable background noise exposure, with the individual contributors unidentifiable. The background noise level changes throughout a typical day, but does so gradually, corresponding with the addition and subtraction of distant noise sources such as traffic and atmospheric conditions. What makes community noise constantly variable throughout a day, besides the slowly changing background noise, is the addition of short duration single event noise sources (e.g., aircraft flyovers, motor vehicles, sirens), which are readily identifiable to the individual.

These successive additions of sound to the community noise environment varies the community noise level from instant to instant requiring the measurement of noise exposure over a period of time to legitimately characterize a community noise environment and evaluate cumulative noise impacts. This time-varying characteristic of environmental noise is described using statistical noise descriptors. The most frequently used noise descriptors are summarized below:

L_{eq}: The equivalent sound level is used to describe noise over a specified period of time, typically one hour, in terms of a single numerical value. The Leq is the constant sound level, which would contain the same acoustic energy as the varying sound level, during the same time period (i.e., the average noise exposure level for the given time period).

L_{max}: The instantaneous maximum noise level measured during the measurement period of interest.

L_{min}: The instantaneous minimum noise level measured during the measurement period of interest.

L_x: The sound level that is equaled or exceeded x percent of a specified time period. The L50 represents the median sound level.

DNL: The energy average of the A-weighted sound levels occurring during a 24-hour period, and which accounts for the greater sensitivity of most people to nighttime noise by weighting noise levels at night ("penalizing" nighttime noises). Noise between 10:00 p.m. and 7:00 a.m. is weighted (penalized) by adding 10 dBA to take into account the greater annoyance of nighttime noises. This is also sometimes referred to as the Ldn.

CNEL: Similar to the DNL, the Community Noise Equivalent Level (CNEL) adds a 5-dBA "penalty" for the evening hours between 7:00 p.m. and 10:00 p.m. in addition to a 10-dBA penalty between the hours of 10:00 p.m. and 7:00 a.m.

Cumulative noise descriptors, DNL and CNEL, are directly correlated with the likelihood of public annoyance from transportation noise sources. Individual noise events, such as train passbys, are further described using single-event and cumulative noise descriptors. For single events, the maximum measured noise level (Lmax) is often cited, as is the Sound Exposure Level (SEL). The SEL is the energy-based sum of a given-duration noise event squeezed into a reference duration of one second.

Sound Propagation and Attenuation

Sound level naturally decreases as one moves further away from the source. This basic attenuation rate is referred to as the geometric spreading loss. The basic rate of geometric spreading loss depends on whether a given noise source can be characterized as a point source or a line source. For a point source, such as an idling truck or jackhammer, the noise level decreases by about 6.0 dB for each doubling of distance away from the source.

In many cases, noise attenuation from a point source increases by 1.5 dB from 6.0 dB to 7.5 dB for each doubling of distance due to ground absorption and reflective wave canceling. These factors are collectively referred to as excess ground attenuation. The basic geometric spreading loss rate is used where the ground surface between a noise source and a receiver is reflective, such as parking lots or a smooth body of water. The excess ground attenuation rate (7.5 dB per doubling of distance) is used where the ground surface is absorptive, such as soft dirt, grass, or scattered bushes and trees.

For a line source, such as a heavily traveled roadway, the noise level decreases by a nominal value of 3.0 dB for each doubling of distance between the source and the receiver. If the ground surface between source and receiver is absorptive rather than reflective, the nominal rate increases by 1.5 dB to 4.5 dB for each doubling of distance. Atmospheric effects, such as wind and temperature gradients, can also influence noise attenuation rates from both line and point sources of noise. However, unlike ground attenuation, atmospheric effects are constantly changing and difficult to predict.

Trees and vegetation, buildings, and barriers reduce the noise level that would otherwise occur at a given receptor distance. However, for a vegetative strip to have a noticeable effect on noise levels, it must be dense and wide. For example, a stand of trees must be at least 100 feet wide and dense enough to completely obstruct a visual path to the roadway to attenuate traffic noise by 5 dB (Caltrans, 1998). A row of structures can shield more distant receivers depending upon the size and spacing of the intervening structures and site geometry. Generally, for an at-grade highway in an average residential area where the first row of houses cover at least 40 percent of the total area, the reduction provided by the first row of houses is approximately 3 dB, and 1.5 dB for each additional row (Caltrans, 1998). Similar to vegetative strips discussed above, noise barriers, which include natural topography and soundwalls, reduce noise by blocking the line of sight between the source and receiver. Generally, a noise barrier that breaks the line of sight between source and receiver will provide at least a 5-dB reduction in noise.

Effects of Noise

Human reaction to noise ranges from annoyance, to interference with various activities, to hearing loss and stress-related health problems. The effects of noise on people can be placed into three categories:

- Subjective effects of annoyance, nuisance, dissatisfaction
- Interference with activities such as speech, sleep, learning
- Physiological effects such as hearing loss or sudden startling.

These effects of noise are discussed below:

Annoyance is the most difficult of all noise responses to describe. Annoyance is a very individual characteristic and can vary widely from person to person. What one person considers tolerable can be quite unbearable to another of equal hearing capability. (For instance, some people like the sound of trains, while others do not.)

Speech Interference is one of the primary concerns associated with environmental noise. Normal conversational speech is in the range of 60 to 65 dB and any noise in this range or louder may interfere with speech. Depending upon the distance between the talker and the listener, background noise levels may require a raised voice in order to communicate. Transportation sources can easily interfere with conversation within a few hundred feet of the source.

Potential Hearing Loss is commonly associated with occupational exposures in heavy industry or very noisy work environments. Noise levels in neighborhoods, even near very noisy airports, are not sufficiently loud to cause hearing loss.

An important way of predicting a human reaction to a new noise environment is the way it compares to the existing environment to which one has adapted: the so called “ambient noise” level. In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will be judged by those hearing it. With regard to increases in A-weighted noise level, the following relationships occur:

- Except in carefully controlled laboratory experiments, a change of 1 dBA cannot be perceived
- Outside of the laboratory, a 3-dBA change is considered a just-perceivable difference
- A change in level of at least 5 dBA is required before any noticeable change in human response would be expected
- A 10-dBA change is subjectively heard as approximately a doubling in loudness, and can cause adverse response

Sensitive Receptors

People in residences, motels and hotels, schools, libraries, churches, hospitals, nursing homes, auditoriums, natural areas, parks and outdoor recreation areas are generally more sensitive to noise than are people at commercial and industrial establishments. Consequently, the noise standards for sensitive land uses are more stringent than for those at less sensitive uses.

To protect various human activities in sensitive areas, lower noise levels are generally required. For example, a maximum outdoor noise level of 55 to 60 Day-Night Sound Level (DNL) is necessary for intelligible speech communication inside a typical home. Social surveys and case studies have shown that complaints and community annoyance in residential areas begin to occur when outdoor noise reaches 55 DNL (EPA, 1981).[3] Sporadic complaints associated with the 55 to 60 DNL range give rise to widespread complaints and sometimes individual threats of legal action within the 60 to 70 DNL range. At 70 DNL and above, residential community reaction typically involves threats of legal action and strong appeals to local officials to stop the noise.

Regulatory Framework

Noise Abatement Criteria and Analysis Guidelines

Federal Highway Administration Noise Abatement Criteria (NAC) for various land use ratings (called activity categories) are given in Table Noise-1. These noise criteria are assigned to both exterior and interior activities. Noise attenuation provided by most residential structures leads to compliance with the interior NAC if the exterior criterion is attained.

Table Noise-1

Federal Noise Abatement Criteria, Hourly A-Weighted Sound Level - Decibels (dBA)[a]

Activity Category	L_{eq} (h)	L_{10} (h)	Description of Activity Category
A	57 (Exterior)	60 (Exterior)	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B	67 (Exterior)	70 (Exterior)	Picnic areas, recreation areas, playgrounds, active sports areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals.
C	72 (Exterior)	75 (Exterior)	Developed lands, properties, or activities not included in Categories A or B above.
D	--	--	Undeveloped lands.
E	52 (Interior)	55 (Interior)	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums.

Source: Federal Highway Administration, 1982.

California Governor's Office of Planning and Research Guidelines

Section 65302(f) of the CCR establishes the requirement that local land use planning jurisdictions prepare a General Plan. In 1998, the Office of Planning and Research published the most recent edition of its *General Plan Guidelines* (GPG). The GPG advises local jurisdictions in preparing their comprehensive long-term general plans. The Noise Element is a mandatory component of the General Plan and includes general community noise guidelines and specific planning guidelines for noise/land use compatibility developed by the local jurisdiction. The GPG guidelines are presented in Figure 4.5-1. Selected relevant levels are:

- CNEL below 60 dBA—acceptable1 for low-density residential use.
- CNEL below 65 dBA—normally acceptable for high-density residential use.
- CNEL of 60 to 70 dBA—conditionally acceptable for churches, and educational and medical facilities.
- CNEL below 70 dBA—normally acceptable for playgrounds and neighborhood parks.

9. DISCUSSION OF FINDINGS

Project Setting

Existing Noise Levels

Measured noise levels in the vicinity of Gateway Park area ranged from 64 to 71 dBA L_{eq}. Modeling of peak-noise-hour traffic conditions indicated levels of 65 to 74 dBA with five of the noise receptors modeled (noise receptors 12-M2, 12-LT, 13A, 13C, and 3-M1 in Table 3.5-4) exceeding the NAC for Activity Category C (the prevalent land use in this area, along with Activity Category D) of 72 dBA L_{eq}. A 24-hour noise measurement conducted resulted in a 24-hour L_{eq} of 71 dBA.

Land Uses and Sensitive Receptors

The proposed Gateway Park location currently has no noise-sensitive activities or uses. Currently, there are no formal public access facilities to the shoreline, although the area is used informally for fishing and shoreline viewing. The land uses have been classified as Activity Category B according to Table Noise-1. The City of Oakland and the East Bay Regional Park District (EBRPD) are planning the Gateway Park and public access facilities on the south side of the Oakland Touchdown. In addition, public access, in the form of bicycle and pedestrian access and viewing areas, is required in this area as a result of previous Caltrans project commitments under BCDC Permit 11-93.

Implementation of future projects in the vicinity could increase sound levels such that they would exceed NAC. If these sound levels are predicted to be approached (one dBA below the criteria) or exceeded during the noisiest one-hour period, or if the project will result in a substantial (12 decibels or greater) noise increase, noise abatement measures could be required. A first step in the determination of whether future noise levels will approach or exceed the criteria is to measure noise levels and use this data to establish baseline conditions and calibrate the noise model.

10. REFERENCES

California Department of Transportation (Caltrans), Technical Noise Supplement, A Technical Supplement to the Traffic Noise Analysis Protocol, October 1998.

U.S. Environmental Protection Agency (EPA), 1981. Noise Effects Handbook, July 1981.

The San Francisco-Oakland Bay Bridge East Spans Seismic Safety Project Final Environmental Impact Statement/Statutory Exemption (FHWA, 2001)

Oakland Redevelopment Agency (ORA), Oakland Army Base Redevelopment Environmental Impact Report, 2002.

HISTORIC RESOURCES AND PROTECTIONS

1. PURPOSE

This section identifies the historic and cultural resources occurring in the Gateway Park Area of Study. As described in this section, the Area of Study encompasses land adjacent to and within the Gateway Park Project Study Area.

2. KEY FINDINGS

Prior studies conducted for the *East Spans Seismic Safety Project Final Environmental Impact Statement/ Statutory Exemption* (SFOBB EIS) and the Oakland Army Base Redevelopment Plan have highlighted existing historic structures that could be preserved as part of Gateway Park.

Opportunities

Historic preservation seeks to link visual project planning to the cultural roots in the community. Historical preservation links the past to the future. Transportation is a key part of the history of the Gateway Park Area, and the site has served evolving transportation needs of the region for over 80 years. Several buildings serve as testimony, including:

- Key Pier Substation
- Caltrans Substation
- Interurban Electric Railway Bridge Yard Shop (IERBYS)

Historic preservation serves to inform and educate in the realm of cultural significance. Preserving buildings and facilities of the past tells a story of people, time and place. For visitors to a site, preservation reveals layers of history which may not be readily apparent but as fragments of a common experience, worthy of being acknowledged and celebrated.

Development of a Cultural Landscape Report (CLR) could inform the design of Gateway Park. A cultural landscape is defined by not only the recorded historic resources but the topography, as well as the circulation pattern and layout of the buildings in their historic relationship to one another, as well as any existing historic plant materials which may exist in this location. As discussed above, the area has a layered history that is indicative of the human use of the land for transportation and military purposes during the first half of the twentieth century. These layered uses can be expressed in the physical design of Gateway Park by maintaining and preserving the many historic resources which exist on the project site, as well as interpreting their former uses for the general public's understanding and appreciation.

Constraints

Costs associated with the preservation and maintenance of historic buildings, structures, and/or cultural landscapes (should the latter exist at the project site).

Costs associated with the development of a CLR.

Identification of appropriate and financially feasible new uses for historic buildings and structures without substantial alteration to their character defining features.

3. METHODOLOGY AND ASSUMPTIONS

The findings of this section are based on existing reports, site surveys, and previous cultural surveys performed that characterize the historical, cultural resources at the Project area including the following:

- The San Francisco-Oakland Bay Bridge East Spans Seismic Safety Project Final Environmental Impact Statement/Statutory Exemption (FHWA, 2001)
- The Oakland Army Base Area Redevelopment Plan Final Environmental Impact Report (City of Oakland, 2002)
- Architectural Salvage Assessment – Contributing Buildings Oakland Army Base Historic District (Port of Oakland, 2006)
- West Oakland Redevelopment Plan Draft EIR

Cultural resources include prehistoric and historic-period archaeological sites, districts and objects; standing historic structures, buildings, districts and objects; and locations of important historic events or sites of traditional/cultural importance to various groups. The analysis of cultural resources can provide valuable information on the cultural heritage of both local and regional populations. The California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA) requires review to determine if a project would have a significant adverse effect on archaeological sites or a property of historic or cultural significance to a community or ethnic group eligible for inclusion in the California Register of Historical Resources (California Register) or the National Register of Historic Places (National Register).

Federal Regulations

Historic properties are protected through the National Historic Preservation Act (NHPA) of 1966, as amended (16 USC 470f), and its implementing regulations, Prior to implementing an "undertaking" (e.g., issuing a federal permit), Section 106 of the NHPA requires federal agencies to consider the effects of the undertaking on historic properties and to afford the Advisory Council on Historic Preservation a reasonable opportunity to comment on any undertaking that would adversely affect properties eligible for listing in the National Register of Historic Places.

State Regulations

The State of California implements the NHPA through its statewide comprehensive cultural resource surveys and preservation programs. The California Office of Historic Preservation (OHP), as an office of the California Department of Parks and Recreation, implements the policies of the NHPA on a statewide level. The OHP also maintains the California Historic Resources Inventory. The State Historic Preservation Officer is an appointed official who implements historic preservation programs within the state's jurisdictions. The California Public Resources Code (PRC) 5024, which identifies the California Register of Historic Resources (CRHR), governs effects to state-owned properties (see discussion of CRHR, below).The results of previous record searches and the visual inspection of the Project area indicate that the likelihood of encountering significant cultural resources, beyond those represented by historic structures, within the Project area is low.

Section 106

The National Historic Preservation Act (NHPA) of 1966 (Public Law 89-665, as amended) and the National Environmental Policy Act of 1969 (Public Law 91-190) define the responsibilities of the federal government regarding preservation of cultural resources. The mandate to preserve cultural resources applies to both public and private lands.

Section 106 of the NHPA and the NHPA regulations contained in 36 CFR Part 800 require federal agencies for any federally-funded projects to consider the impacts on properties included in or potentially eligible for the National Register of Historic Places (NRHP). According to Sections 106 and 110 of the NHPA, it is necessary to evaluate all cultural resources within an Area of Potential Effects (APE) to assess their National Register eligibility. This evaluation process involves:

- Identifying all National Register-listed properties that might be affected by the proposed activity, as well as those that appear to meet eligibility criteria;
- Evaluating the potential eligibility of each property for inclusion in the NRHP, using 36 CFR 60.4. (Determinations of eligibility are based on a consultation process involving the lead federal agency, the State Historic Preservation Office (SHPO), and the Keeper of the National Register of Historic Places);
- Determining whether the proposed activity will affect historic properties that have been found to meet National Register criteria, defined in consultation with the SHPO; and
- Finding acceptable ways to reduce the harm (avoid or mitigate the adverse effect) to historic properties, in consultation with the SHPO.

Part 60.4 of Chapter I of Title 36 of the Code of Federal Regulations outlines the criteria for evaluating properties for possible inclusion in the NRHP as follows:

The quality of significance in American history, architecture, archeology and culture is present in districts, sites, buildings, structures, and objects of state and local importance that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and that:

- a. Are associated with events that have made a significant contribution to the broad patterns of history;
- b. Are associated with the lives of persons significant in the past;
- c. Embody the distinctive characteristics of a type, period, or method of construction, or that possess high artistic value, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- d. Have yielded, or may be likely to yield, information important in prehistory or history.

Under NEPA, the significance of historic and prehistoric cultural resources is judged in accordance with the criteria for eligibility to the National Register of Historic Places as defined in 36 CFR 60.4.[4] If such resources are determined to be significant, and therefore eligible for National Register listing, they are afforded certain protection under the National Historic Preservation Act (16 U.S.C 470F). The Advisory Council on Historic Preservation (ACHP) must be given an opportunity to comment on any federally-funded or permitted undertaking which could adversely affect such resources.

4 The NHRP criteria are used when complying with NHPA Section 106 projects with federal permits, approvals, funding or oversight.

Timing and Sequence

- During the completion of the environmental document (CEQA/NEPA) confirm the Area of Potential Effect with the SHPO
- Submit permit applications after DEIR released for public review
- If there is a USACE permit application, submit that first to initiate consultation
- Initiate SHPO consultation
- Section 106 concurrence takes 6 months to 1 year

California Register of Historical Resources

The California Register of Historical Resources is "an authoritative listing and guide to be used by state and local agencies, private groups, and citizens in identifying the existing historical resources of the state and to indicate which resources deserve to be protected, to the extent prudent and feasible, from substantial adverse change" (California Public Resources Code [PRC] Section 5024.1[a]). The criteria for eligibility to the California Register are based on National Register criteria (PRC Section 5024.1[b]). Certain resources are determined by the statute to be automatically included in the California Register, including California properties formally eligible for or listed in the National Register.

To be eligible for the California Register as a historical resource, a prehistoric or historic-period resource must be significant at the local, state, and/or federal level under one or more of the following criteria:

- Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
- Is associated with the lives of persons important in our past;
- Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or,
- Has yielded, or may be likely to yield, information important in prehistory or history [14 CCR Section 4852(b)].

For a resource to be eligible for the California Register, it must also retain enough integrity to be recognizable as a historical resource and to convey its significance. A resource that does not retain sufficient integrity to meet the National Register criteria may still be eligible for listing in the California Register.

Regional Setting

Oakland and the surrounding San Francisco Bay region afford a wealth of resources for human settlement. The Project Area and immediate vicinity are situated mostly on manmade fill placed from the 1900s through the 1940s. The extreme western end of the project area is situated on the edge of a historic marsh that was important to Native American settlement, as well as to later farming and industry. The San Antonio Creek marsh and the resources of the local streams and hills were attractive to the earliest Native American settlers of the region, who hunted and gathered a wide variety of resources. The streams and the rich oak woodlands of the Oakland area also attracted settlement by later ranchers and farmers. One environmental factor significant in the archaeological assessment of the project area is that the Base is constructed on man-made fill. In terms of the archaeological record, this precludes any likelihood of prehistoric archaeological resources within the study area.

4. DISCUSSION OF FINDINGS

A cultural resources investigation was conducted for the (SFOBB EIS) (FHWA, 2001) in accordance with Section 106 of the National Historic Preservation Act and implementing regulations (36 CFR 800) to document the findings summarized below. On February 18, 1998, Caltrans, in conjunction with the Federal Highway Administration (FHWA), established an Area of Potential Effect (APE). The area was surveyed to identify cultural resources including archaeological and historic sites or properties. Accordingly, an Archaeological Survey Report (ASR), Historic Architecture Survey Report (HASR), Historic Property Survey Report (HPSR), Finding of Effect for Archaeological Resources, and Finding of Adverse Effect: Buildings and Structures were prepared for review by the State Historic Preservation Officer (SHPO). Additional reports completed after publication of the DEIS include the Addendum Archaeological Survey Report — Maritime Archaeology, the Addendum Finding of Adverse Effect, and Consideration of Proposed Mitigation Measures for Project Effects on Historic Buildings and Structures.

Cultural resources investigations for the Bay Bridge EIS built on previous research conducted in 1997 by the Navy for the Naval Station Treasure Island Disposal and Reuse Project and prior Caltrans investigations for seismic retrofit work on the existing San Francisco-Oakland Bay Bridge (SFOBB) published in 1997. These investigations and research for the East Span Project have identified cultural resources that are either listed or determined eligible for listing on the National Register of Historic Places (NRHP). The SHPO has concurred with the findings of these previous investigations and with the eligibility evaluations prepared for the East Span Project.

On June 17, 1999, revised Section 106 regulations became effective. The revised regulations, issued by the Advisory Council on Historic Preservation, replace the 1986 procedures. The new regulations significantly modify the Section 106 review process, introducing new streamlining while incorporating statutory changes mandated by the 1992 amendments to the National Historic Preservation Act (NHPA). The historic resource evaluation work conducted for the East Span Project prior to June 1999 followed the previous Section 106 regulations. All work done after June 1999 followed the current Section 106 regulations.

Archaeological Resources

Investigations during the Bay Bridge EIS detected no historic or prehistoric archaeological resources identified within the Oakland Touchdown area of the Bay Bridge APE, and this area is considered to possess no archaeological sensitivity.

The West Oakland Redevelopment Plan Draft EIR includes land that is adjacent to the Gateway Park Study Area. A record search of that project's area (File No.02-367) was conducted on November 25, 2002 by the staff at the Northwest Information Center in Rohnert Park, California. Records on all known archaeological sites and previous cultural resource surveys within a ¼-mile radius of the Project Area boundary were gathered. Based on this research, two archaeological resource sites were identified within the vicinity of the Project Area. The Emeryville Shell Mound (California State Historical Landmark No. 335) is within ½ mile north of the Project Area (City of Oakland, 2003). Pre-historic site CAALA-17 is reported in the vicinity of the 7th Street/ Adeline area, but its exact location is unknown (City of Oakland, 2002).

Historic Architectural Resources

Archival research and field investigations were conducted for the SFOBB EIS and documented in a Historic Architecture Survey Report. Based on these investigations, NRHP-listed and NRHP-eligible resources have been identified within the Bay Bridge APE as defined for the build alternatives. Listed and eligible resources are described below.

San Francisco-Oakland Bay Bridge (SFOBB)

The SFOBB, completed in 1937, is a double-deck structure carrying five lanes of traffic on each level. The SFOBB was determined eligible for listing on the NRHP in 1983. An evaluation was prepared by Caltrans as part of the Historic Property Survey Report (HPSR) for the I-280 Transfer Concept Program. The evaluation concluded that the SFOBB is eligible for listing on the NRHP under Criteria A, B, and C at the national level of significance. The SHPO reviewed this documentation and concurred with the determination that the SFOBB is eligible for inclusion on the NRHP.

On August 6, 1999, the State Historical Resources Commission approved the nomination of the SFOBB for listing on the NRHP, and the nomination was forwarded to the SHPO. In December of 1999, the SHPO forwarded the nomination to the Keeper of the NRHP. The Keeper has subsequently requested additional descriptive information; the listing of the SFOBB on the NRHP is still pending. It is also a protected Section 4(f) resource, as determined by FHWA (4(f) resources are protected recreational areas, wildlife and waterfowl refuges, or public and private historical sites)The property includes entrance and exit ramps connected to the western approach and the elevated bus ramps that connect the western approach to the Transbay Transit Terminal at Mission Street between First and Fremont Streets. Twin-towered suspension spans extend from San Francisco to Yerba Buena Island (YBI) and are connected by a massive center anchorage. On YBI, there are concrete viaducts at either end of a double-deck tunnel. Continuing eastward from the island, a series of steel truss spans carries the highway across the eastern portion of the Bay.

The lower deck of the bridge originally carried two tracks for electric streetcars in addition to three lanes for trucks, while the upper deck carried five lanes for automobiles. Rail service was terminated in 1958, and the bridge was altered to its present configuration of five traffic lanes on each level. Substantial alterations were also made to the YBI tunnel and its approaches at that time. The other major alteration of the structure occurred on the western approach ramps in San Francisco, with the construction of the freeway system in the late 1950s. This work altered much of the upper deck approach ramp between First and Fifth Streets. Maintenance work over the years and repairs made after earthquakes have resulted in other changes to the structure, but the bridge as a whole retains sufficient integrity to be listed on the NRHP.

At the time the SFOBB was first opened in 1936, it held many world records. It was the greatest bridge in the world for its cost, length, quantities of steel and concrete, weight, depth, and number of piers, the size of the bore of the tunnel on YBI, and the versatility of its engineering. Seven of its piers were deeper than any others in the world. New technologies were developed to construct the foundations. The submarine work was the greatest underwater engineering task ever undertaken. The steel for the superstructure was said to constitute the largest steel order ever placed.

Currently, the east span of the SFOBB is being replaced with a new skyway and tension cable self-anchored suspension span, with plans for the existing span to be demolished around 2014.

Contributing Features

Two buildings associated with the SFOBB and included in the nomination as contributors to the entire bridge are located within the Bay Bridge APE. These two buildings are: the Caltrans electrical substation at the Oakland Touchdown, and the Key Pier Substation at the Oakland Touchdown. The Caltrans electrical substation is a reinforced concrete structure that was constructed in the 1930s as an integral component to the SFOBB. The Key Pier Substation is a reinforced concrete structure that was constructed in 1926. It was not built as a component of the SFOBB; however, it was incorporated into the bridge operation to supply power for the trains crossing the bridge. It is a contributing component of the SFOBB. It is also individually eligible for the National Register at the local level of significance under Criterion A as a rare surviving component of the historically significant Key System railway, which was an important East Bay transit system in the early 20th century.

Caltrans Substation

Building description

This concrete building, built in 1939. is approximately 90' x 42' wide, with a small 22' x 10' extension on the south side, giving the building an L shape in plan. There is a narrow passageway that connects this building to the Key Pier System Substation 15 feet to the west. The concrete walls have projecting base and pilasters and a vaguely classical cornice. The concrete walls are not load bearing, there are steel columns on the interior which support a flat roof with steel beams. There is a roll up door on the east side, which originally was a pair of side hinged doors. The building has no windows.

Character defining features to be preserved

Exterior industrial appearance , with concrete walls and pilasters. It is possible that windows and skylights could be added in selected locations in a compatible manner.

Uses compatible with character defining features

This building could house any number of uses, such as support spaces for a café in the Key Pier Substation, Visitor services such as bicycle rental or kayak rental, storage, and museum or gallery spaces.

Treatment recommendations

- Rehabilitation of the building envelop, including preservation and repair of the concrete walls, and roof and skylight.
- Installation of a new compatible door to replace the roll-up door.
- Upgrade of structural system to improve seismic performance. This is likely to involve upgrades to the foundation system, shotcreting sections of the existing walls to introduce additional lateral support, and upgrades to the roof diaphragm..
- Introduction of building support spaces, including toilet rooms and other needed program support spaces.
- Introduction of new mechanical, electrical, plumbing and fire protection systems.
- Introduction of windows and/or skylights in carefully selected locations.
- The building is potentially tall enough to support an additional floor. If a new floor is added, additional structural upgrades may be required, as well as the addition of an elevator and exist stairs.

Key Pier Substation

Building description

The Key Pier Substation has been recognized as historically significant in connection with the Key System, which provided local and commuter rail services within the East Bay and between San Francisco and the East Bay in the early part of the 20th century.

A concrete building built in 1926 approximately 42' by 32' with a hipped roof supported by steel trusses. The roof is clad in standing seam sheet metal and topped by a raised central skylight which repeats the hipped roof form. The building has a row of small windows at the top of the north and south facades, and narrow ventilation louvers at the top of all four walls, just below the eaves. There is a large doorway at the center of the south façade which originally has paired side hinged doors but now has a single roll up door. The interior is a single large room with an open mezzanine at the east and north walls. There is a narrow passageway which connects this building to the Caltrans substation to the east.

The Key System originally connected to ferry services via a rail pier extending from the landing in the Gateway Park Area. A large motor generator in the building provided a significant amount of electrical energy to start multiple trains in motion simultaneously. When the Bay Bridge was constructed in 1936, new tracks were laid along the north side of the building and onto the new bridge.

Currently, the building is owned by Caltrans and used as storage. A narrow passageway connects the east wall of the building to the larger electrical substation. Due to its historical significance, architectural quality, and prominence, the Key Pier Substation should be rehabilitated and possibly planned for future use in conjunction with other proposed facilities in the Gateway Park Area.

Character defining features to be preserved

Building exterior, with a single door at center of south façade, high windows, hipped roof and skylight.

Open character of interior space with a single volume naturally lit by the skylight.

Uses compatible with character defining features

New uses most appropriate for this building are ones that can programmatically function with primarily a single room, without additional subdivision of spaces. These include a café, gift shop or visitor's center. Other uses could include visitor serving functions such as kayak or bicycle rental. It may be possible to remove the mezzanine if desired; providing accessibility to the mezzanine may be challenging. If the mezzanine remains, it would-be possible to locate small support facilities such as single occupant toilet rooms underneath the mezzanine. Because the building is connected to the Caltrans substation, that building could potential house support functions, such as toilet rooms and storage, for this building.

Treatment recommendations

The rehabilitation of the building should include the following:

- Rehabilitation of the building envelop, including preservation and repair of the concrete walls, windows, roof and skylight.
- Installation of a new compatible door to replace the roll-up door.
- Upgrade of structural system to improve seismic performance. This is likely to involve upgrades to the foundation system, shotcreting sections of the existing walls to introduce additional lateral support, and upgrades to the roof diaphragm..
- Introduction of building support spaces, including toilet rooms and other needed program support spaces.
- Introduction of new mechanical, electrical, plumbing and fire protection systems.

IERBYS (Interurban Electric Railway Bridge Yard Shop)

Building description

A steel frame building built in 1938, clad in corrugated steel panels with steel sash windows and a sawtooth roof with roof monitor windows. The building measures 75' by 340', with 24,300 sf of interior space. The east and west ends are three bays wide, with large wooden bi-fold doors which originally provided access for the railway cars which the building serviced. The northern door on the east end and the southerly door on the west end have been replaced with a combination of a metal roll up door, a pedestrian door and a fixed steel sash window. The main block of the building is a high volume space, and there is a lower lean-to structure located along the building's south side, which provides offices and break rooms. The interior of the main high volume space with the sawtooth roof was originally one un-broken space.

Character defining features to be preserved

- Open, uninterrupted reading of the interior space
- Large operable train doors at the east and west ends
- Exterior walls, with large expanses of steel sash windows
- Sawtooth roof pattern with monitor windows
- Exposed steel structural system, wood roof structure with wood purlins and wood roof sheathing.
- Industrial character, as represented by corrugated steel exterior panels

Uses compatible with character defining features

The most appropriate uses are ones that either utilize the building for its original purpose related to transportation vehicle repair, or ones that require minimal change to the defining characteristics of the building. A new use should allow the interior volume to read as a large uninterrupted space, and must be able to tolerate (or address in a sensitive manner) direct sun exposure from windows on all sides and east facing roof monitors. In addition, providing precise climate and humidity controls will be challenging due to the nature of the building's exterior wall construction and extensive single glazed windows. The most cost effective ventilation system will be one that primarily uses natural ventilation and radiant heating, therefore new uses that can tolerate the marine environment will be easiest to accommodate.

Potentially appropriate uses are:

- A park visitor center or other public use that would allow visitors to move through the building through the large train doors from east to west, and could be accommodated in a potentially non-conditioned space. The building could also accommodate visitor serving facilities for the rental of large equipment, such as bicycle, kayak and other boat rental.
- Museum or exhibit of transportation equipment. This type of exhibit space would be appropriate for the building as long as the objects exhibited did not require protection from sunlight, and does not have exacting climate control requirements.
- Museum or exhibit related to bridge construction, including a large scale model of the bridge, and assuming that objects exhibited were able to tolerate direct light.
- Museum, greenhouse or exhibits on nature / natural environment.

Treatment recommendations

The rehabilitation of the building should include the following:

- Rehabilitation of the building envelop, including preservation and repair of the corrugated panels, windows, roof and roof monitors.
- replacement of roll-up doors at east and west facades with bi-fold doors to match the existing doors, or a more compatible door or window treatment.
- Upgrade of structural system to improve seismic performance. This is likely to involve upgrades to the foundation system, strengthening of existing steel members, addition of lateral bracing in selective areas, and upgrades to the roof diaphragm.
- Introduction of building support spaces, including toilet rooms and other needed program support spaces.
- Introduction of new mechanical, electrical, plumbing and fire protection systems.

Oakland Army Base Historic District

The Oakland Army Base Area Redevelopment Plan Final Environmental Impact Report (City of Oakland, 2002) reports that no archaeological sites, cultural landscapes, or other resources of concern to local Native Americans have been identified within the study area of the Oakland Army Base Historic District.

The Gateway Park Area of Study overlaps with portions of the Oakland Army Base Historic District. Commissioned in 1941, the Oakland Army Base played a vital role over five decades as a military supply depot in times of war and peace. Throughout this period, the historic core of the base remained largely intact. In 1990, the California Department of Transportation first identified an Oakland Army Base (OARB) Historic District, which was formally determined by the State Office of Historic Preservation to be eligible for listing on the National Register of Historic Places. In 1994, the Army Corps of Engineers provided detailed documentation of the district according to the standards of the Historic American Engineering Record (HAER).

Situated at the northeast end of the former base, the OARB Historic District includes two subareas separated by Maritime Street, a thoroughfare that bisects the facility. The northeast (inland) section of the district contains 12 contributing structures historically associated with warehousing and maintenance. The northwest section, bordering the shoreline, retains six contributors associated with administrative and maritime uses. Together, these 18 contributing buildings—erected for the most part during World War II – are considered significant historic resources under the California Environmental Quality Act (CEQA)

The following historic properties are contributing elements to the OARB National Register Historic District and are located in the Gateway development area: Building 1, Building 4 (parking shed), Building 60 (cafeteria), Building 85 (office and support building), a portion of Building 88, a portion of Building 99, portions of Buildings 804-808, Building 812 (maintenance shop), Building 821 (small warehouse), Building 822 (small warehouse), and Building 823 (box/crate factory). In addition, the following structures are contributing elements to the OARB Historic District: the majority of Building 152 (Wharf 6½), and Building 153 (Wharf 7) in its entirety. The IEC Railway Bridge Yard Shop was found to be individually eligible to the NRHP by Caltrans in 1990 (Oakland EIR, 2002).

Some of the contributory resources of the OARB Historic District are outside of, but adjacent to, the Gateway Park Area boundaries. The IEC Railway Bridge Yard Shop is within the Gateway Park boundaries. As such, the proposed project should take these historic resources into account as part of the design for Gateway Park

Other Properties

No other historic properties exist within the Bay Bridge APE. There are no California Historical Landmarks, California Points of Historical Interest, or city-designated landmarks within the Bay Bridge APE. NRHP historic districts exist in proximity to the East Span Project APE but would not be affected by the proposed action and, thus, were not included in the Bay Bridge APE.

The Oakland Army Base historic district is located along Wharfs 6, 61/2 and 7, adjacent to the Gateway Development Area.

Concurrence

Consultation was initiated with the SHPO in June 1998, concerning eligibility of resources within the APE for the Bay Bridge EIS. The SHPO responded in a letter dated August 13, and concurred with National Register eligibility for the Bay Bridge Oakland Substation, and the Key Pier Substation. The SHPO had concerns about the pre-1948 buildings that were considered ineligible and requested information evidencing that FHWA solicited the comments of the Navy and USCG on the eligibility of these properties. Caltrans addressed this concern, and the SHPO responded in a letter dated August 21, 1998, concurring that the buildings are not eligible.

Cultural Landscapes

A cultural landscape is defined as "a geographic area, including both cultural and natural resources and the wildlife or domestic animals therein, associated with a historic event, activity, or person or exhibiting other cultural or aesthetic values" (NPS, 1994). There are four general types of cultural landscapes, not mutually exclusive: historic sites, historic designed landscapes, historic vernacular landscapes, and ethnographic landscapes. The Gateway Park project area or portions of it may qualify as a historic designed landscape, which the NPS defines as, "a landscape that was consciously designed or laid out by a landscape architect, master gardener, architect, or horticulturist according to design principles, or an amateur gardener working in a recognized style or tradition. The landscape may be associated with a significant person(s), trend, or event in landscape architecture; or illustrate an important development in the theory and practice of landscape architecture. Aesthetic values play a significant role in designed landscapes. Examples include parks, campuses, and estates."

A Cultural Landscape Report (CLR) is the primary report that documents the history, significance and treatment of a cultural landscape. A CLR evaluates the history and integrity of the landscape including any changes to its geographical context, features, materials, and use. The character defining features of a cultural landscape typically includes physical features (e.g. historic buildings, topography, circulation), the visual and spatial relationships among these elements, and existing historic planting material (if applicable).

To date no CLR has been prepared and no cultural landscape has been identified in the Gateway Park project area. However, the project area or portions of it *may* qualify as one upon further study and review, given the numerous historic resources that are located in the project area that were consciously designed or laid out by professional architects or engineers associated with the OARB, the SFOBB, or the Key System (or all three). The area has a layered history that is indicative of the human use of the land for transportation and military purposes during the first half of the twentieth century.

5. REFERENCES

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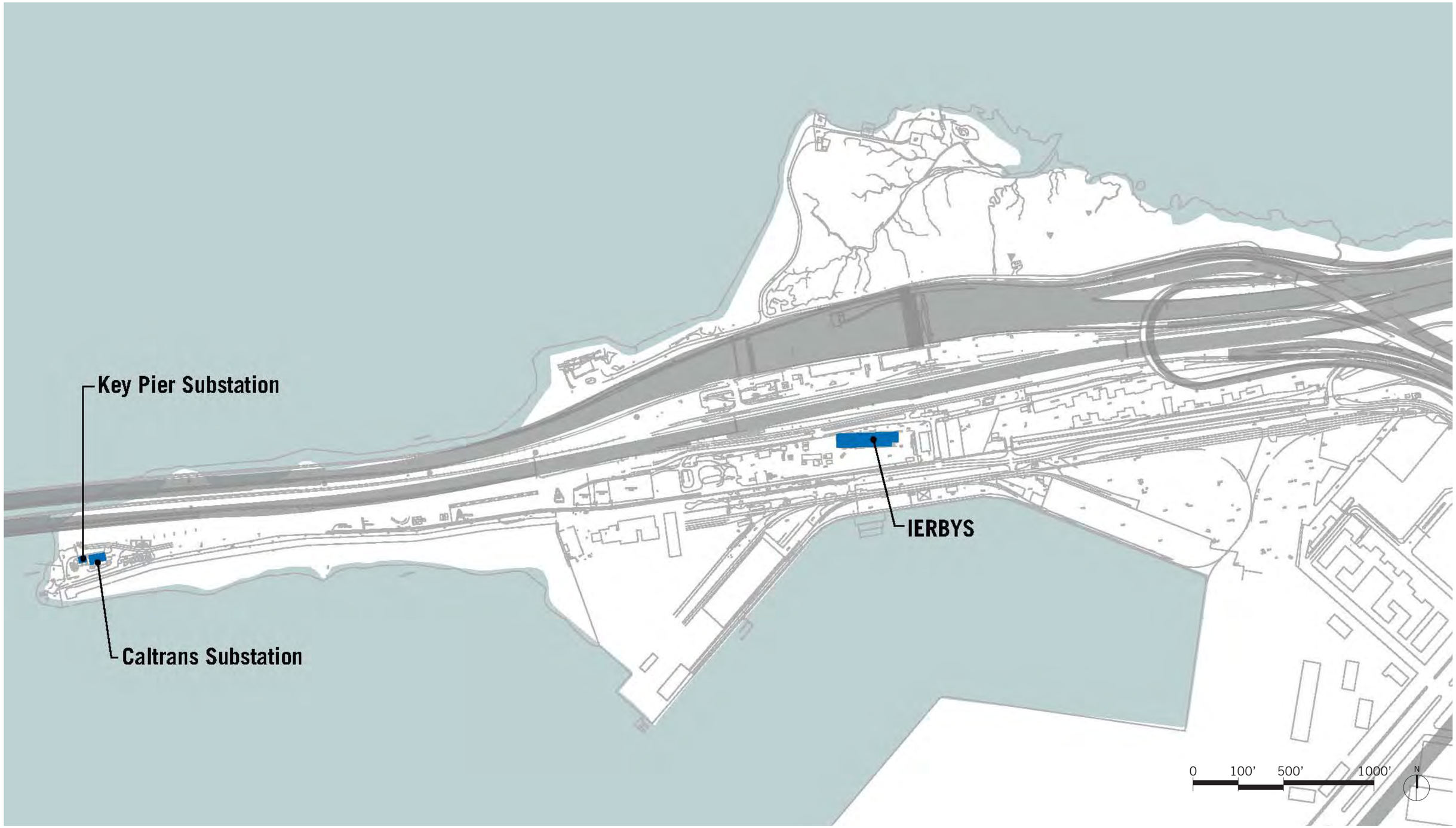
- City of Oakland, Oakland Redevelopment Agency, West Oakland Redevelopment Plan Draft EIR, 2003
- U.S. Department of Transportation, Federal Highway Administration [FHWA], 2001. The San Francisco-Oakland Bay Bridge East Spans Seismic Safety Project Final Environmental Impact Statement/Statutory Exemption
- Architectural Salvage Assessment – Contributing Buildings Oakland Army Base Historic District (Port of Oakland, 2006).

FIGURES



Gateway Park Working Group

Figure 16.

Gateway Park Area Project Study Report

Historic Building Location

03 March 2010

in association with
HDR/The Hoyt Company
Fehr & Peers
Economic & Planning Systems, Inc.
ESA
PERKINS + WILL
PWP
BkF

IERBYS

Key Pier Substation

Caltrans Substation

Gateway Park Working Group

Figure 17.

Gateway Park Area Project Study Report

Historic Building Photos

03 March 2010

in association with
HDR/The Hoyt Company
Fehr & Peers
Economic & Planning Systems, Inc.
ESA
PERKINS + WILL
PWP
BkF

REMEDIATION REQUIREMENTS

1. PURPOSE

This section identifies the past, present and potential future remediation requirements for the Project area and identifies potential opportunities and constraints to remediation requirements with the implementation of the Gateway Park project. As described in this section, the Project area encompasses areas adjacent to and within the Gateway Park Project Study Area.

2. KEY FINDINGS

Opportunities

- Formerly contaminated areas could be restored and enhance for beneficial public and ecological use.
- Gateway Park area would be part of an overarching movement in Oakland towards hazardous materials remediation and could result in beneficial cumulative impacts to soil and groundwater quality in the area.

Constraints

- Implementation of the Gateway Park project would require additional sampling, modeling studies and remediation for hazardous materials in the project area.
- Several known hazardous materials sites are still undergoing cleanup with ¼ mile of the project area. This could pose a risk to human health if clean is on going during construction activities.
- Construction activities such as grading, trenching, building demolition and renovation

3. METHODOLOGY AND ASSUMPTIONS

The findings of this section are based on existing reports that characterize the hazards, hazardous materials, and remediation actions at the Project area including:

- The San Francisco-Oakland Bay Bridge East Spans Seismic Safety Project Final Environmental Impact Statement/Statutory Exemption (FHWA, 2001)
- West Oakland Redevelopment Environmental Impact Report (ORA, 2003)
- California State Water Quality Control Board, Geotracker Database (RWQCB, 2009)
- Oakland Army Base Redevelopment Environmental Impact Report (ORA, 2002)

Regulatory Database Search

Publicly available federal and state environmental databases were reviewed for areas in and around the proposed Gateway Park in order to obtain information on the location of potential sites of environmental concern. These databases list sites including those with registered underground storage tanks (USTs) and leaking underground storage tanks (LUSTs); facilities that use, generate, treat, or dispose of hazardous wastes and/or substances; transporters of hazardous wastes; solid waste landfill sites; and unauthorized spills and releases of regulated substances. The search area encompassed a distance that included a 0 to .5 mile radius from the project area. Databases reviewed include those used for the *San Francisco-Oakland Bay Bridge East Spans Seismic Safety Project Final Environmental Impact Statement/Statutory Exemption* (SFOBB EIS) and the SWQCB Geotracker database.

Potential Sources of Contamination

Potential contaminant sources that were identified through the existing data review were screened to determine their potential to conflict with the project based on the following criteria:

- The occurrence of a documented release based on either public records or physical observation;
- The physical, chemical, and toxicological characteristics of suspected contaminants released and the media potentially affected (soil, water, and air);
- Distance from the project area;
- Nature of proposed design and construction activities in relation to the location and possible impact from a potential contaminant source; and
- Estimated groundwater flow direction and depth.

These criteria were used to eliminate potential sources that were unlikely to conflict with the project. Potential contaminant sources not eliminated during this screening process were recommended for further evaluation.

Background

Materials and waste may be considered hazardous if they are poisonous (toxicity), can be ignited by open flame (ignitability), corrode other materials (corrosivity), or react violently, explode or generate vapors when mixed with water (reactivity). The term “hazardous material” is defined in law as any material that, because of quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment.[1] In some cases, past industrial or commercial uses on a site can result in spills or leaks of hazardous materials and petroleum to the ground, resulting in soil and groundwater contamination. Federal and state laws require that soils having concentrations of contaminants such as lead, gasoline, or industrial solvents that are higher than certain acceptable levels must be handled and disposed as hazardous waste during excavation, transportation, and disposal. The California Code of Regulations (CCR), Title 22, §66261.20–24 contains technical descriptions of characteristics that would cause a soil to be classified as a hazardous waste. The use of hazardous materials and disposal of hazardous wastes are subject to numerous laws and regulations at all levels of government (see Regulatory Framework below).

Regulatory Framework

The following presents an overview of the major laws and regulations that apply to hazardous waste that may potentially be encountered by the Gateway Park project. Hazardous materials and hazardous wastes are subject to numerous federal, state, and local laws and regulations intended to protect health and safety as well as the environment. The U.S. Environmental Protection Agency, the California Environmental Protection Agency Department of Toxic Substances Control (DTSC), the Regional Water Quality Control Boards (RWQCB), and the Bay Area Air Quality Management District (BAAQMD) are the major federal, state, and regional agencies that enforce these regulations.

In accordance Chapter 6.11 of the Health and Safety Code (Section 25404 et seq.), local regulatory agencies enforce many federal and state regulatory programs through the Certified Unified Program Agency program, including:

1 State of California, Health and Safety Code, Chapter 6.95, Section 25501(o).

- Hazardous materials business plans (Chapter 6.95 of the Health and Safety Code, Section 25501 et seq.)
- State Uniform Fire Code requirements (Section 80.103 of the Uniform Fire Code as adopted by the state fire marshal pursuant to Health and Safety Code Section 13143.9)
- Underground storage tanks (Chapter 6.7 of the Health and Safety Code, Section 25280 et seq.)
- Aboveground storage tanks (Health and Safety Code Section 25270.5[c])
- Hazardous waste generator requirements (Chapter 6.5 of the Health and Safety Code, Section 25100 et seq.)

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) or Superfund, as amended by the Superfund Amendments and Reauthorization Act (SARA), was originally passed in 1980. CERCLA created national policies and procedures to identify and remediate sites previously contaminated by the release of hazardous substances. These laws have the effect of holding past and present owners of real property liable for the costs of site investigations and remediation associated with environmental contamination regardless of whether the current owner was responsible for the contamination.

Federal Resource Conservation and Recovery Act (RCRA)

The Federal Resource Conservation and Recovery Act (RCRA) regulates hazardous waste storage, treatment, and disposal sites. The State of California implements the RCRA requirements under authorization from the federal EPA through enforcement of the California Hazardous Waste Control Law, which provides regulations that equal or exceed the federal standards.

Throughout Alameda County, a Hazardous Materials Management Plan must be prepared and submitted to the County by businesses that use or store certain quantities of hazardous materials. RCRA established a "cradle-to-grave" regulatory program for governing the generation, transportation, treatment, storage and disposal of hazardous waste. Under RCRA, individual states may implement their own hazardous waste programs in lieu of RCRA as long as the state program is at least as stringent as Federal RCRA requirements. In California, the DTSC regulates the generation, transportation, treatment, storage, and disposal of hazardous material waste. The hazardous waste regulations establish criteria for identifying, packaging, and labeling hazardous wastes; dictate the management of hazardous waste; establish permit requirements for hazardous waste treatment, storage, disposal, and transportation; and identify hazardous wastes that cannot be disposed of in landfills.

Hazardous Materials Management

The California Environmental Protection Agency (Cal EPA), Department of Toxic Substances Control (DTSC) regulates the generation, transportation, treatment, storage, and disposal of hazardous waste. State and federal laws require detailed planning to ensure that hazardous materials are properly handled, used, stored, and disposed of, and in the event that such materials are accidentally released, to prevent or to mitigate injury to health or the environment. These laws require hazardous materials users to prepare written plans, such as Hazard Communication Plans and Hazardous Materials Business Plans. Laws and regulations require hazardous materials users to store these materials appropriately and to train employees to manage them safely. A number of agencies participate in enforcing hazardous materials management requirements, including DTSC, the Regional Water Quality Control Board (RWQCB) and the Alameda County Department of Environmental Health (ACDEH).

Hazardous Materials Transportation

The United States Department of Transportation regulates hazardous materials transportation on all interstate roads. Within California, the state agencies with primary responsibility for enforcing federal and state regulations and for responding to transportation emergencies are the California Highway Patrol (CHP) and the California Department of Transportation (Caltrans). Together, federal and state agencies determine driver-training requirements, load labeling procedures, and container specifications. Although special requirements apply to transporting hazardous materials, requirements for transporting hazardous waste are more stringent, and hazardous waste haulers must be licensed to transport hazardous waste on public roads.

Soil and Groundwater Contamination

In Alameda County, remediation of contaminated sites is generally performed under the oversight of DTSC, the RWQCB, and/or the ACDEH and/or the City. At sites where contamination is suspected or known to occur, the project sponsor is required to perform a site investigation and draw up a remediation plan, if necessary. For typical development projects, site remediation is completed either before or during the construction phase of the project.

Site remediation or development may also be subject to regulation by other agencies. For example, if dewatering of a hazardous waste site were required during construction, subsequent discharge to the sewer system could require a permit from the East Bay Municipal Utility District (EBMUD), and discharge to the storm water collection system could require a National Pollutant Discharge Elimination System (NPDES) permit from the RWQCB.

Fuel Storage Tanks

State laws governing underground storage tanks (USTs) and above ground storage tanks (ASTs) specify requirements for permitting, monitoring, closure, and cleanup. Regulations set forth construction and monitoring standards for existing tanks, release reporting requirements, and closure requirements. Generally speaking, the ACDEH is the local agency designated to permit and inspect USTs and to implement applicable regulations. A closure plan for each UST to be removed must be prepared and submitted to the County prior to tank removal. Upon approval of the UST closure plan by the County, the Oakland Fire Department would oversee UST removal and the subsequent collection of subsurface soil samples from beneath a removed UST.

ASTs standards and requirements are relatively similar to USTs; however, the main difference revolves around inspection of operation and the ability to visually detect leaks early on. The Aboveground Petroleum Storage Act of 1990 requires facilities storing petroleum products in a single tank greater than 1,320 gallons, or facilities storing petroleum in aboveground tanks or containers with a cumulative storage capacity of greater than 1,320 gallons, to file a storage statement with the State Water Resources Control Board (SWRCB) and prepare a Spill Prevention, Control, and Countermeasure (SPCC) Plan. The SPCC plan must identify appropriate spill containment or equipment for diverting spills from sensitive areas as well as discuss facility-specific requirements for the storage system, inspections, recordkeeping, security, and personnel training. The SWRCB requires registration of an aboveground fuel storage tank at a construction site only if the tank is 20,000 gallons or larger, or if the aggregate volume of aboveground petroleum storage is over 100,000 gallons.

Worker Safety

The federal OSHA and Cal-OSHA are the agencies responsible for ensuring worker safety in the handling and use of chemicals in the workplace. The federal regulations pertaining to worker safety are contained in Title 29 of the Code of Federal Regulations, as authorized in the Occupational Safety and Health Act of 1970. They provide standards for safe workplaces and work practices, including standards related to hazardous materials handling. In California, Cal-OSHA assumes primary responsibility for developing and enforcing workplace safety regulations; Cal-OSHA standards are generally more stringent than federal regulations.

The state regulations concerning the use of hazardous materials in the workplace are included in Title 8 of the California Code of Regulations, which contain requirements for safety training, availability of safety equipment, accident and illness prevention programs, hazardous substance exposure warnings, and emergency action and fire prevention plan preparation. Cal-OSHA also enforces hazard communication program regulations, which contain worker safety training and hazard information requirements, such as procedures for identifying and labeling hazardous substances, communicating hazard information related to hazardous substances and their handling, and preparing health and safety plans to protect workers and employees.

At sites known or suspected to have soil or groundwater contamination, construction workers must receive training in hazardous materials operations, and a site health and safety plan must be prepared. The health and safety plan establishes policies and procedures to protect workers and the public from exposure to potential hazards at a contaminated site.

Additional safety and health regulations for construction are set forth in Title 29 of the Code of Federal Regulations, Subpart D, Section 1926. These regulations cover activities that could result in worker exposures to gases, vapors, fumes, and dust from construction operations, including the following: construction, installation, inspection, and maintenance of blast-cleaning enclosures to prevent the dispersion into the air of dust, fumes, and mist; abrasive-blasting operations that cause harmful dust in the breathing zone of an operator; and disposal of exhaust material. In addition, this section of the regulations covers welding and cutting operations.

Emergency Response

California has developed an emergency response plan to coordinate emergency services provided by federal, state, and local government and private agencies. Responding to hazardous materials incidents is one part of this plan. The plan is administered by the State Office of Emergency Services (OES), which coordinates the responses of other agencies, including Cal EPA, CHP, the Department of Fish and Game, the RWQCB, and the local fire department. The Emeryville Fire Department provides first response capabilities, if needed, for hazardous materials emergencies within the city.

Structural and Building Components

Asbestos

Similar to federal laws, state laws and regulations also pertain to building materials containing asbestos. Inhalation of airborne fibers is the primary mode of asbestos entry into the body, making friable (easily crumbled) materials the greatest health threat. These existing laws and regulations prohibit emissions of asbestos from asbestos-related manufacturing, demolition, or construction activities; require medical examinations and monitoring of employees engaged in activities that could disturb asbestos; specify precautions and safe work practices that must be followed to minimize the potential for release of asbestos fibers; and require notice to federal and local governmental agencies prior to beginning renovation or demolition that could disturb asbestos.

Polychlorinated Biphenyls (PCBs)

PCBs are organic oils that were formerly placed in many types of electrical equipment, including transformers and capacitors, primarily as electrical insulators. Years after widespread and commonplace installation, it was discovered that exposure to PCBs may cause various health effects, and that PCBs are highly persistent in the environment.

In 1979, the U.S. EPA banned the use of PCBs in most new electrical equipment and began a program to phase out certain existing PCB-containing equipment. The use and management of PCBs in electrical equipment is regulated pursuant to the Toxic Substances Control Act (TSCA), 15 U.S.C. § 2601 et seq. Regulations generally require labeling and periodic inspection of certain types of PCB equipment and set forth detailed safeguards to be followed in disposal of such items.

Lead and Lead-Based Paint

Pursuant to California Code of Regulations, Title 22 Section 66261.24, waste soil containing lead is classified as hazardous if the lead exceeds a total concentration of 1,000 parts per million (ppm) and a soluble concentration of 5 ppm.

4. DISCUSSION OF FINDINGS

Regional Setting

The proposed Gateway Park lies within the Bay Bridge EIS study area, the Oakland Army Base Redevelopment EIR study area and directly to the west and south of the West Oakland Redevelopment EIR study. Given the past and present industrial uses of the area numerous leaking underground storage tank sites and other environmental cases have been identified within this area. Previous land uses including an oil reclaiming plant, a ship manufacturing facility, and metal working operations. In the 1940s, the area was filled for the construction of the Oakland Army Base and was used by U.S. Army until 1995. Locomotive engines and trucks involved in the transport of cargo were serviced at this facility. In addition, hazardous materials may have been shipped either to or from the base during its operation. After the closure of the Oakland Army Base, the DTSC, Oakland Redevelopment Agency, and Oakland Base Reuse Authority have entered into a Consent Agreement for the cleanup of contaminated soil and groundwater at the site. Under this agreement, contaminated sites will be cleaned up to risk based cleanup levels suitable for the planned future land use of the site. One of the planned future uses is Gateway Park.

Project Setting

A Hazardous Wastes Assessment was conducted for the Bay Bridge EIS to identify potential contaminant sources within and adjacent to the project area that may affect design and construction of the project. Additionally, a search of State databases containing active and closed hazardous materials clean-up sites was conducted. These two investigations showed a list of sixteen hazardous material sites, six of which have been remediated and closed, three of which remain open for remediation and seven of which have an unknown status. Additionally, an environmental baseline study has been conducted to document the physical condition of the former Oakland Army Base property resulting from the use, storage, and disposal of hazardous substances and petroleum products during the base's history. It was recommended as part of the Oakland Army Base EIR that further investigation be conducted in the area around Burma Road and the south side of the spit to determine the source and vertical and horizontal extent of the previously detected contaminatioTable Haz-1 summarizes the findings of the Bay Bridge EIS hazardous wastes assessment and Table Haz-2 listed sites from the SWRCB list of Hazardous Material Sites in the vicinity of Gateway Park. In addition to the contaminant sites listed, lead contamination due to vehicle exhaust emissions of leaded gasoline can exist in materials next to freeways constructed prior to the ban of such fuels. In some locations, this contamination has been found at concentrations that are a potential hazard to human health and the environment if not handled correctly. The California Environmental Protection Agency, DTSC, has performed a health risk assessment of this material to determine its potential hazards and how these hazards can be reduced. As a result, DTSC granted Caltrans a variance to hazardous waste regulations that allows reuse of this material within the highway right of way under specific conditions.

Table HAz -1

Known and Potential Contaminant Sources in the vicinity of gateway park

Source Area	Contaminant
Bridge footings in eastern approach area	Soil: TRPH, PAHs, Pesticides, PCBs, and Pb Groundwater: TRPH, Sb, Cd, Cr, Ni, Ag, and Ti
Army Site #1 western end of Burma Road in Parcel 1	Soil: TPH as motor oil, and PCE
Army Site #2 456 m (1,500 ft) east of west end of Burma Road in Parcel 1	Soil: TPH as motor oil
Caltrans Maintenance Facility and undeveloped median area	Soil: PCBs, TPH, Pb, and VOCs Groundwater: TPH, dissolved Pb, Sb, and Cr Structure: Lead-based paint and asbestos
EBMUD Dechlorination Facility	Soil: Sodium Bisulfite
Former Landfill Area (southeast)	Soil: TPH, VOCs, SVOCs, and Pb Groundwater: TPH and SVOCs
SFOBB Structure	Lead-based paint and asbestos

Ag = Silver
Cd = Cadmium
Cr = Chromium
Ni = Nickel
PAHs = Polyaromatic Hydrocarbons
Pb = Lead
PCBs = Polychlorinated Biphenyl
PCE = Tetrachloroethene
Sb = Antimony
SVOC = Semi-Volatile Organic Compound
Ti = Titanium
TPH = Total Petroleum Hydrocarbons
TRPH = Total Recoverable Petroleum Hydrocarbons
VOC = Volatile Organic Compound

Source: Bay Bridge EIS, 2001

Table Haz-2

Regulated Hazardous Materials Facilities is Site Vicinity

Site Description	Cleanup Status
CalTrans SF-Oakland Bay Bridge	Open
Can Transport Inc.	Completed
CalTrans East Bay Paint Yard	Completed
Oakland Army Base – Oakland Army Base Tank 3 (Wharf No. 7)	Completed
Bay Bridge Toll Plaza	Open
CalTrans East Bay Service Road Tent	Open
Oakland Army Base – A Parent (Port Development Area)	Completed
Oakland Army Base – Oakland Army Base Tank Q	Completed
Oakland Army Base – Oakland Army Base Tanks B/C	Completed

Source: SWRCB, 2009

5. REFERENCES

- The San Francisco-Oakland Bay Bridge East Spans Seismic Safety Project Final Environmental Impact Statement/Statutory Exemption (FHWA, 2001).
- Oakland Redevelopment Agency (ORA), Oakland Army Base Redevelopment Environmental Impact Report, 2002.
- Oakland Redevelopment Agency (ORA), West Oakland Redevelopment Environmental Impact Report, 2003.
- California State Water Quality Control Board (SWQCB), Geotracker Database, found online at http://geotracker.swrcb.ca.gov/ accessed November, 2009.

SITE STRUCTURES, EASEMENTS AND UTILITIES

1. PURPOSE

The purpose is to document and consolidate the existing condition base information and planned infrastructure improvements for the Gateway Park project area and to documents maintenance requirements impacting the site. The information gathered as part of this task may help shape the form, limit and uses of the park and surrounding areas and will be used extensively during the development of park alternatives.

2. KEY FINDINGS

Below is a list of constraints that the project should take into consideration when the project moves forward in design. These items could incur significant costs to the project due to its importance to other infrastructures. An illustration of these constraints is shown on *"Existing Site Plan – Major Constraints"* exhibit.

Constraints	Owner	Reason
9 foot treated wastewater outfall	**EBMUD**	Main treated wastewater outfall from the EBMUD Wastewater Treatment Plant to San Francisco Bay
12 inch water line	**SFPUC**	Provides emergency water to Treasure Island & Yerba Buena Island
12kV Electrical line	**PG&E**	Provides electricity to Treasure Island
12 inch gas line	**PG&E**	High pressure gas line
Cellular towers/Billboards	**TBD**	Possible underground electrical and telephone lines. Billboards a dominant visual element
Caltrans Substation	**Caltrans**	Historic Building
Key Pier Substation	**Caltrans**	Historic Building
IERBYS Warehouse	**Caltrans**	Historic Building
EBMUD Facilities	**EBMUD**	Dechlorination and Transition Structures for the main sewer outfall
PG&E Substation	**PG&E**	Electrical facility

TBD = To Be Determined

As the project continues to move forward with current and future improvements from various agencies would need to be coordinated with the project.

Below are specific areas that the project should take into consideration as it moves forward with design.

Caltrans Proposed Improvements

Site Improvements

Proposed improvements for the project will need to take into consideration some of the historic buildings and critical infrastructures that will be remaining at western end of the site. These structures, if relocated, could create a significant cost to the project as well as the time it would take to coordinate for permits and approvals.

Bay Bridge

The new Bay Bridge East Span is currently under construction. Any construction and/or demolition activities that are needed for the Bay Bridge would need to be coordinated with the project.

Toll Plaza

It is understood that Caltrans has plans to develop a new Toll Operations and Tow Maintenance building. The location of these two buildings has not been determined yet. The project could possibly work with Caltrans by assisting them in creating an architecturally appealing building that could be integrated with the projects view of the park.

Bike Path and Maintenance Road

Design of the Gateway Park area would need to be coordinated with Caltrans which owns and maintains the bike path and maintenance road that is currently under construction. , Caltrans has plans to develop an interim parking lot and staging area at the western end of the site that will provide bicycle and pedestrian access to the bridge. Access to the parking lot will be via existing Burma Rd. The existing Caltrans maintenance road will remain for Caltrans access between Burma Rd. and the Toll Plaza median facilities, as well as to billboard, cell sites, EBMUD, PG&E, by others. If possible, the project can coordinate with Caltrans to create a more holistic view of the park by combining the parking lot facilities with amenities that could be available in the park.

Bio Retention Facility

If the bio retention facility is integrated into the park, it may be possible to sculpt the existing outline of the bio retention facility to integrate it into the proposed park better.

Caltrans constructed a landscape buffer along the bio retention facility to screen the facility from the public. Since water and water quality is such an important issue, we may want to make this bio retention facility an opportunity to celebrate water quality instead of hiding the basin.

Demolition of Existing Bay Bridge

Demolition of the existing Bay Bridge structure and connecting at grade roadways provides additional land for park development. This could create an opportunity of using pieces of the existing Bay Bridge either in place or relocated to celebrate the technology and history of the bridge.

Utility Infrastructure

Existing utilities that are in the Oakland Army Base are currently not being maintained by any local agency. The City of Oakland Redevelopment Agency currently owns the land that the Oakland Army Base once occupied. However, the Redevelopment Agency does not have the capacity to maintain the existing storm drain and sanitary sewer lines that are currently on the Oakland Army Base. The City of Oakland base maps indicate that they do not maintain or own the existing storm drain and sanitary sewer lines on the Oakland Army Base. Therefore, as the project development continues the utility lines would need to be investigated to determine how their ownership and maintenance can be incorporated with the City's other system.

Domestic Water

Water demand of domestic water use would need to be calculated for the Gateway Park project. Domestic water lines that are critical to supply emergency water to Yerba Buena Island and Treasure Island need to be considered if the project decides that certain water lines would be relocated or abandoned. Any new domestic water lines would need to be coordinated with EBMUD. It appears that EBMUD has adequate domestic water supply to serve the site. This will need to be reviewed in more detail once the park develops a water distribution to the area.

Sanitary Sewer

The existing 9 foot diameter treated wastewater outfall cannot be relocated or accessed. Any improvements that are near the outfall would need to be outside of EBMUD's25-foot wide outfall easement. As explained in Utility Infrastructure - Sanitary Sewer and EBMUD Dechlorination Facility, EBMUD requires continuous access to the Dechlorination Facility transition structure, and outfall pipe for operation, maintenance and chemical delivery. Smaller sewer lines could be utilized for the project depending on the capacity of the lines. As the project continues to move forward, sewer demand for the project would need to be considered to determine if there is any impact to the existing sewer system. If the City of Oakland feels that sewer demands from the Gateway Park Development project produces a significant amount of sanitary sewer that impacts the EBMUD interceptor, the City would determine a fee for the project that would be used to allocate capacity from certain sub-basins.

Storm Drain

Since the site discharges directly to the Bay, retention will likely not be required. However the current Regional Board permit encourages the use of Low Impact Development storm water quality features that are landscaped based and emphasize infiltration and reuse. This will need to be balanced with the high groundwater in the area. The project can demonstrate various opportunities of storm water quality features by creating vegetated swales, bioretention areas, permeable pavers, rain water harvesting, tree well filters, and infiltration planters.

If site soils and ground water are contaminated from previous uses, these conditions may impact the ability to infiltrate and storm water.

Recycled Water

Any new recycled water lines that will be used for the project will need to be paid through the project. EBMUD has expressed interest in providing recycled water to the project. Any agreements for maintaining the recycled water lines would need to be discussed with EBMUD. The project could use recycles water for flushing toilets and for irrigation of landscape. Facilities that would be using recycled water would have signs visibly posted for public viewing.

Gas and Electric

Caltrans Mole Substation

The Caltrans Mole Substation is a critical building that distributes power to Yerba Buena Island, Treasure Island, and Caltrans Toll Plaza and to other substations in San Francisco and Oakland. Caltrans has plans to build a new building nearby to the existing Caltrans Mole Substation. The building is currently under construction and the project would likely be designed around the building because it would be expensive to relocate the building.

PG&E and Caltrans Substation

These buildings currently have no plans to be relocated by either PG&E or Caltrans. The project would likely be designed around the buildings because it would be expensive to relocate them.

Treasure Island Electric and Gas

Treasure Island receives their gas and electric from Oakland by PG&E's 12kV electrical line and 12 inch high pressure gas distribution lines. The project would likely be designed around these services because it would be expensive to relocate these facilities without disconnecting service to Treasure Island.

Maintenance Requirements Impacting the Area

EBMUD outfall and required maintenance activities

EBMUD requires continuous access to its outfall to perform any necessary inspections and repairs. EBMUD currently has a fence that runs the entire alignment of the pipe. This fence restricts access over the shallow pipe and it identifies the alignment of the pipe. This fence is critical to EBMUD. The project could try to incorporate the fence as a landscape feature. Removing the fence and replacing it will something else that could compliment the project would need to be discussed with EBMUD. The outfall pipe is a zero-load structure meaning vehicle crossing is by bridge only. But, pedestrian access might be allowed. This would need to be further verified by EBMUD.

Dechlorination facility maintenance

EBMUD requires access to its Dechlorination Facility and transition structure on an hourly basis, 24 hours per day, seven days per week to meet regulatory compliance requirements. The EBMUD Dechlorination facility that is mentioned in under Sanitary Sewer in this report could possibly be relocated if the existing building cannot agree with the parks vision. But, relocating this facility would create a significant cost to the project and the project would need to coordinate with EBMUD to allow personnel accessibility to the facilities.

Billboard and cellular tower maintenance

Owners of existing billboards and cellular towers still need to be determined. Relocating the billboards could be a possibility with discussions from the owners. However, relocating the cellular towers that could have multiple owners could be costly to the project. The project might be able to incorporate the cellular towers in the design while allow owners to have access to their facilities for maintenance.

Bay Bridge Maintenance

Caltrans would need access to maintain the new Bay Bridge after construction and the demolition of the existing bridge. The project could provide Caltrans accessibility to the Bay Bridge while incorporating this access with the parks design.

3. METHODOLOGY AND ASSUMPTIONS

Site utility information was compiled from record documents provided by many sources including: Caltrans, East Bay Municipal Utility District (EBMUD), City of Oakland, Port of Oakland, Pacific Gas & Electric, AT&T and Comcast. BKF collected base maps from many available sources to document existing site and utility information. Information from various sources was used to compile exhibits and to better understand the existing infrastructure that currently surrounds the proposed project site.

The Gateway Park project area and much of the surrounding area was originally part of the Oakland Army Base. Record utility plans for these areas have been difficult to find and little information is available on the conditions and capacity of some of the existing utilities in the area.

Caltrans provided CADD files for Stage 1, Phase 1 of the Bay Bridge Eastern span approach updated June 24, 2009. Utility information within their limit of work appears to be fairly comprehensive and was compiled by survey as part of their design effort. Caltrans' documentation extends only partially into the Gateway Park project area.

4. DISCUSSION OF FINDINGS

Caltrans Proposed Improvements

Existing Site Conditions

There are several existing infrastructures that encompass the proposed Gateway Park Area. Several of these existing infrastructures are owned and operated by various utility agencies. The attached "*Existing Site Plan*" exhibit illustrates the various infrastructures that is owned and operated at the western end of the site and Toll Plaza area. Below is a summary of the various structures that surround the Gateway Park Area.

Buildings

The park zone of influence has several buildings that are owned and operated by various owners. Various buildings are operated by East Bay Municipal Utility District (EBMUD), Pacific Gas & Electric (PG&E) and Caltrans. EBMUD has a Transition Structure and a Dechlorination Facility that provide service to Yerba Buena Island and Treasure Island. PG&E owns an electrical substation that provides electricity to Yerba Buena Island and Treasure Island. Caltrans has several historic buildings. They have a Key Pier Substation building and a Caltrans Substation building. Caltrans also owns building called a Mole Station. Details of operation of these buildings would need to be further coordinated with the respective agency as the project site continues to be developed among the design team.

Billboards

There are currently three existing electronic billboards along the southern side of the Toll Plaza between the Caltrans maintenance facility and western end of the site. A third billboard is under construction. A fourth billboard is planned by EBMUD on their parcel further east. These facilities will require periodic maintenance and unrestricted access to the billboard owner/operator. If during the project design these billboards need to be relocated, coordination with the billboard owners would need to be considered.

Cell towers

There are currently three cellular telephone towers constructed along the southern side of the Toll Plaza. Two are between the Caltrans maintenance facility and western end of the site. The third is at the southwest corner of the historic IERBYS building. These cellular towers require periodic maintenance and unrestricted access to their owner/operators. If during the project design these cellular towers might need to be relocated, coordination with the cellular tower owners would need to be considered. The *"Existing Site Plan – Cable, Telephone and Communications"* exhibit illustrates the existing conditions of the telephone and communications line.

Bay Bridge

The Bay Bridge is the vital link that connects Oakland to San Francisco from Interstate 80 to Highway 101. As part of the Bay Area Toll Authority seismic upgrade program, Caltrans has initiated construction of the New East Span between Oakland and Yerba Buena Island to replace the existing span.

Toll Plaza

Caltrans has plans for new maintenance and administration building in the Toll Plaza.

Bike Path

Caltrans is currently planning construction of a new bike path and associated parking Stage II facilities west of the existing maintenance facility as shown on "Figure 30 Bike Facilities" exhibit prepared by Fehr and Peers. Caltrans is also planning a Stage 3 bike path that would to connect to an existing bike route in Emeryville. Final plans for Stage 3 were not available at this time.

Maintenance Road

Caltrans is currently planning construction of a new maintenance road as shown on drawings provided by Caltrans dated September 8, 2008. The maintenance road is in conjunction with the Class 1 bike path that starts west of the Burma Substation and continues under the West Grand Avenue and the Highway 880 connector. It runs parallel on the south side of the Highway 580 eastbound freeway and crosses under the Highway 580 connector to Shellmound Street at the Emeryville IKEA store where it then connects to an existing bike path.

Bio Retention Facility

Caltrans constructed a bioretention facility west of the existing maintenance yard that collect and treats storm water from a portion of the new Bay Bridge and the Bay Bridge Toll Plaza. Storm water is conveyed to the bio retention area by gravity and is then lifted by pump into the bio retention cells. Location of Caltrans bioretention facility is shown on the attached "*Existing Site Plan*" exhibit.

Demolition of Existing Bridge

It is our understanding that once the new Bay Bridge is operational that the existing structure will be demolished and the 4.2 acre area between the existing structure and the new Bay Bridge structure and conforming roadway may be available for park uses.

Utility Infrastructure

Domestic Water

Supply

Ultimately EBMUD supplies water to the Gateway Park Project Area. EBMUD provides water service to approximately 1.3 million people in a 331 square mile area in portions of Contras Costa and Alameda Counties. During normal years (non drought) EBMUD has water rights of 325 million gallons per day (MGD) from the Mokelumne River. In 2009, the average daily water production for EBMUD was approximately 205 MGD. EBMUD projects customer demand to expand to 277 MGD by the year 2020. This projection is well below their water rights allotment. However, under a multiple year drought scenario, EBMUD allotment from the Mokelumne River could be reduced and EBMUD may not have sufficient water supply to meet customer demands. To mitigate this potential shortfall, EBMUD is actively identifying supplemental water supplies, recycled water programs and continued implementation of water conservation measures.

Water Supply Lines

The Gateway Park area is crossed by a number of domestic water lines ranging in size from 8 inches to 12 inches. These domestic water lines are shown on the Exhibit titled, "*Existing Utilities Exhibit - Water.*" The location and size of water lines shown on this exhibit is based on record information provided by Caltrans and EBMUD.

EBMUD provides emergency domestic water supply to Treasure Island. This connection point is a meter on Beach Street in Emeryville. The Navy currently owns a 12 inch water transmission line from this connection point, through the project site and across the existing Bay Bridge. This line is currently operated and maintained by SFPUC Water Enterprise. This line also serves the several local Caltrans uses and the EBMUD dechlorination station at western end of the site. This line is a critical piece of infrastructure for Treasure Island and provides backup water supply in the event the main service on the western span of the Bay Bridge from San Francisco is disrupted.

Pump Station

There is currently a pump station in the eastern abutment of the existing Bay Bridge that pumps domestic water from the water main to Treasure Island. This pump station will be replaced as part of the new Bay Bridge construction. Improvement plans for this pump station have not yet been developed and the location and configuration of the new pump station need to be incorporated in the ultimate park plan. Several locations of the pump station have been proposed, but the final location and configuration of the new pump station is still decided.

Treasure Island Requirements

Water supply to fire hydrants on the Bay Bridge and the backup water supply to Treasure Island and Yerba Buena Island currently runs through the site. This is a 12 inch water main currently owned by the Navy and operated and maintained by SFPUC. Water is supplied from EBMUD from a large meter on Beach Street in Oakland near the Emeryville Border. This line is an emergency connection to Treasure Island and normally operates at only a low flow to maintain water quality in the line. It is our understanding that this water main also serves the EMBUD Dechlorination Facility at the west end of the project site.

Sanitary Sewer

Wastewater Treatment

Sanitary sewer treatment for the Gateway Park project area would be provided by EBMUD at its main wastewater treatment plant (WWTP), located approximately 1.5 miles east of the site. The EBMUD WWTP serves approximately 642,000 people in an 88 square mile service area along the east shore of San Francisco Bay that includes as Albany, Berkeley, Stege Sanitary District, Emeryville, Oakland, Piedmont and Alameda. The WWTP provides both primary and secondary treatment and has the ability to provide a small quantity of tertiary treated, recycled water. The WWTP has a average dry weather treatment capacity of 120 million gallons per day (MGD) and a peak wet weather treatment capacity of 320 MGD. In 2008, the average daily wastewater flow at the WWTP was 69 MGD.

WWTP Capacity

EBMUD's Main Wastewater Treatment Plant (MWWTP) and interceptor system are anticipated to have adequate dry weather capacity to treat the proposed wastewater flows from this project, provided that the wastewater meets the requirements of the current EBMUD Wastewater Control Ordinance. However, wet weather flows are a concern. EBMUD has historically operated three Wet Weather Facilities (WWFs) to provide treatment for high wet weather flows that exceed the treatment capacity of the MWWTP. On January 14, 2009, due to EPA's and the State Water Resources Control Board's re-interpretation of applicable law, the RWQCB issued an order prohibiting further discharges from EBMUD's WWFs. Additionally, on July 22, 2009 a Stipulated Order for Preliminary Relief issued by EPA, the SWRCB, and RWQCB became effective. This order requires EBMUD to begin work that will identify problem I/I areas, begin to reduce I/I through private sewer lateral improvements, and lay the groundwork for future efforts to eliminate discharges from the WWFs.

Currently, there is insufficient information to forecast how these changes will impact allowable wet weather flows in the individual collection system subbasins contributing to the EBMUD wastewater system, including the subbasin in which the proposed project is located. As required by the Stipulated Order, EBMUD is conducting extensive flow monitoring and hydraulic modeling to determine the level of flow reductions that will be needed in order to comply with the new zero-discharge requirement at the WWFs. It is reasonable to assume that a new regional wet weather flow allocation process may occur in the East Bay, but the schedule for implementation of any new flow allocations has not yet been determined.

In the mean time, it would be prudent for the lead agency to require the project applicant to incorporate the following measures into the proposed project: (1) replace or rehabilitate any existing sanitary sewer collection systems to reduce inflow and infiltration (I/I), and (2) ensure any new wastewater collection systems for the project are constructed to prevent infiltration and inflow (I/I) to the maximum extent feasible. Please include such provisions in the environmental documentation for this project.

Local Collection Infrastructure

The project site is crossed by local sanitary sewer collection facilities and a main treated wastewater outfall from the EMBUD WWTP. Local gravity collection facilities range in size from 8 inches to 15 inches. There is an 8 inch sewer lines that travels along Burma Road and intercepts at Bataan Avenue and Dunkirk Street. These discharge to an existing pump station along Burma Road. This pump station discharges to EBMUD internal plant drain system on the west end of the treatment plant. It is our understanding that this is a nonconforming connection and that a direct connection to an EBMUD interceptor is required. EBMUD indicated that the City of Oakland has acknowledged this and will reroute this connection to one of the main EBMUD interceptor lines as part of the Gateway Development Area plan. These facilities were originally part of the Oakland Army Base and were transferred to the City of Oakland along with the land. Their condition and capacity are currently unknown.

EBMUD Treated Wastewater Outfall

The main outfall from the EBMUD Wastewater Treatment Plant (WWTP) crosses the site. The outfall was constructed in 1949. "*Existing Utilities Exhibit – Sanitary Sewer*" exhibit show the location of EBMUD's sewer outfall. This is a critical facility for the WWTP and does not have redundancy. The outfall is a 9 foot diameter, 10 inch thick reinforced concrete pipe. The pipe is pile supported along its entire length. There are vent stacks and manholes along the length of the pipe. Some of the manholes may be covered and are not visible in the field. EBMUD record drawings show the location of the vent stacks and manholes that were constructed with the outfall. There is a cyclone fence along the majority of the outfall pipe alignment. EBMUD believes that the fence posts are attached to the top of the pipe at some locations. One of the functions of the fence is to prevent unrestricted crossing of the facility and to identify the bridge crossing locations. EBMUD has a 25 foot wide easement along the pipe alignment. The outfall pipe currently is shallow with minimum cover. The average daily flow is 65 mgd. At peak wet weather flow it is approximately 320 mgd. There are currently no plans to replace the outfall. Therefore, due to the importance to the WWTP, EBMUD does condition assessments and performs maintenance and repair as needed to the outfall pipe.

EBMUD Treated Wastewater Outfall Pipe Restrictions

Below is a summary of the Outfall Pipe Restrictions:

The outfall pipe is a zero-load structure meaning vehicle crossing is by bridge only.

EBMUD is responsible for installation of 4 crossings at their expense. They have provided 2 crossings. Caltrans is currently permitting a third crossing as part of the bikeway access parking lot design. EBMUD is responsible for one additional crossing.

Additional crossing can be permitted with EBMUD and installed at project expense.

Pile driving for the Mole substation may have damaged the outfall structure which required subsequent repair. The substation was approximately 100 feet from the outfall pipe.

The new billboards are closer to the outfall pipe and piles for those were augered in place using "vibration free" technology to reduce impacts from vibration during pile driving activities.

Foundations for bridges over the outfall pipe will need to be designed and installed to avoid damage to the outfall pipe during both construction and operation. It is likely that driven pile will not be acceptable.

The no load restriction could impact construction since construction vehicles will need to cross the facility using a bridge. Caltrans has installed temporary, construction bridges over the facility. Foundations for a temporary construction bridge cannot be within 12 feet of the facility centerline, therefore a temporary bridge would need to span at least 24 feet.

EBMUD also has concern about loading the pipe zone of influence which extends approximately 12 feet from centerline on each side of the pipe.

EBMUD did not provide clear guidance on placing fill over the facility and will provide additional information at a later time.

Pedestrian and bike crossings over the outfall without a bridge are acceptable, but need to be positively secured against vehicular access including emergency vehicle access.

The facility can be shut down for only 4 hours at a time to complete maintenance. A shut down longer than 4 hours would require a "pump around" solution for the entire flow (65 million gallons per day dry weather flow).

Providing play fields and active use open space may be acceptable over the facility. These areas would also need to be positively secured against vehicular access. Maintenance of the area including lawn moving may be restricted to none or at least small equipment. If planned this will need to be discussed further with EBMUD. EBMUD expressed concern that in the event of a spill from the effluent pipe the effluent may not have had adequate chlorine contact time to be considered safe for human contact.

City of Oakland Sanitary Sewer

The City of Oakland owns, operates and maintains a wastewater collection system within the City. The City's wastewater collection system discharges into EBMUD's sewer interceptor system, which in turn collects domestic, commercial and industrial wastewater for several East Bay cities. The project area is located within the City's Sewer Collection Basin 64. This basin is further subdivided into 15 numbered and one unnumbered sewer collection sub-basins. Each numbered sub-basin encompasses a specific physical area, and its sewer flows are assigned to a single discharge point from the City's collection system into the EBMUD interceptor. Sanitary sewer for the project would flow into sub-basin 64-15. Capacity information for Oakland's sewer lines is determined at the time of construction document plan review. However, according to Engineering at the City of Oakland, Basin 64 is currently over capacity.

Storm Drain

The majority of the existing site and surroundings is covered with impervious surface or is undeveloped land in poor condition. There is limited vegetation and the existing site has a high runoff coefficient. According to existing EBMUD outfall construction documents of 1949, record drawings indicate that there are storm drain lines and catch basins in Burma Road that range in sizes from 10 to 18 inches in diameter. These storm drain lines are not owned by EBMUD or the City of Oakland. It is assumed by EBMUD that these storm drain lines were once owned and maintained by the Oakland Army Base which has since shut down 5 years ago. Investigations are on-going to determine which utility agency maintains these lines.

Record information shows that the storm drains lines that were once owned by the Oakland Army Base flow towards storm drain lines that are maintained by the City of Oakland. There is limited storm drain on the site and the majority of the site sheet flows to the San Francisco Bay. On the north side of the 10 foot wide sewer outfall is a concrete lined ditch that is approximately 2,081 linear feet. The "*Existing Utilities Exhibit – Storm Drain*" exhibit shows existing storm drain lines and the concrete line ditch. Storm water from this ditch discharges through five different outfalls that flow into the San Francisco Bay.

Development of the park will reduce the impervious area and the overall storm water runoff to the San Francisco Bay. By reducing the amount of the impervious area of the site, the project will provide storm water treatment of the developed site and reduces the amount of polluted storm water from flowing into the San Francisco Bay.

Recycled Water

There are currently no recycled water mains in the project area. EBMUD has used recycled water to offset demand on EBMUD's potable water supply. The water is drawn from wastewater treatment plants within the EBMUD water service area or untreated water reservoirs. The level of treatment varies depending on the intended use. EBMUD projects that by 2020, recycled water use throughout its service area will be approximately 14 mgd for landscape irrigation and some industrial and commercial uses. Their recycled water program is an on-going program to help bring recycled water to residents and businesses. The nearest recycled water distribution line that may serve the Gateway Park project exits the west side of the recycled water facility at the EBMUD WWTP along the Interstate 80 freeway and ends at the West Grand Avenue. During our discussions with EBMUD, they indicated a desire to provide recycled water to the project site.

Electric and Gas

Electrical System

Electrical Service

There is a 12kV electrical line that runs along the south side of the Interstate 80 along Burma Road. The 12kV line is owned and maintained by PG&E. There are two substations that the 12kV line feeds out from. There is a East Bay Substation just south of the toll plaza and a Burma Substation on Burma Road and Africa Street. The 12kV line provides electricity to the toll plaza and the billboards, cellular towers, and Caltrans warehouses that are along Burma Road. Portions of the 12kV electrical line are overhead and underground. The 12kV line can be shown on the "*Existing Utilities Exhibit – Electrical*" exhibit.

12 KV Treasure Island Service

12 KV electric service to Treasure Island passes through the site over head on poles to western end of the site where is connects to the submarine cable to Treasure Island. This is the only electric service to Treasure Island and is a critical facility. These facilities are currently owned by the Navy and operated and maintained by SFPUC. Ownership will be transferred to SFPUC with the official Treasure Island land transfer to the City of San Francisco. There is a possibility SFPUC will need to install switch gear at western end of the site at the connection to the submarine cable.

12 KV Caltrans Service

12 KV electric service to the Caltrans Mole substation and the ultimately to the new Bay Bridge passes through the site along the freeway right of way. This service was originally overhead and had been recently undergrounded in the vicinity of the new billboards adjacent to the freeway.

Mole substation

The Mole Substation at western end of the site is currently under construction by Caltrans. This substation will serve electric power to the new Bay Bridge. The location of the Mole Substation is shown on the *"Existing Site Plan"* exhibit.

Gas System

There is an existing 12 inch gas line that runs along Burma Road. This gas line is owned and maintained by PG&E. According to Caltrans documents the 12 inch gas line is a high pressure gas line. It is operating at over 60 psi. This is a critical facility for PG&E. This gas line also serves the existing and proposed gas infrastructure on Yerba Buena Island and Treasure Island. An illustration of the existing 12 inch high pressure gas line is shown on *"Existing Utility Exhibit – Gas*" exhibit.

Maintenance Requirements Impacting the Area

EMBUD Outfall Transition Structure

At the outfall of the treated wastewater outfall structure, the pipe drops and extends 1.2 miles out into the San Francisco Bay and is support by piles. The end of the outfall is approximately 400 feet south of the existing Bay Bridge. The last 800 feet of the outfall pipe is a diffuser to obtain a minimum 10:1 dilution ratio based on the water currents in this portion of the San Francisco Bay. This site was specifically chosen to provide the correct diffusion ratio since it is deep and has high tidal turnover. If the outfall were to be moved to a different location, the outfall would need a longer diffuser. Relocating this outfall would require significant discussions with the Regional Water Quality Control Board and modifications to EBMUD's National Pollutant Discharge Elimination System (NPDES) permit.

EBMUD Dechlorination Facility

EBMUD has a Dechlorination facility at the western end of the site. This facility is shown on the "*Existing Site Plan*" exhibit. Chemical delivery to the Dechlorination facility is done several times each week. Access to the Dechlorination facility needs to be maintained during construction and park operation. The Dechlorination facility is sized to dechlorinate the peak wet weather flow (approximately 320 mgd). The Dechlorination facility needs to be located close to the sewer outfall pipe and near the pipe's end. This facility injects chemicals into the effluent stream to neutralize the residual chlorine prior to discharge to San Francisco Bay.

Based on the chlorine dosing at the WWTP, the length between the WWTP and Dechlorination facility is required to allow the appropriate contact time for wastewater disinfection. Decreasing the length of time to provide the appropriate contact time would require additional facilities or the amount of chlorine dosage would be increased.

Testing of the effluent at the transition structure at the western end of the site is done on an hourly basis to meet NPDES permit regulatory requirements. Samples are collected and taken to the Dechlorination Facility for analysis. EBMUD staff needs to have continual access during construction and park operation. In addition, EBMUD needs to have access to the outfall pipe along the entire length in the event of pipe damage or failure. Access to the outfall pipe is currently from the Caltrans maintenance road. The location of the EBMUD Dechlorination Facility is shown on the *"Existing Site Plan"* exhibit.

Billboard and Cell Tower Maintenance

The owners of the billboards and cell towers will require unrestricted access to their facilities for maintenance. Investigation for easement information on the billboards and cellular towers is still on-going. Once the easement information becomes available, the design team can determine how access to the billboards and cellular towers can be provided to the owners and maintenance personnel. The location of the existing billboards and cell towers are shown on the *"Existing Site Plan"* exhibit.

Bay Bridge Maintenance

Bay Bridge Maintenance is performed by Caltrans. Caltrans has maintenance roads that they utilize to access the Bay Bridge for maintenance. Bridge maintenance requirements may affect size of 4.2 acre parcel that would go towards the park.

PG&E Facilities

PG&E will need access to their facilities for maintenance and repairs. During construction PG&E will require their personnel to stand-by if any excavations are performed in the facility of their gas and electrical facilities.

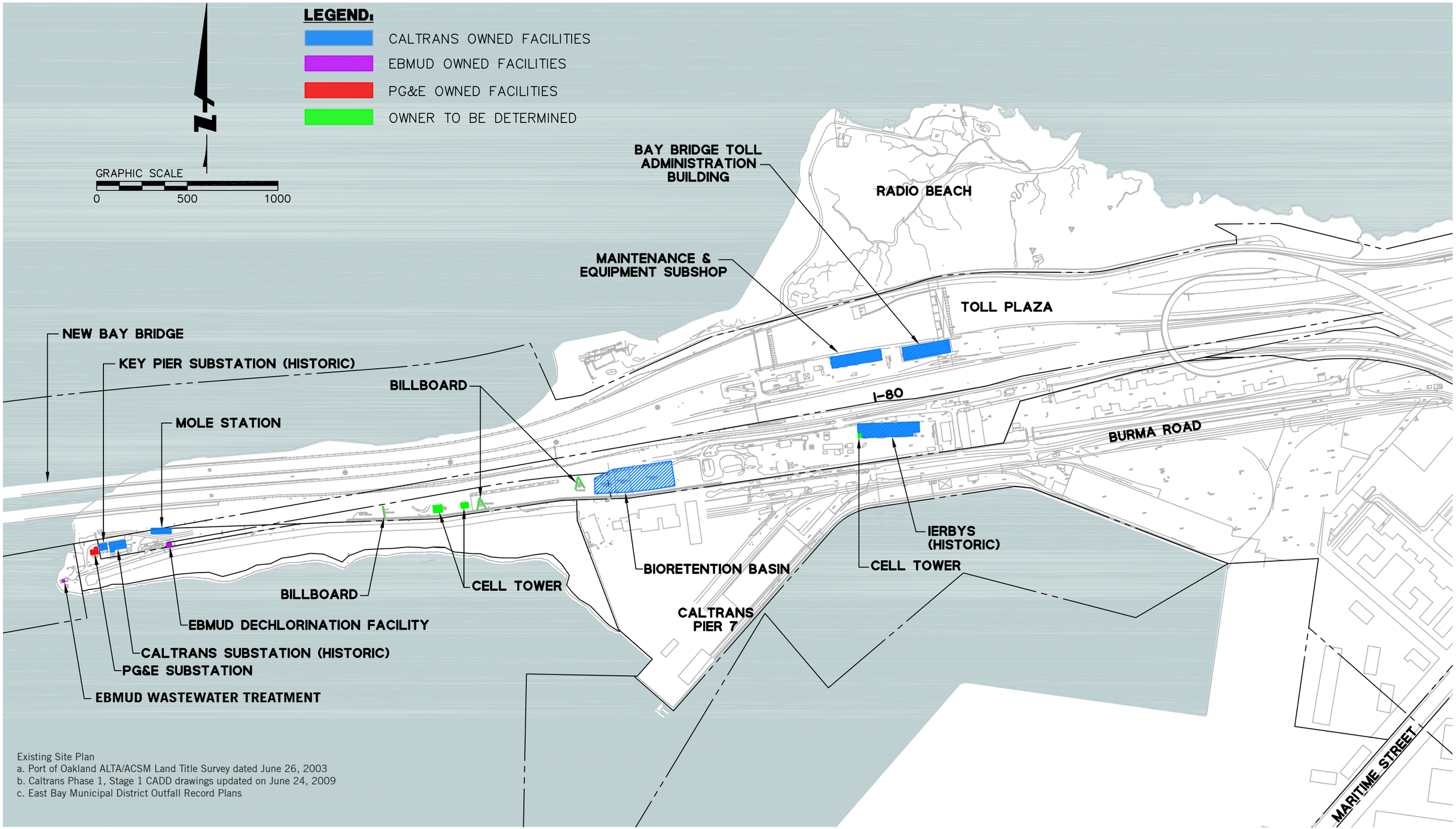
Caltrans Mole Substation

The Caltrans Mole Substation serves the new Bay Bridge. The substation is currently under construction.

5. REFERENCES

- East Bay Municipal Utility District Outfall Record Plans
- East Bay Municipal Utility District Meeting
- East Bay Municipal Utility District Water Main Base Maps
- East Bay Municipal Utility District, "Urban Water Management Plan 2005," Water Resources Planning Division, November 2005
- East Bay Municipal Utility District, 2008 Annual Report
- City of Oakland Storm Drain Base Maps
- City of Oakland Sanitary Sewer Maps
- City of Oakland Sewer Basin Map
- San Francisco PUC Water Enterprise
- San Francisco PUC Electric Enterprise
- City of Oakland, "East Bay Infiltration/Inflow Study, City of Oakland, Oakland North, Sewer System Evaluation Survey," prepared by CH2MHill, January 1986
- Pacific Gas & Electric – Electrical and Gas Facility Maps
- Caltrans Bike Path and Maintenance Construction Drawings dated September 8, 2008
- Port of Oakland ALTA/ACSM Land Title Survey dated June 26, 2003

FIGURES



Existing Site Plan
a. Port of Oakland ALTA/ACSM Land Title Survey dated June 26, 2003
b. Caltrans Phase 1, Stage 1 CADD drawings updated on June 24, 2009
c. East Bay Municipal District Outfall Record Plans

Gateway Park Working Group

Figure 18.

Gateway Park Area Project Study Report

Existing Key Structures

03 March 2010

in association with
HDR/The Hoyt Company
Fehr & Peers
Economic & Planning Systems, Inc.
ESA

PERKINS + WILL
PWP
BkF

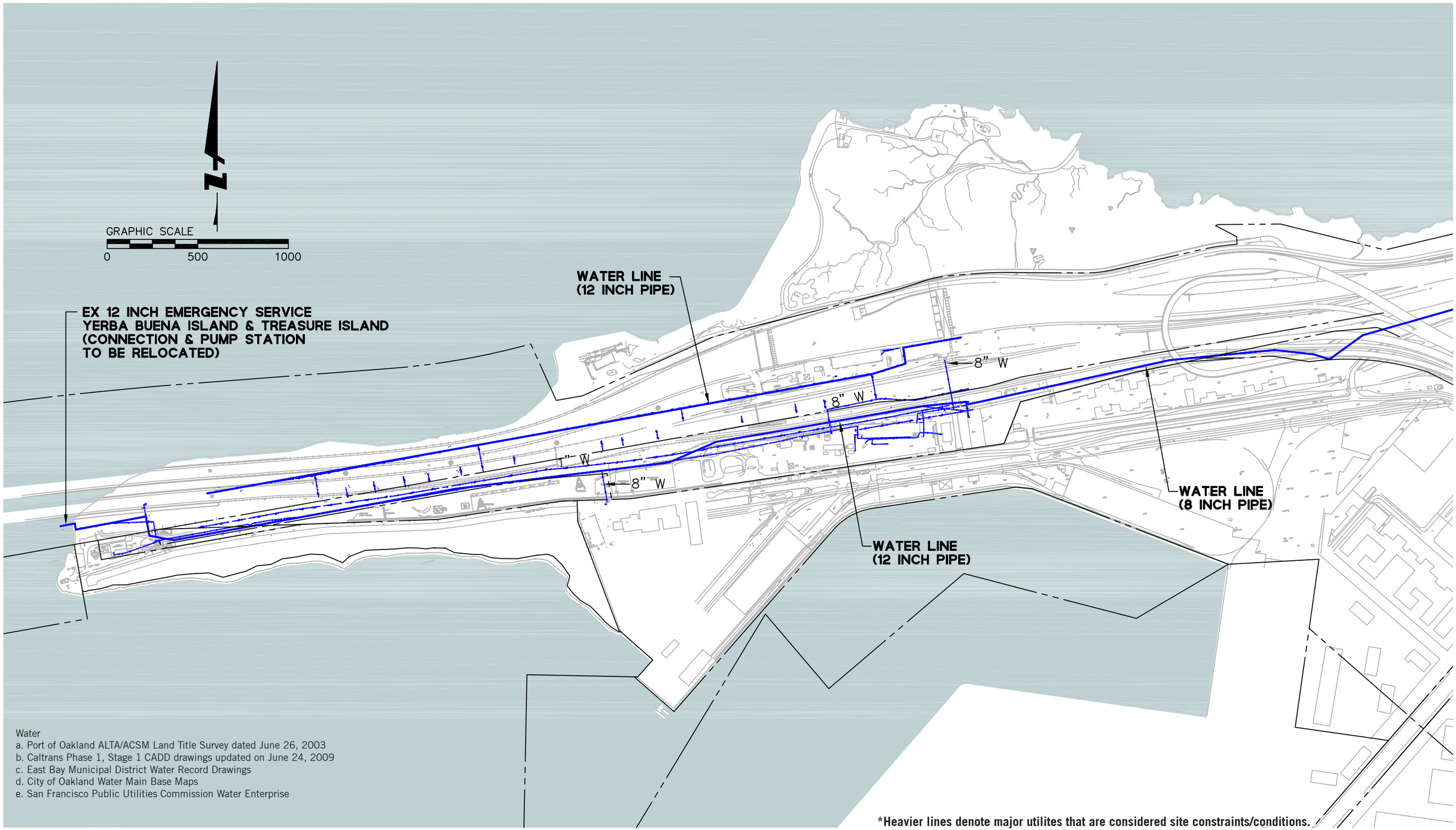


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Figure 19.

Gateway Park Area Project Study Report

Existing Utility Exhibit - Water

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PERKINS + WILL
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BkF

GRAPHIC SCALE

0 500 1000

EXISTING DUCT BANK

Duct Bank
a. Port of Oakland ALTA/ACSM Land Title Survey dated June 26, 2003
b. Caltrans Phase 1, Stage 1 CADD drawings updated on June 24, 2009

*Heavier lines denote major utilites that are considered site constraints/conditions.

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Figure 20.

Gateway Park Area Project Study Report

Existing Utility Exhibit - Duct Bank

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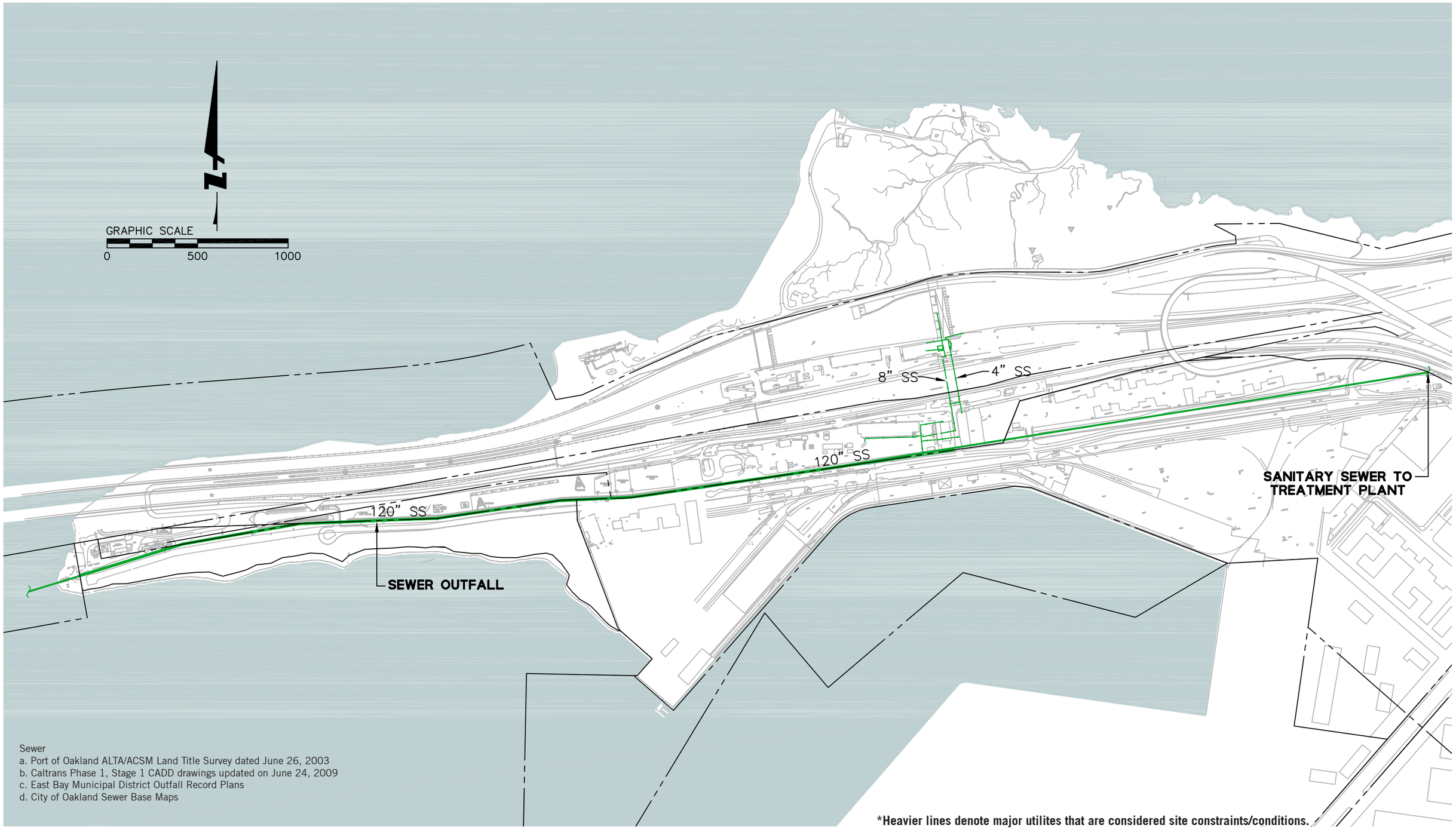

Sewer
a. Port of Oakland ALTA/ACSM Land Title Survey dated June 26, 2003
b. Caltrans Phase 1, Stage 1 CADD drawings updated on June 24, 2009
c. East Bay Municipal District Outfall Record Plans
d. City of Oakland Sewer Base Maps

***Heavier lines denote major utilites that are considered site constraints/conditions.**

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Figure 21.

Gateway Park Area Project Study Report

Existing Utility Exhibit - Sanitary Sewer

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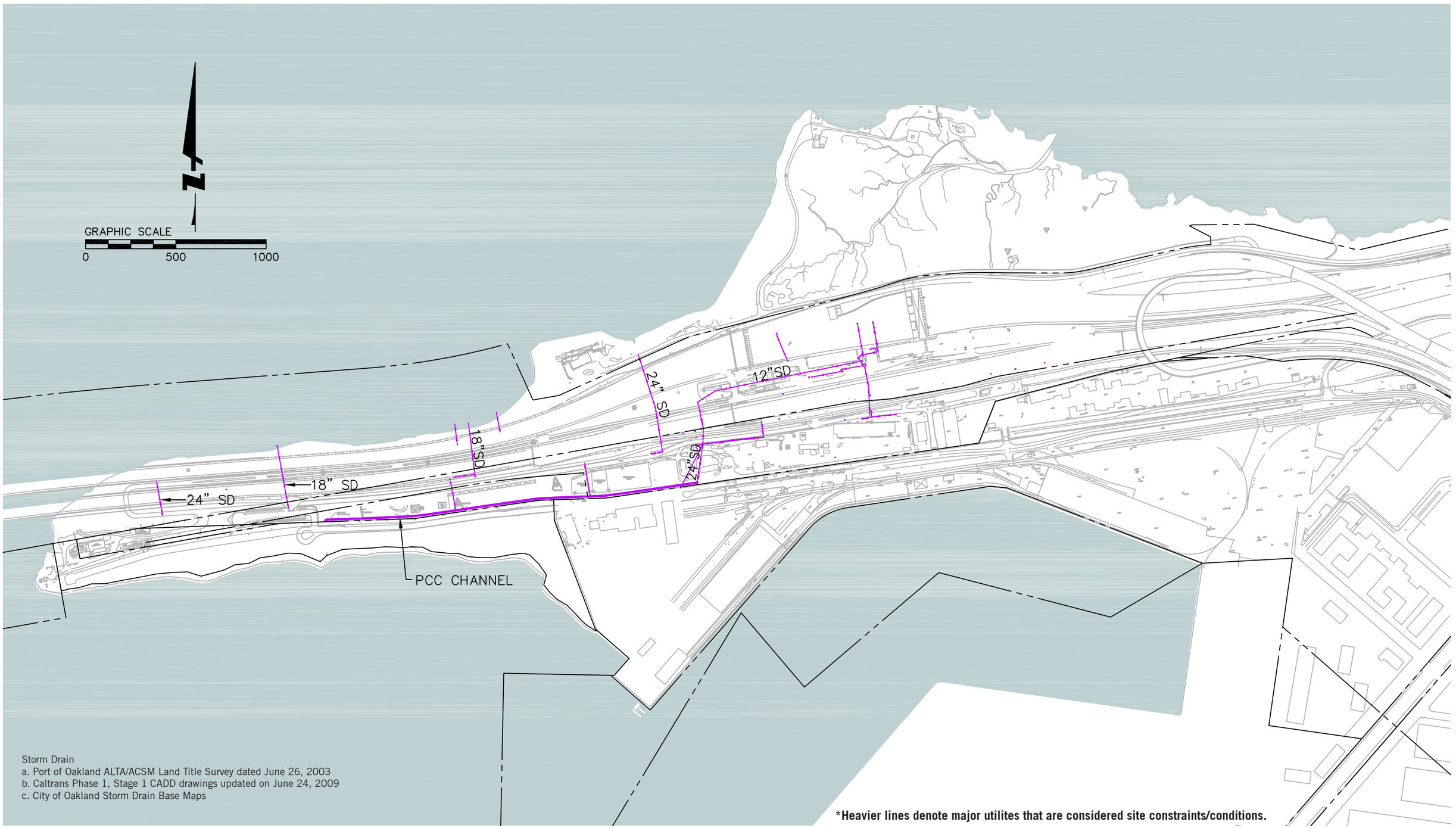

Storm Drain
a. Port of Oakland ALTA/ACSM Land Title Survey dated June 26, 2003
b. Caltrans Phase 1, Stage 1 CADD drawings updated on June 24, 2009
c. City of Oakland Storm Drain Base Maps

***Heavier lines denote major utilites that are considered site constraints/conditions.**

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Figure 22.

Gateway Park Area Project Study Report

Existing Utility Exhibit - Storm Drain

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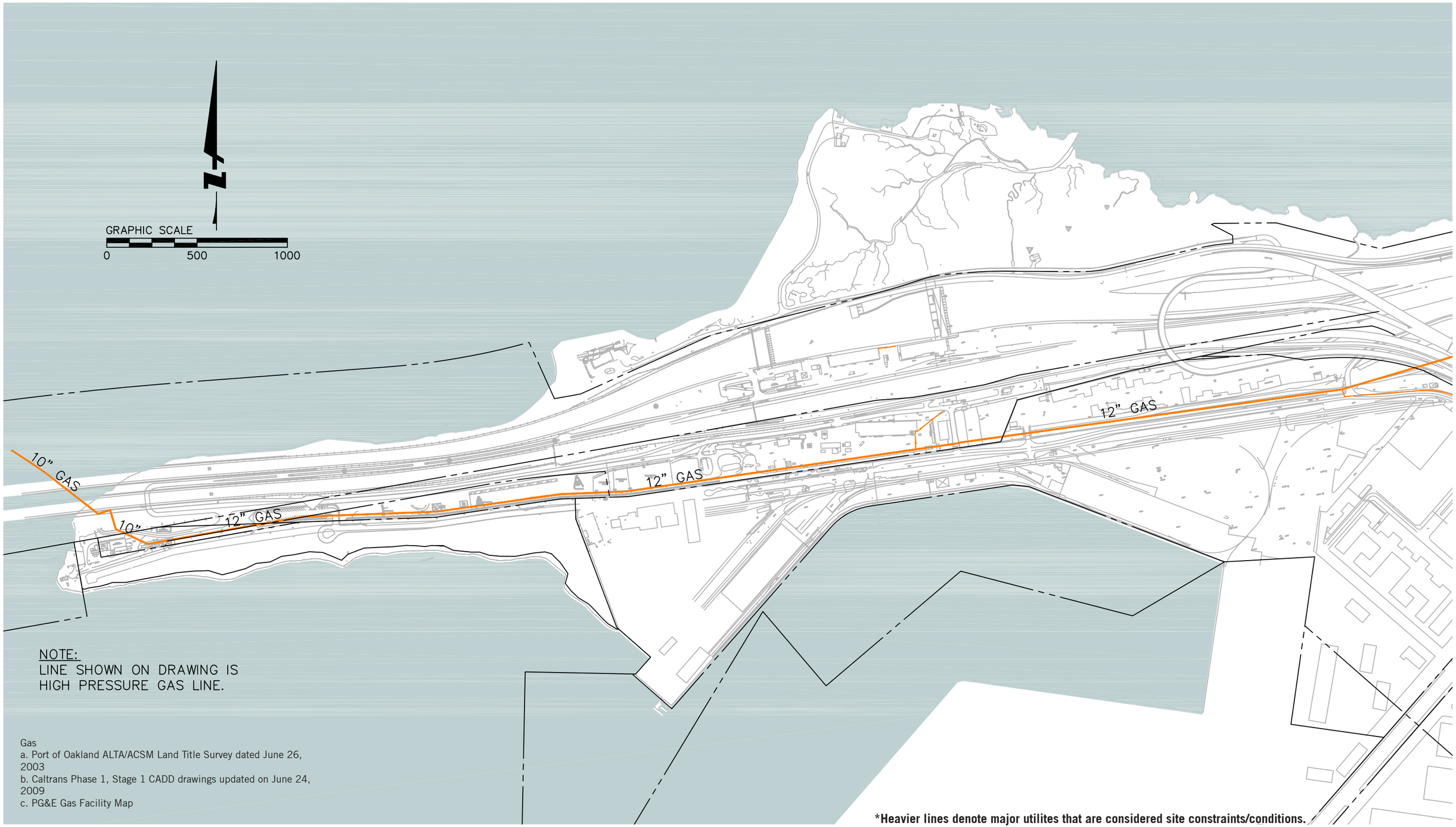

Gas
a. Port of Oakland ALTA/ACSM Land Title Survey dated June 26, 2003
b. Caltrans Phase 1, Stage 1 CADD drawings updated on June 24, 2009
c. PG&E Gas Facility Map

***Heavier lines denote major utilites that are considered site constraints/conditions.**

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Figure 23.

Gateway Park Area Project Study Report

Existing Utility Exhibit - Gas

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GRAPHIC SCALE

0 500 1000

ELECTRICAL TO TREASURE ISLAND (34.5kV)

12kV & 480V

5kV & 480V

480V & 120V

480V

480V

12kV OVERHEAD

12kV OVERHEAD

ELECTRICAL (12kV)

ELECTRICAL (12kV)

ELECTRICAL (12kV)

ELECTRICAL (2)–25kV

Electrical
a. Port of Oakland ALTA/ACSM Land Title Survey dated June 26, 2003
b. Caltrans Phase 1, Stage 1 CADD drawings updated on June 24, 2009
c. PG&E Electrical Facility Map
d. San Francisco Public Utilities Commission Electrical Enterprises

*Heavier lines denote major utilites that are considered site constraints/conditions.

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Figure 24.

Gateway Park Area Project Study Report

Existing Utility Exhibit - Electrical

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Economic & Planning Systems, Inc.
ESA
PERKINS + WILL
PWP
BkF

GRAPHIC SCALE

0 500 1000

TELEPHONE

TELEPHONE

COMMUNICATIONS

CABLE

CABLE

TELEPHONE

TELEPHONE

TELEPHONE

COMMUNICATIONS

CABLE

TELEPHONE

TELEPHONE

LEGEND:

CABLE

TELEPHONE

COMMUNICATIONS

Cable, Telephone, communications
a. Port of Oakland ALTA/ACSM Land Title Survey dated June 26, 2003
b. Caltrans Phase 1, Stage 1 CADD drawings updated on June 24, 2009

***Heavier lines denote major utilites that are considered site constraints/conditions.**

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Figure 25.

Gateway Park Area Project Study Report

Existing Utility Exhibit - Cable, Telephone, Communications

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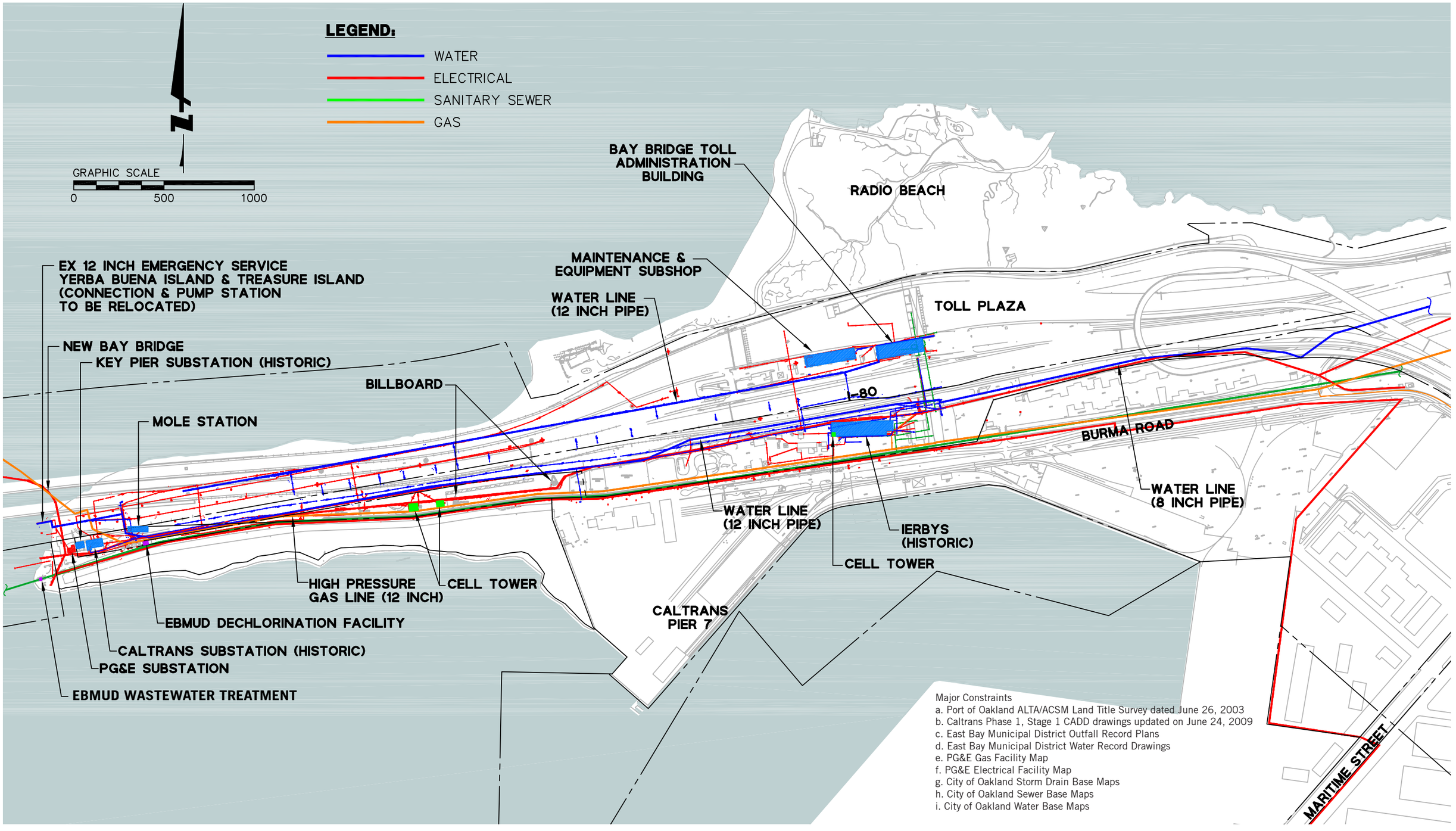
PWP

BKF



Major Constraints
a. Port of Oakland ALTA/ACSM Land Title Survey dated June 26, 2003
b. Caltrans Phase 1, Stage 1 CADD drawings updated on June 24, 2009
c. East Bay Municipal District Outfall Record Plans
d. East Bay Municipal District Water Record Drawings
e. PG&E Gas Facility Map
f. PG&E Electrical Facility Map
g. City of Oakland Storm Drain Base Maps
h. City of Oakland Sewer Base Maps
i. City of Oakland Water Base Maps

Gateway Park Working Group

Figure 26.

Gateway Park Area Project Study Report

Existing Site Plan - Major Constraints

03 March 2010

in association with
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Fehr & Peers
Economic & Planning Systems, Inc.
ESA

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PWP
BkF

ACCESS

1. PURPOSE

This study identifies existing conditions, challenges, and potential opportunities to access the Gateway Park Area (Project Area) and the surrounding area.

Gateway Park is located within the City of Oakland about two miles from downtown along the East Bay waterfront. The site provides access into Oakland from San Francisco and Treasure Island via the San Francisco-Oakland Bay Bridge (Bay Bridge). The Port of Oakland is located to the south of Gateway Park with East Bay Municipal Utility District (EBMUD) treatment plant located to the east. The San Francisco Bay borders the park on the north and west and south sides.

The Project Area provides a challenging opportunity to coordinate park access, particularly with multiple modes of transportation located in a highly-constrained area, with adjacent industrial uses. It is surrounded by several major highways; local roadways carrying bicycle, pedestrian, automobile and truck traffic; and public transportation facilities including Amtrak train service, Bay Area Rapid Transit (BART) rail service, and local and regional bus service. Although the area is primarily surrounded by industrial land uses, the communities of West Oakland, downtown Oakland, and Emeryville are all located within three miles of the Gateway Park area but have limited access to the project site.

In addition to the existing challenges, the eastern span of the Bay Bridge is currently being replaced with a new signature span that will include a bicycle and pedestrian facility. It is expected to be completed in 2013 and at opening will include a multi-use path connecting 40th Street in Emeryville to the bridge as well as a small parking lot (about 60 spaces) at the bicycle-pedestrian access (staging area) to the bridge. The bridge currently carries almost 270,000 vehicles per day between San Francisco and Oakland and is expected to continue to operate with heavy volumes. With continuous non-motorized access between San Francisco, Treasure Island, Gateway Park, Emeryville, and Oakland, the use of the Project Area is expected to be significant. Given the central location of the Gateway Park, the transportation facilities to and through the area must be planned carefully.

2. KEY FINDINGS

Transportation Context

The proximity of the project site to downtown Oakland and to the Bay Bridge with access to Treasure Island and San Francisco offers exciting opportunities to provide connections that will assist Gateway Park in realizing its full potential as a key link in a regional network. **Figure 27** was prepared to fully understand the transportation context in which the project is being considered.

The figure illustrates how the key transportation features converge around the 20th Street Transit Corridor and Grand Avenue, but that these facilities are somewhat isolated (in their current state) from the Project Area. It also illustrates how the vehicle and bicycle routes converge in the area near Maritime Street and West Grand Avenue, where port-related truck activity also occurs. This area is likely to create an area of congestion, and it is apparent that this area also represents an opportunity to coordinate all modes of transportation.

Transportation Opportunities

As the gateway between San Francisco and Oakland (including the East Bay), commuters and recreational users will use the Project Area to stage between auto, bicycle, pedestrian and transit modes. Gateway Park also has a high potential to become a destination to enjoy the waterfront and its panoramic views from a nexus of transportation facilities. Opportunities that present themselves are listed below and illustrated in **Figure 35**.

- Create new staging area/transportation node near the intersection of Grand Avenue and Maritime Street. The Gateway Park site is constrained on three sides by the water and the Bay Bridge. Locating staging in this limited area would substantially reduce the park opportunities, and impact the planned development at Gateway West and elsewhere in the area. A transportation node constructed near the West Grand Avenue intersection with Maritime Street would centrally locate recreational users while separating that traffic from the port-related activities including planned development in the Central and West Gateway redevelopment sites. The node would serve vehicle parking, bicycle rentals, transit stops, and other services such as a transportation museum, information kiosk, and other tourist support services.

- Create a new transit linkage (potentially shuttle, rail, or elevated) from the transportation node described above to the west end of the Gateway Park. The transit linkage (if elevated) would allow for dramatic views of the Bay Bridge and surrounding bay. It could also include a stop at the West Gateway development site so that less parking on that site would be required. With this connection, parking at Gateway Park could be limited to those with handicap placards and a passenger loading area

- Create a linkage between the bus stops at the Toll Plaza, Radio Beach, and Gateway Park. This connection would improve transit accessibility to the area, minimizing the need to construct parking spaces for visitors.

- Create waterfront access at Radio Beach and/or along the south side of Gateway Park in the Outer Oakland Harbor for kayak users with connections to Jack London, Treasure Island, and Berkeley/ Emeryville. This particular location is preferable because of its relative location away from the port-related activities to the south of Gateway Park.

- Create a single road with pedestrian facilities to accommodate maintenance, bicycle and pedestrian uses to Gateway Park and the bicycle/pedestrian connection to the Bay Bridge. As part of the BCDC permit, consideration should be given for a Class I multi-use path separated from vehicular traffic. West of that connection, the road would be dedicated to maintenance use only. This same facility could be used to access the handicap parking and the passenger loading area as well. Creating this single facility is essential given the expected level of activity in the area. Separate facilities introduce conflict points at intersections where accidents are likely to occur. Accident potential is significantly reduced if a single facility is designed that minimizes intersecting connections. A consolidated facility has the added benefit of minimizing impervious pavement and maximizing parking space.

- Create new bicycle and pedestrian connections to Oakland so non-motorized users have an alternative access to Grand Avenue. In addition to the Caltrans planned bike path connecting the Bay Trail to Burma Road, three possible connections are described below:

- Construct a new grade-separated crossing that connects to 26th Street in West Oakland. Improve the 26th Street corridor for bicycles from the new crossing east to its intersection with 27th Street where it would become part o the 27th Street bicycle corridor. This connection would provide a continuous bicycle facility connection the Lake Merritt area with the Project Area. Within the Project Area, this connection could be incorporated into the suggested staging area and then extend west to the multi-use facility along I-80.
- Modify the existing trestle that extends across the railroad tracks for bicycle and pedestrian use, connecting to either 32nd or 34th Streets. This trestle does not provide as direct an access between Downtown Oakland and the Project Area as 26th Street, but it does represent a unique opportunity to reuse an existing structure.
- Consideration was given to upgrading the EBMUD tunnel near the Yerba Buena Avenue alignment south of 40th Street in Oakland. This tunnel is less direct than either the grade separation at 26th Street or the trestle connection, but it is the least expensive option. However, based on previous stakeholder meetings and discussions, this option was eliminated due to conflicts with the EBMUD access and operations near the tunnel area.

Transportation Constraints and Challenges

There are many existing constraints in the project area which are shown in **Figure 36** and listed below.

- Proposed design for bicycle and pedestrian facilities as well as parking to access the area may not be accommodated with Bay Bridge and Gateway Park demand.
- Bicycle and pedestrian connections to downtown Oakland area not continuous and there are physical constraints that may limit use to only the more experienced riders.
- TransBay buses stop at the Toll Plaza, but do not provide access either to Gateway Park, Bay Bridge, or the adjacent development areas.
- Port of Oakland facilities along Maritime Street may not be compatible with access for bicycles and pedestrians to Gateway Park, particularly due to heavy truck traffic and driveway access.
- Amtrak and freight rail lines are a barrier between downtown Oakland and the Project Area i.e., the rail facilities limit east-west crossings.
- The transportation node surrounding West Grand Avenue and Maritime Street may be highly congested with increased volumes.
- There is no transit or bicycle connection to the Downtown Oakland transit hub at 20th Street (or Lake Merritt), which is only two to three miles from project site.
- Although water access surrounds the project site and a kayak launch site at Radio Beach represents a tremendous opportunity, there are concerns for access under the Bay Bridge connecting Gateway Park with Radio Beach.

3. METHODOLOGY AND ASSUMPTIONS

This section summarizes our methodology and assumptions for evaluating the transportation access and opportunities surrounding Gateway Park.

- A field visit was conducted to observe existing site conditions for the Project Area and its area of influence.
- Fehr & Peers documented travel patterns based on knowledge of the project area and regional connectivity.
- Existing studies were reviewed including previous reports on the Gateway Park Area Charrette and Port of Oakland Vision 2000 Study to fully understand the context in which this study is being conducted and to build upon past efforts.
- Fehr & Peers evaluated future projects in the vicinity of the project area including the new San Francisco-Oakland Bay Bridge and Gateway West development site with the surrounding development being planned by the Oakland Community and Economic Development Agency.
- Existing transportation facility maps and data were collected including AC Transit Transbay bus routes, Bay Area Rapid Transit (BART) and Amtrak routes, Bay Trail bicycle and pedestrian facilities, local and regional bicycle facilities and the Bay Access Water Trail.
- Data was collected from Bay Bridge Info and Golden Gate Bridge, Highway & Transportation District to provide order-of-magnitude forecasts for possible uses on the new San Francisco-Oakland Bay Bridge. Fehr & Peers reviewed the Golden Gate Bridge facilities, including existing bicycle and pedestrian use on a typical weekday, parking facilities near bridge, bus stops, kayak launches, and automobile/truck volumes on the bridge. This data was compared to existing uses on the Bay Bridge along with potential factors that may influence uses on the new bridge, including demographics and population density as well as the built environment. Based on the analysis and relevant data, it was assumed that the volumes and use of the Bay Bridge will be greater than the Golden Gate Bridge, emphasizing the need to consider transportation facilities as a significant component of this project.
- Based on the data collected and knowledge of the project and surrounding area, potential conflicts and areas of congestion were identified as well as physical barriers that may hinder connectivity.
- Fehr & Peers assessed the existing constraints and identified opportunities to improve connectivity and access to the project area.

4. DISCUSSION OF FINDINGS

This section provides a summary of the existing transportation facilities and expected uses near Gateway Park.

Roadway Network

The Gateway Park Area is served by three roadways including Burma Road, Grand Avenue, and Maritime Street. Road characteristics include:

- *Burma Road* extends west from Maritime Street through the project site parallel to Interstate 80 (I-80). It connects to Engineer Road, which extends east terminating near the East Bay Municipal Utility District (EBMUD) facility.
- *Grand Avenue* extends from the Oakland Hills through downtown Oakland terminating at I-80. Grand Avenue is grade separated through the project area except at Maritime Street where it forms an at-grade intersection.
- *Maritime Street* extends through the Port of Oakland connecting 7th Street in the middle harbor area with Grand Avenue near Burma Road. It is used primarily by truck activities associated with the Port operations.

There are also several freeways that serve the area. These facilities are either loop or branch systems from I-80 which itself extends from San Francisco across the Bay Bridge and east across the United States. Interstate 580 (I-580) extends from San Joaquin County through the Bay Area to I-80 at the Toll Plaza to Bay Bridge. Interstate 880 (I-880) extends from San Jose in Santa Clara County to Oakland, terminating at the I-80 / I-580 distribution structure north of the EBMUD facility.

Figure 28 illustrates the travel patterns that drivers destined to the Project Area would likely use. Freeway access to the site is good, but with the many driver distractions in the area can be confusing to infrequent visitors. Most freeway traffic would use Grand Avenue at Maritime Street to access the area. In addition, the Grand Avenue corridor also serves as the primary access for local drivers originating in Oakland and Emeryville. While Maritime Street (via 7th Street) could also serve local traffic, it is circuitous to the Project Area, dominated by Port-related truck activities, and likely will not be intuitive to most drivers.

Figure 29 shows the existing truck routes to the area. Not surprisingly, the truck routes in the Project Area include Maritime Street, West Grand Avenue, and the I-880 Frontage Road. Assuming that Burma Road provides the vehicle access to Gateway Park, the truck traffic along Maritime Street could deter some park visitors.

Transit Network

With direct access to the Bay Bridge, this section of Oakland is heavily utilized by public transit. There are 27 TransBay bus routes that cross the Bay Bridge via I-80 with a bus stop at the Toll Plaza (see Figure 5). These 27 bus routes provide an unprecedented opportunity to provide bus transit access to the Project Area.

Within Oakland, bus service is provided on many of the major corridors with a convergence of several routes at the 20th Street Transit Center (see Figure 1). West Oakland is also served by local bus routes that stop at the West Oakland BART station. There is one bus route that serves employment sites along Maritime Street. An additional bus route connecting the 20th Street Transit Center to the Project Area via West Grand Avenue (through West Oakland) represents an additional opportunity to improve transit accessibility for West Oakland residents and as well as transit riders in the larger area.

In addition to bus service, Bay Area Rapid Transit (BART) provides service throughout the Bay Area with four stations in Oakland, all located within three miles of the Project Area. Stations are located at: West Oakland, 12th Street, 19th Street (near the 20th Street Transit Center), and MacArthur Boulevard. The Amtrak Capitol Corridor route operates adjacent to I-880 near the Project Area with stops in Oakland and Emeryville.

Water Network

The location of Gateway Park presents a unique opportunity to take advantage of maritime uses with access to water on three sides. The San Francisco Bay Area Water Trail is a network of linked access sites around the Bay that is intended for use by non-motorized human-powered watercraft such as kayaks. There are four existing launch sites in Emeryville, one at Treasure Island, and one at Jack London Square in Oakland. Environmental documentation is currently being prepared to develop a full water access trail, with consideration for a launch point at Radio Beach on the north side of Gateway Park. Figure 5 shows the existing launch sites.

Bicycle and Pedestrian Network

The Oakland Bicycle Master Plan identifies several proposed bicycle facilities that will supplement the existing routes as shown in **Figure 30**. With numerous recreational facilities, extensive bicycle facilities, and enthusiastic support for non-motorized transportation in the East Bay, bicycling is a popular means of transportation for many residents and visitors. The Bay Bridge will attract many of these cyclists because of the tremendous views across the bay as well as opening up the opportunity for them to explore Treasure Island (the Bay Area Toll Authority is also studying the feasibility and cost to construct a bicycle and pedestrian facility on the western span of the Bay Bridge). The bicycle network in the area includes West Grand Avenue, although access is constrained due to existing bridge structures which are not wide enough to accommodate bike lanes. This constraint is likely to deter some bicycle riders from Oakland. These riders are likely to instead drive to the Project Area with their bikes and then park and ride across the Bay Bridge.

Existing pedestrian access to the site is limited. However, the San Francisco Bay Trail, which is a planned recreation and commute corridor that will eventually circle the San Francisco and San Pablo Bays with a continuous 500-mile network of bicycling and hiking trails, has several built facilities in the area as shown in **Figure 31**. Existing trail facilities exist through Emeryville and connect to on-street facilities on Shellmound Street to Mandela Parkway in Oakland. Additional facilities are located on 7th and 8th Streets in Oakland.

With more than half of the Bay Trail already constructed, the Association of Bay Area Governments (ABAG) is eager to continue building facilities that link existing portions of the Bay Trail. Future routes are planned along Maritime Street, the Bay Bridge, and a multi-use facility connecting the Bay Bridge to 40th Street in Emeryville.. The Maritime Street route, while an important connection to Middle Harbor Park, requires careful planning and design because of the significant Port activity in the area.

With new bicycle and pedestrian access planned on the Bay Bridge, the Bay Area can finally achieve the vision of having both commuter and recreational non-motorized travel opportunities between the East Bay and San Francisco. Fehr & Peers fully expects that the Gateway Park will be the critical linkage to achieving the vision.

Destinations

Aside from Gateway Park itself, there are several other destinations in the Project Area that will attract visitors to the site. Each of these facilities has the potential to attract significant activity. Combined, these facilities will make the area a destination for employees, visitors, and recreation. **Figure 32** shows these destinations which are listed below:

- Gateway West is a planned development site adjacent to Gateway Park. This site could be developed as an office tower(s). Access to the site would be via Burma Road.
- Radio Beach is located on the north side of the Bay Bridge approach. It provides an excellent opportunity for a kayak launch connecting several launch sites in the Emeryville, Treasure Island, and the Jack London areas. Similarly, the south side of Gateway Park could be utilized as a kayak launch site. Both areas provide excellent viewing opportunities of the Bay Bridge, Treasure Island, and other bay features.
- The new East Span is going to be a world-class facility with access for bicycles, pedestrians, and dramatic views of the bay and its distinct waterfronts.
- Bay Bridge Toll Plaza facilities including employee parking and bus stops for 27 transbay bus routes.

Expected Bay Bridge Use

Other bridges in the Bay Area allow bicycle and pedestrian use, including Antioch, Carquinez, Dumbarton, and the Golden Gate Bridge. However, only the Golden Gate Bridge experiences recreational and tourism-related usage at relatively high levels. This is because the Golden Gate Bridge represents an architectural achievement, has prime views, and it connects two tourist destinations the Marin Headlands and Sausalito in Marin County and San Francisco.

With its connection to the Bay Bridge bicycle and pedestrian facility, prime views, and proximity to the East Bay, Treasure Island, and San Francisco, Gateway Park could experience similar (or greater) levels of tourism and recreational usage as the Golden Gate Bridge. We expect that many of these users will arrive via bicycle or automobile given the current bus transit system. Changes to the bus stops at the Toll Plaza and a bus route connecting to 20th Street Transit Center would be needed to obtain a mode shift from passenger vehicles. To obtain an order-of-magnitude estimate of demand and establish a baseline expectation, a comparison was made to the Golden Gate Bridge volumes. **Figure 33** summarizes the volumes on the Golden Gate Bridge and expectations for the Bay Bridge.

Heavy pedestrian and bicycle volumes occur on the Golden Gate Bridge on a typical day (data was collected on a weekday in May). The collected data identified over 200 bicycle riders and 200 pedestrians using the Golden Gate Bridge each hour over the surveyed day. With close proximity to Oakland, Emeryville, and Berkeley population and employment centers, the Bay Bridge will likely experience equal or greater volumes than the Golden Gate Bridge.

To highlight potential concerns with the expected volumes of use near Gateway Park, **Figure 34** illustrates a parking comparison between the areas adjacent to the Golden Gate Bridge and the Bay Bridge. There are about 200 surface parking spaces available for visitors accessing the Golden Gate Bridge. We expect this level of parking supply to be insufficient for Gateway Park because of the expected volume of Bay Bridge users including: recreational cyclists traveling to Treasure Island or San Francisco via ferry; pedestrians and cyclists taking advantage of the views offered from Gateway Park and the Bay Bridge; kayak users who may launch from a new site at Radio Beach; and people accessing the site from new development in the area.

A surface parking lot that is designed to maximize efficiency with minimal amenities, such as landscaping, can be estimated at approximately 300 square feet per parking stall. At that ratio, the surface parking demand around Gateway Park may take up more than three acres of land (i.e., 500 parking spaces) that could be better utilized as park space.

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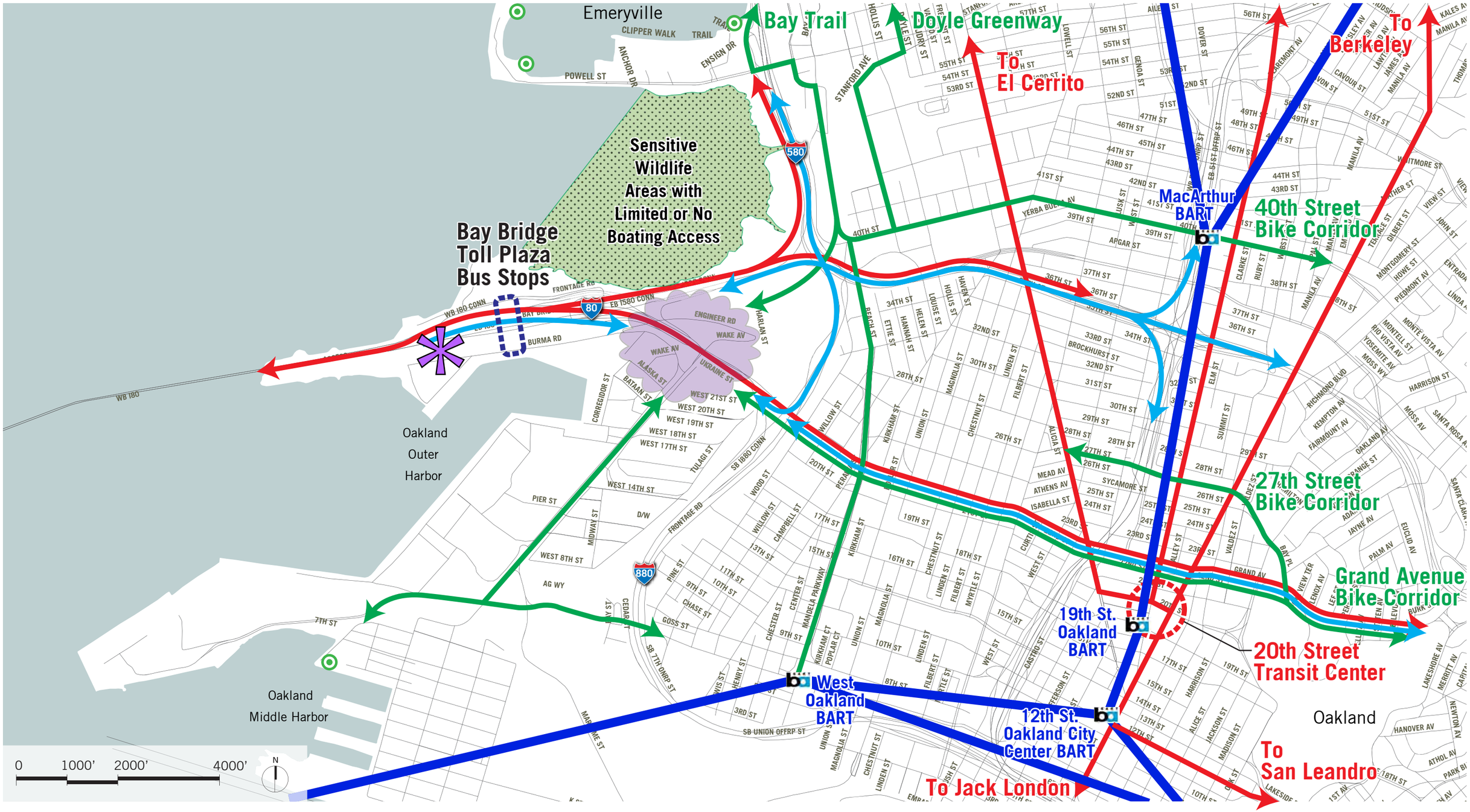
FIGURES



Sources: BART, AC Transit, Bay Access, Borchard & Associates/Dowling Associates, Inc.

Gateway Park Working Group

Figure 27.

Gateway Park Area Project Study Report

Transportation Context

03 March 2010

FOCUS OF CONGESTION

TRANSIT KEY ROUTES

BICYCLE KEY ROUTES

AUTO KEY ROUTES

BART

in association with

HDR/The Hoyt Company
Fehr & Peers
Economic & Planning Systems, Inc.
ESA

PERKINS + WILL

PWP

BkF

Source: Fehr & Peers

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Figure 28.

Gateway Park Area Project Study Report

Automobile Access

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FOCUS OF CONGESTION

LOCAL ACCESS PRIMARY

LOCAL ACCESS SECONDARY

REGIONAL ACCESS

in association with

HDR/The Hoyt Company
Fehr & Peers
Economic & Planning Systems, Inc.
ESA

PERKINS + WILL

PWP

BKF

Sources: Amtrak, HNTB, AC Transit

Gateway Park Area Project Study Report

Transportation Facilities

03 March 2010

TRUCK ROUTES
TRANSIT ROUTES
RAIL

Gateway Park Working Group

Figure 29.

in association with
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Economic & Planning Systems, Inc.
ESA

PERKINS + WILL
PWP
BkF

Source: City of Oakland Transportation Services Division, 2010

Gateway Park Working Group

Figure 30.

Gateway Park Area Project Study Report

Bikeways

03 March 2010

BIKE FACILITY

	EXISTING	PROPOSED
BIKE PATH (CLASS I)		
BIKE LANE (CLASS II)		
BIKE ROUTE (CLASS III)		
ARTERIAL BIKE ROUTE (CLASS IIIA)		
BIKE BOULEVARD (CLASS IIIB)		

in association with

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Fehr & Peers
Economic & Planning Systems, Inc.
ESA

PERKINS + WILL
PWP
BKF

Source: Bay Trail

Gateway Park Working Group

Figure 31.

Gateway Park Area Project Study Report

Bay Trail Facilities

03 March 2010

LEGEND

- PROJECT AREA
- EXISTING BAY TRAIL
- PLANNED ROUTE - NOT DEVELOPED

in association with

HDR/The Hoyt Company
Fehr & Peers
Economic & Planning Systems, Inc.
ESA

PERKINS + WILL
PWP
BkF

Radio Beach

Bay Bridge Toll Plaza Bus Stops

Bay Bridge Bicycle and Pedestrian Access

Gateway Park

Gateway West Development Site

0 400’ 800’ 1600’ N

Sources: Fehr & Peers and Oakland CEDA

Golden Gate Bridge

San Francisco Bay Bridge

Pedestrian and Bike Activity on Bay Bridge expected to be greater than on Golden Gate Bridge

	Golden Gate Bridge	San Francisco Bay Bridge	Expectation
Pedestrian	250/hr for 12 hr 540 Peak	?	Volumes on or near San Francisco Bay Bridge will likely be **equal to** or **greater than** Golden Gate Bridge due to: • Proximity to employment centers • Access to Treasure Island • Substantially higher vehicle volumes use San Francisco Bay Bridge • Local connection to Oakland • Population density of Oakland and Berkeley is very high • State-of-the-art bridge will attract users
Bicycle	220/hr for 12 hr 325 Peak	?	
Auto/Truck	~ 120,000 veh/day	~ 280,000 veh/day	
Parking	~ 200 spaces	?	
Bus	24 routes stop at Golden Gate Bridge Toll Plaza	27 Transbay routes	
Kayak	Launches at Kirby Cove & Horseshoe Cove in Sausalito, and Crissy Field in San Francisco	Launches in Emeryville, Middle Harbor Park in Oakland, and potential launch at Gateway Park	

ources: Bay Bridge Info
Golden Gate Bridge, Highway and Transportation District
Caltrans Traffic Data Branch

Source: Fehr and Peers

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Figure 34.

Gateway Park Area Project Study Report

Parking - Scale Comparison

03 March 2010

200 SPACE SURFACE LOT
(ESTIMATE ~300 SF/SPACE WITH NO LANDSCAPING)

500 SPACE SURFACE LOT

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Bay Kayak Access to Berkeley

Connection from Transbay Bus Stops to Gateway Park

Transit Linkage Between Staging Area, Gateway Park, and Bay Bridge

Provide Waterfront Access

Bay Kayak Access to Treasure Island

Connect Bike/Ped Facilities

Potential Grade Separated Bike/Ped Crossing, Connect to Downtown Oakland

Transit Stop

Transit Stop

Potential Staging Area for Parking Bicycle Rentals and Buses

Accommodate Bicycle/Pedestrian Demand with Wider Access Road

Bay Kayak Access to Jack London

0 400' 800' 1600' N

Source: Fehr and Peers

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Figure 35.

Gateway Park Area Project Study Report

Opportunities

03 March 2010

POTENTIAL NEW TRANSIT LINK VIA BUS, SHUTTLE, OR ALTERNATIVE MODE

BICYCLE/PEDESTRIAN CONNECTIONS

WATER CONNECTIONS

POTENTIAL STOPS/NODES

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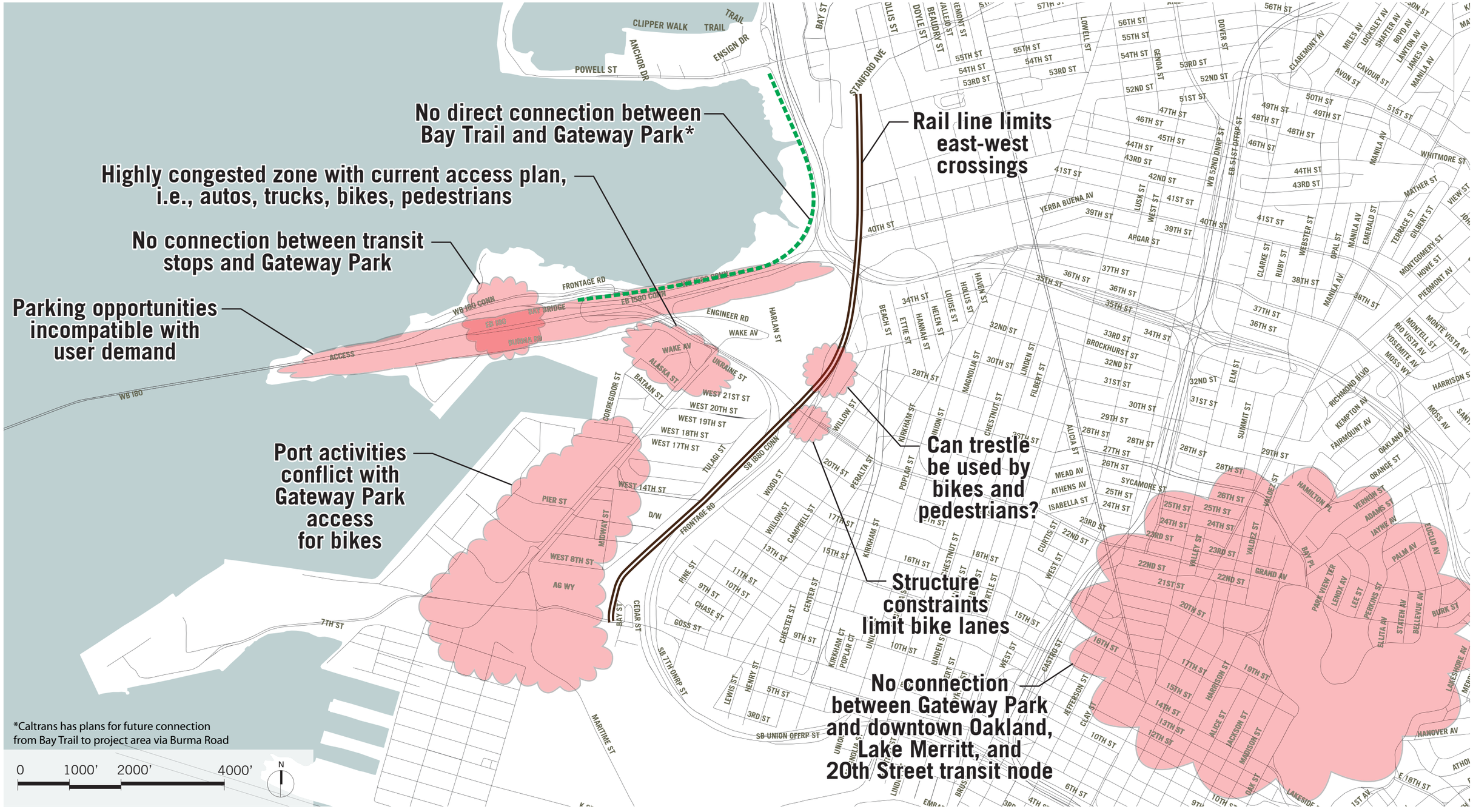

Source: Fehr and Peers

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Figure 36.

Gateway Park Area Project Study Report

Transportation Constraints

03 March 2010

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LANDSCAPE OBSERVATIONS

1. PURPOSE

The completion of a robust and thorough site analysis was the goal of this phase of work. The analysis builds on many studies that have been previously completed by various agencies and focuses on the evaluation of the site from the perspective of landscape.

2. KEY FINDINGS

Gateway Park will occupy a rare and important site within the Bay Area and serves as an entry (and exit) from the East Bay. It is a critical site for creating identity, orientation, and way finding throughout the East Bay. Regional in its importance, the site is also of unique value to the City of Oakland and the Port of Oakland for first impressions and civic pride. The park site under evaluation will include designated park lands as well as access connections to those lands.

This project would not have come about without the historically significant development of a new East Span. Conceived as a world class bridge for its architecture and engineering, this new structure is daring and dramatic in both its scale and design. Celebrating this remarkable achievement and providing an appropriate setting for its landing are two important and driving goals of the potential park design. It is anticipated that the bridge itself, particularly the opportunities to access the bridge by bicycle and by foot, will attract numerous park visitors.

The park site will be defined in part by its view of the bridge. An analysis of the viewing angles from the site, Emery Point, and Middle Harbor Shoreline Park demonstrates the more oblique tower centric views anticipated from the gateway park in contrast to the broadside views available to the north and south. Views from the bridge to the Park will also have a substantial influence on motorists, pedestrians and bicyclists' arrival at the Oakland shore. This arrival will be one's first experience of the East Bay and provides exciting opportunities to create an appropriate and memorable gateway.

Views to the Port of Oakland skyline will also define the park. Unique within the Bay Area, the relationship to a working port and its activities provides visual interest from within the park site. Broadside views of the cranes and the port activities provide a remarkable horizon for the park to be seen against.

The many layered history of the site's use for transportation in multiple forms is a wonderful tangible thread for developing a park design. Significant locations and structural remnants may provide opportunities for re-purposing and or cultural value.

With no improvement, the site already has a number of features that would draw people to experience it. The aforementioned views to the Port and new Bridge are complemented by the experience and views of the Bay and City of San Francisco skyline beyond. Proposed bike access, fishing access, and potentially kayak access at the site will bring activity. Existing structures such as the radio towers and historic buildings offer interpretive potential. Lastly the marsh at the Emeryville Crescent has made natural systems visually present. Seeing birds in particular is an amenity for many passing this area.

There are numerous existing buildings on the site that will need to be accommodated in the design of the park. Some are new structures that serve programmatic needs of the new bridge. Some are old structures of no known historic value. A few are historic structures that are significant. Opportunities to re-purpose these structures will require rehabilitation to insure safety and geotechnical stability.

Though sparse, there are some existing trees within the site area. Existing vegetation is primarily ruderal vegetation that has survived in the leftover spaces between paved uses. Small patches of new planting exist in relation to storm water treatment areas as well as visual screening. A single row of palm trees (date palm) is planned fo the median area north of the park. This planting will be accomplished as part of the new East Span (OTDII).

Wind on the site is strong and at times loud. Microclimatic experiences that mitigate its effect are important.

Noise on the site varies greatly depending on location. Immediately adjacent to the freeway noise is loudest with relative quiet underneath the freeway.

The nighttime experience of the site further underscores the significance of the Port as an element of the park setting. The Port lights create a remarkable ambiance for the site experience. In addition, the illuminated billboards that are growing in number provide a great deal of light spill on the site while still making the site more invisible when seen from the road. Lastly, the composition and design of the lighting for the bridge itself will provide additional lighting experience and opportunities to be considered within the park design.

The nearest residential community West Oakland has limited access to the Bay and waterfront park lands. The West Oakland neighborhood has a long history with many of the agencies of the Gateway Park Working Group. Of particular note are a very successful partnering with Caltrans on the development of Mandela Parkway and previously working with the Port of Oakland on the development of Middle Harbor Shoreline Park.

Access underneath the maze will be critical to the success of the park. Contrary to the impression of most 2D maps, the maze of freeways is not a barrier to access. Close analysis of the land underneath the maze revealed great quantities of land that could be considered for use in developing additional park or park access. A total of 112 acres, the equivalent of 85 football fields are available underneath the maze.

West Oakland and other more distant residential neighborhoods are prevented access to the water and the park primarily by the inability to cross fenced land and the railroad. There are numerous examples of railroad crossings in place within the vicinity of the park site including both tunnels and bridges. Infrastructural and manufacturing needs have demonstrated successful methods for crossing the railroad and may inspire solutions for park access.

The area of influence for the park includes numerous agencies and other land owners. Understanding these parcels and their complex functional needs—including access for many important non-park uses—is important to understanding the park site. Because the project is located at a highly visible and prominent site within the Bay Area it has a collective value in addition to the individual needs of any parcel owner.

A three dimensional digital model shows the parcel ownership by color—including the original designation of the park site. The most significant observation is that approaching from the new bridge by car, the park site is not visible. Secondarily, the frontage and maintenance yard site are significant parcels for the arrival experience. Lastly, in addition to the presence of different parcels, the relative duration of views to the different parcels is an important factor in the design.

3. METHODOLOGY AND ASSUMPTIONS

The landscape site analysis is driven by a combination of factual and perceptual observations.

The majority of past analysis of the site has emphasized a two dimensional representation. The maps and other graphics that represent land ownership, circulation, and other design challenges have considered these problems in two dimensions and missed the majority of the challenges which are three dimensional in both physical and perceptual terms. This analysis documents the site experience through photographs, digital models, mapping, and other graphics that begin to link the 2D and the 3D experience.

4. WHAT IS THE ROLE OF A PARK?

Throughout the analysis the inquiry has been made specific and particular by focusing the work on the potential for making a park. The work was structured around the central question: What is the role of the park? In parallel with the effort to complete the site analysis, the team developed a series of precedents and characteristics of parks that inform the analysis. While there is no example of a singular precedent that could be an appropriate historic model for this park, many of the following parks are excellent examples for elements that might be included in the park design.

Criteria #1: PUBLIC HEALTH

New and renewed interest in public health, particularly as it relates to connectivity in pedestrian trail and open space systems, is a singularly important goal for the park site as well as its integration with the surrounding communities. Opportunities for funding may be tied to the successful demonstration of public health benefit in the design. The Mission of the East Bay Regional Parks:

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

Implies further that public health has a relationship to both recreation and an environmental ethic. The team anticipates the goal of public health to become well integrated with many other goals of the project.

Criteria #2: RECREATION

The most easily understood park criteria, recreation, will be central to the programming of the park site and may also suggest opportunities for linear connections to the recreation available in parks to both the north and south of the site.

Examples of this park type will be drawn primarily from the East Shore State Park and other East Bay Regional Parks.

Criteria #3: IDENTITY (OLD AND NEW)

A park program and landscape can be a very powerful element for the transformation of land use and or the perception of land use in an urban environment. Many examples of parks created on formerly industrial land are found world wide. The identity of regions, cities, and neighborhoods can be strengthened by the integration of past structures and systems with new programs such as parks. Opportunities to create places of significant historic and contemporary identity are sometimes fused with innovative park programming and design in these environments. In many cases, extreme conditions and difficult problems have led to remarkable landscapes.

Examples of this type of park include: Spreebogen in Berlin, Malmoe in Sweden, Battery Park City in New York, and Gasworks Park in Seattle.

Criteria #4: COMMUNITY BUILDING

Parks can be anchors for community activity or feeling. This is sometimes achieved through community participation, such as community gardening, but can also be significant through less direct means such as increasing civic pride. Many examples of parks circumscribed by large residential populations serve these goals. This project site's complex site with both residential and industrial neighbors it well as its significant geography within the greater Bay Area suggest a broader definition of community in addition to its immediate neighbors.

Examples of this type of park include the Highline in New York and Socrates Sculpture Park also in New York.

Criteria #5: ASSET FOR DEVELOPMENT

The setting for business environments is an important part of contemporary business culture. Park settings are a strategic advantage in attracting employees as well as building brand identity. Parks embody and visually present sustainable or green culture to the public. Parks provide a campus like environment for the informal exchange of ideas as well as the well being of the employees.

Some examples of recent PWP corporate clients who desired park settings for both corporate headquarters and manufacturing areas include Novartis Pharmaceuticals at the Novartis Campus in Basel and the Highbrook Business Park in Auckland.

A local example would be the Presidio in San Francisco.

Criteria #6: BRIDGE ANCHOR

Crossing over a large body of water on a bridge can be a profound experience and at best embodies a seamless relationship of remarkable engineering with an experience of the natural world. Leaving and returning to land is a threshold of great significance that is often anchored by a park or park like environment. Wonderful examples in the Bay area of Yerba Buena Island and the Presidio demonstrate the potential for large areas of planting to anchor a bridge. Monumental architecture, such as the Sydney Opera House also achieves this goal.

Criteria #7: REGENERATION

Parks can also serve as mechanisms for the restoration or regeneration of land that has been degraded by intense industrial use. The re-engineering of environments to promote repair and restoration of healthy natural systems on site or elsewhere can serve as inspiration for a unique park landscape as well as opportunity for historic and cultural interpretation.

Examples of this type of park include Lanschaftspark in Duisberg Nord as well as Sydney Millenium Park in Australia.

Criteria #8: STORMWATER MANAGEMENT AND GREEN INFRASTRUCTURE

Park landscapes can be inspired by and or allow for green infrastructure opportunities. Many examples of the integration of storm water management with park design are found all over the world. Newer technologies such as wave power, wind power, and solar power also have potential for integration within a park vocabulary. Compliance with C3 regulations will require the management of storm water on site and could be expanded to include watersheds adjacent and above the site area.

Examples of this type of park include Potsdamer Platz in Berlin, Living Water Park in Chengdu China, and Tanner Springs Park in Portland.

Criteria #9: CONNECTIONS

Parks and greenways serve as both connective tissue and open space within many urban environments. The landscape identity of these environments together with their linear form, provide way finding as well as park experiences. Getting to a larger park may be a linear park experience or the park itself may be a linear experience. This park form as been particularly effective for the integration of pedestrian and bicycling environments with freeways and other car focused circulation systems. Examples of this type of park include Buffalo Bayou in Houston, the Emeryville Greenway in Emeryville, the Pearl District Masterplan in Portland, and the Emerald Necklace in Boston.

Criteria #10: ACCESS TO WATER

Park environments often provide access to water. Innovative ways to physically access and experience water in urban environments as well as to address issues of sea level rise are driving considerations in the design of this park.

5. DISCUSSION OF FINDINGS: WHAT HAVE WE LEARNED?

This park will be like none other in the world. This conclusion is not only because the design should strive for world class significance, but also because the site is both unusual and challenging.

Park lands are currently designated for the westernmost edge of land at the site and potentially wrap the edge of the western redevelopment parcel. This could potentially be put together with existing restoration areas to the north of Highway 80 to make a water's edge park experience with both passive and active recreation. However, the park would remain very difficult to find and to access without extending the access to the east. There may be additional park lands along the southern frontage to 80 as well as the development of bike and pedestrian trail corridors through the port and the maze. Landscape in some form will be designed, implemented, and maintained for the bridge landing, the park site, the frontage, the streets, and potentially for storm water management under the maze. At its largest, the park might inform and embody all of these landscapes. The resulting park site would wrap both the water's edge site as well as the frontage of both vehicular and pedestrian circulation systems in three dimensions. In light of all of the above, this park may be defined by its reach more than its acreage.

The form of the park suggests a layering or weaving of ribbons. It is composed of many edges that are linked together. It both structures and surrounds other programs. It may have opportunities to connect as well as divide or buffer.

The size of the park is quite large and has a variety of opportunities within its overall fabric. Local sites compared to in square footage to the site include Crissy Field, Berkeley Marina Linear Park, the Panhandle, and Splash Pad Park. While none of these sites is an appropriate match in program, aspect, or character, they are helpful in understanding the potential scale of the site.

The park site is very significant as an experience of linear duration, in other words a procession. Vehicular experiences of the site are at a larger scale and are greatly varied going north or south. The physical address for the site is shared with the redevelopment areas, Caltrans, and the Port. While this poses a number of circulation and congestion challenges, it also links these entities identity with one another and the park. Pedestrian and bicycle experiences will also be informed by procession. Duration for these experiences will be much longer and physically more remote. Linking and resolving existing trails and proposed trails that provide access to the site will require three dimensional solutions. Making links back to existing neighborhoods is of great importance to both safety and perception. Making whole the trails that run north south will also give greater strength to the Bay Trail as well as other circulation systems.

Water is a unifying element of the site. The bay itself is an important element to be considered in the design. The history of the site and the character of existing landfill will inform construction methods as well as costs of construction. Sea level rise, storm water treatment, and EBMUD also offer opportunities for the park form and program in relation to water. Water will provide a host of recreational opportunities. Water, in all its forms, is a precious resource in California.

The potential for the site to serve as a mechanism for regeneration may relate to the use of water---providing green infrastructure for on-site or off-site needs and or restoring the health of natural systems. Further, there is great potential for the site to be a visible leader in green technologies. Establishing a sustainability framework for the site as well as measure that will be appropriate to chart its success will be an important part of the design process. It is recommend that a multi-valent approach that utilizes LEED, the Sustainable Sites Initiative, and Bay Friendly landscaping would all be elements of such a framework.

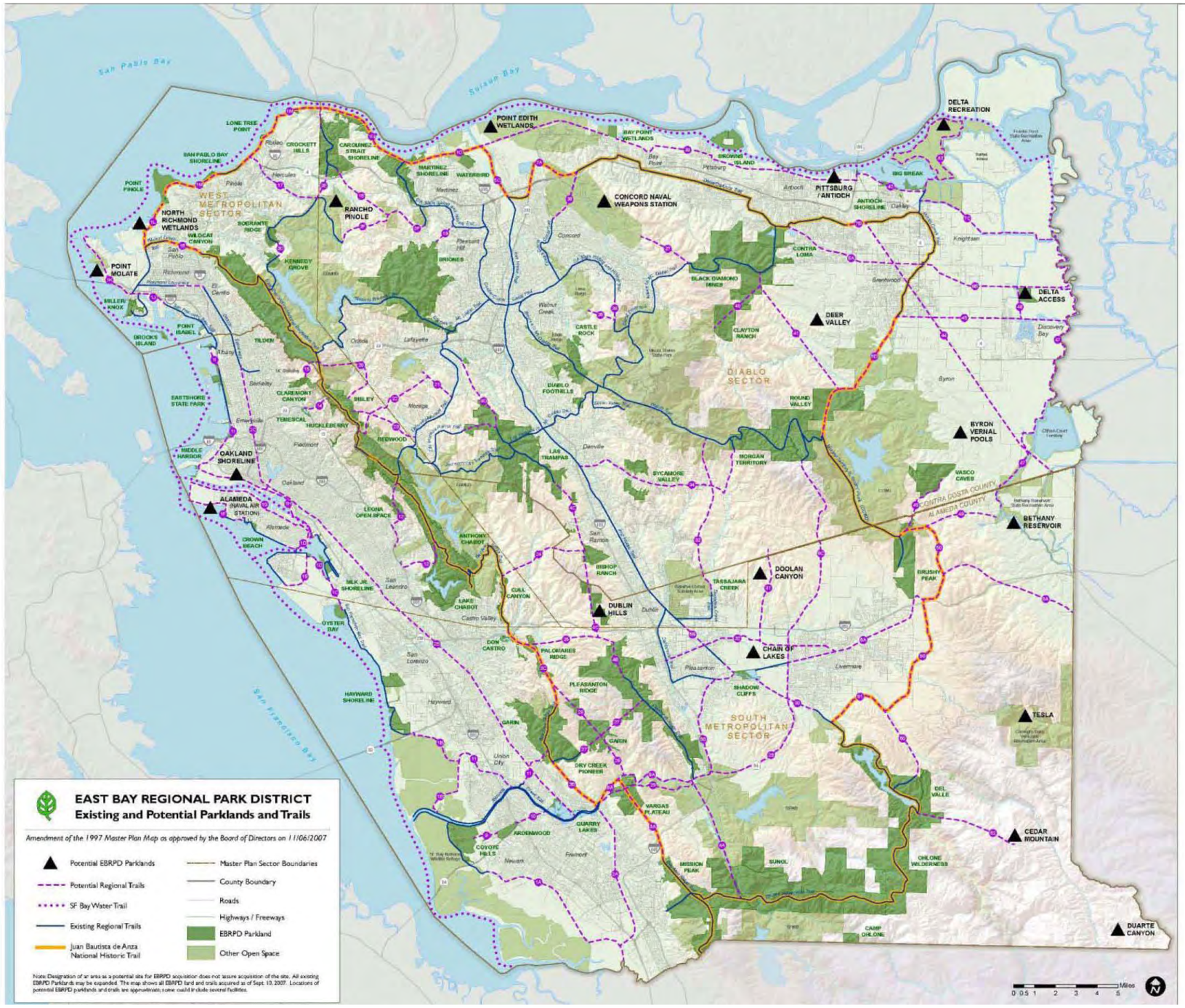
While the increased health of natural system may be achieved with a variety of techniques, it is also seen that the use of large scale vegetation may be a very powerful design element for the park. It is important to note that this "Greening" would not preclude or even be separate from the more industrial elements of the site.

Above all, the park should provide a true transformation of the existing conditions. Returning to the three dimensional digital model, a very conceptual and incomplete gesture has been added in the form of vertical pink poles. It is clear that a remarkable transformation is possible.

6. REFERENCES

The majority of the information in the landscape site analysis was derived from site visits and observations. Additional information was provided by the Visioning documents, the East Bay Regional Parks Masterplan, and the Baybridge.org website.

FIGURES



Potential Regional Trails (or parts completed)

1. **San Francisco Bay Trail ****
   - Santa Clara County to Coyote Hills
   - Coyote Hills to Hayward Shoreline
   - Oyster Bay to Martin Luther King Jr.
   - Martin Luther King Jr. to Crown Beach
   - Bay Farm Loop
   - Crown Beach to Alameda
   - Oakland Estuary
   - Martin Luther King Jr. to Eastshore State Park
   - Eastshore State Park
   - Pt. Isabel to Miller/Knox
   - Miller/Knox to Wildcat Creek
   - Wildcat to Pt. Pinole
   - Pt. Pinole to Carquinez Strait
   - Carquinez Strait to Martinez Shoreline
   - Martinez Shoreline to Pt. Edith
2. **East Bay Greenway**
   - Santa Clara County to Fremont
   - Union City to Oakland
   - Ohlone Greenway
3. **Bay Area Ridge Trail ****
   - Mission Peak to Vargas Plateau
   - Vargas Plateau to Garin/Dry Creek Pioneer
   - Garin/Dry Creek Pioneer to Chabot
   - Kennedy Grove to Sobrante Ridge
   - Sobrante Ridge to Carquinez Strait
   - Feeder Trail #1
4. **Calaveras Ridge Trail ****
   - Sunol to Pleasanton Ridge
   - Pleasanton Ridge
   - Pleasanton Ridge to Las Trampas
   - Las Trampas to Briones
5. **Iron Horse Trail ****
   - San Joaquin County to Shadow Cliffs
   - Shadow Cliffs to Alameda County
   - Walnut Creek Channel Extension
6. **Mokelumne Coast to Crest Trail****
   - Contra Loma to Marsh Creek Trail
   - Marsh Creek Trail to Delta
7. **Delta/DeAnza Trail ****
   - Walnut Creek Channel to Bay Point
   - Antioch to Oakley
   - Marsh Creek Trail to Rock Slough
8. **San Francisco Bay to San Joaquin River Trail ****
   - Niles Canyon
   - Niles Canyon to Shadow Cliffs
   - Shadow Cliffs to Morgan Territory
   - Round Valley to Big Break

Other Regional Trails

- Coyote Hills to Ardenwood
- Ardenwood to Quarry Lakes
- Old Alameda Creek
- Dumbarton Heights to Chabot
- Knowland Park to Redwood
- Temescal to Sibley
- Claremont Canyon to Tilden
- Wildcat Creek**
- Hercules to Briones
- Carquinez Strait to Briones
- Briones to California State Riding & Hiking
- Orinda Loop (Sibley, Orinda, Tilden)
- Lafayette/Moraga to Lafayette Reservoir
- Lamorinda to Redwood
- Indian Ridge to Moraga
- Cull Canyon to Bishop Ranch
- Dan Castro to Pleasanton Ridge
- Dan Castro to Vargas Plateau
- Garin to Pleasanton Ridge
- Vargas to Sunol Ridgeline
- Pleasanton Ridge to Shadow Cliffs
- Shadow Cliffs to Dell Valle**
- Doolan Canyon to I-580
- Arroyo Mocho Trail
- Tassajara Creek
- Iron Horse to Mt. Diablo
- Lime Ridge to Mt. Diablo
- California State Riding and Hiking**
- CH-WS to Black Diamond Mines
- Contra Costa Canal Trail to Delta/DeAnza
- Great California Delta Trail
- Black Diamond Mines to Mt. Diablo
- Black Diamond Mines to Round Valley
- Big Break Shoreline
- Delta Island Shoreline Trail
- Southern Pacific Railroad
- Marsh Creek Trail to Discovery Bay
- Mokelumne to Discovery Bay
- Delta Trail Extension
- Vasco Caves to Brushy Peak
- Brushy Peak to Bethany Reservoir
- Brushy Peak to Del Valle
- Del Valle to Dan Extension
- Del Valle to Cedar Mountain

Notes:
* Partially completed by Iron Horse Trail. ** Partially completed trails

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












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Figure 38.

Gateway Park Area Project Study Report

Role of a Park: Recreation

03 March 2010

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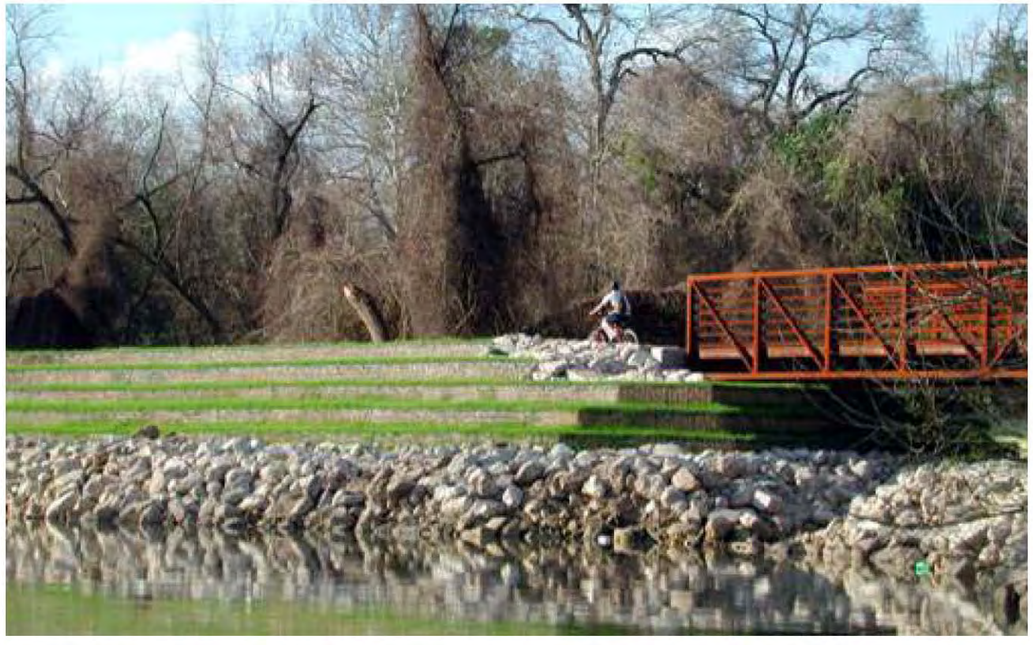

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Figure 39.

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Role of a Park: Identity (Old and New)

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Figure 40.

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Role of a Park: Community Building

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Figure 41.

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Role of a Park: Assets for Development

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Figure 42.

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Role of a Park: Bridge Anchor

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Landschaftspark Duisberg Nord

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Figure 43.

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Role of a Park: Regeneration

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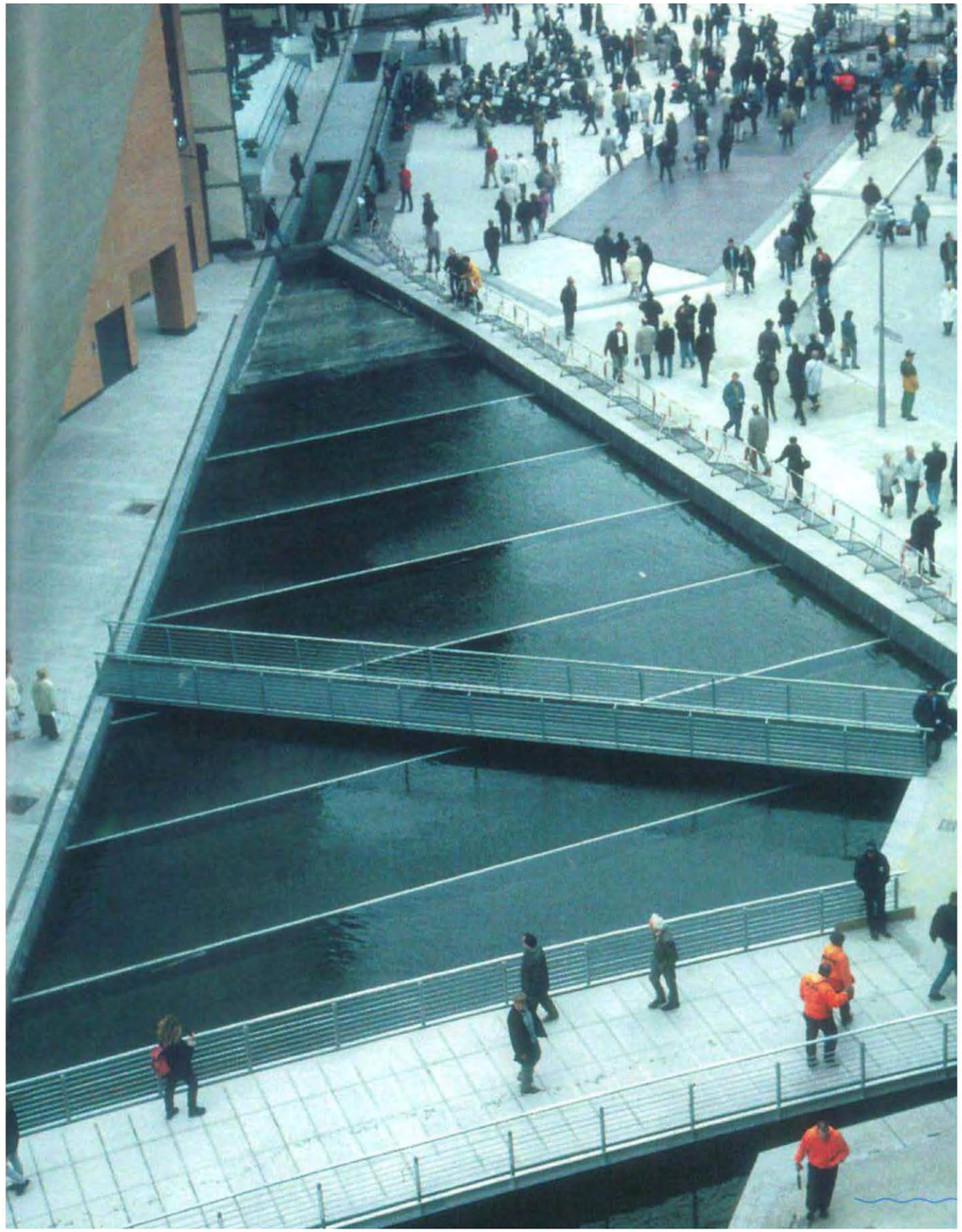

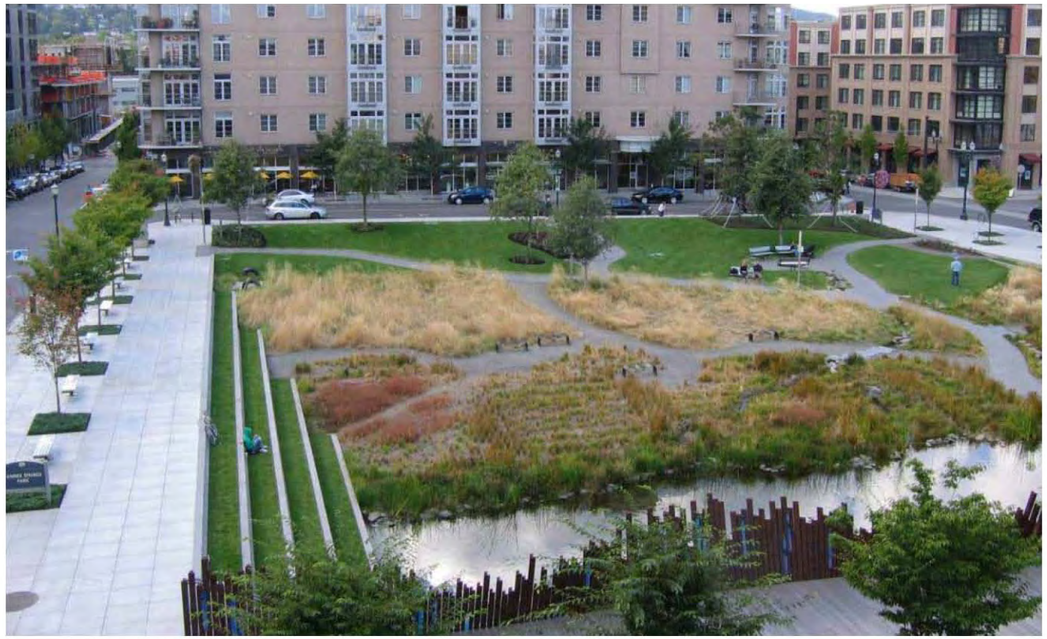

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Figure 44.

Gateway Park Area Project Study Report

Role of a Park: Stormwater Management

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Before

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ARBORWAY
EMERALD NECKLACE
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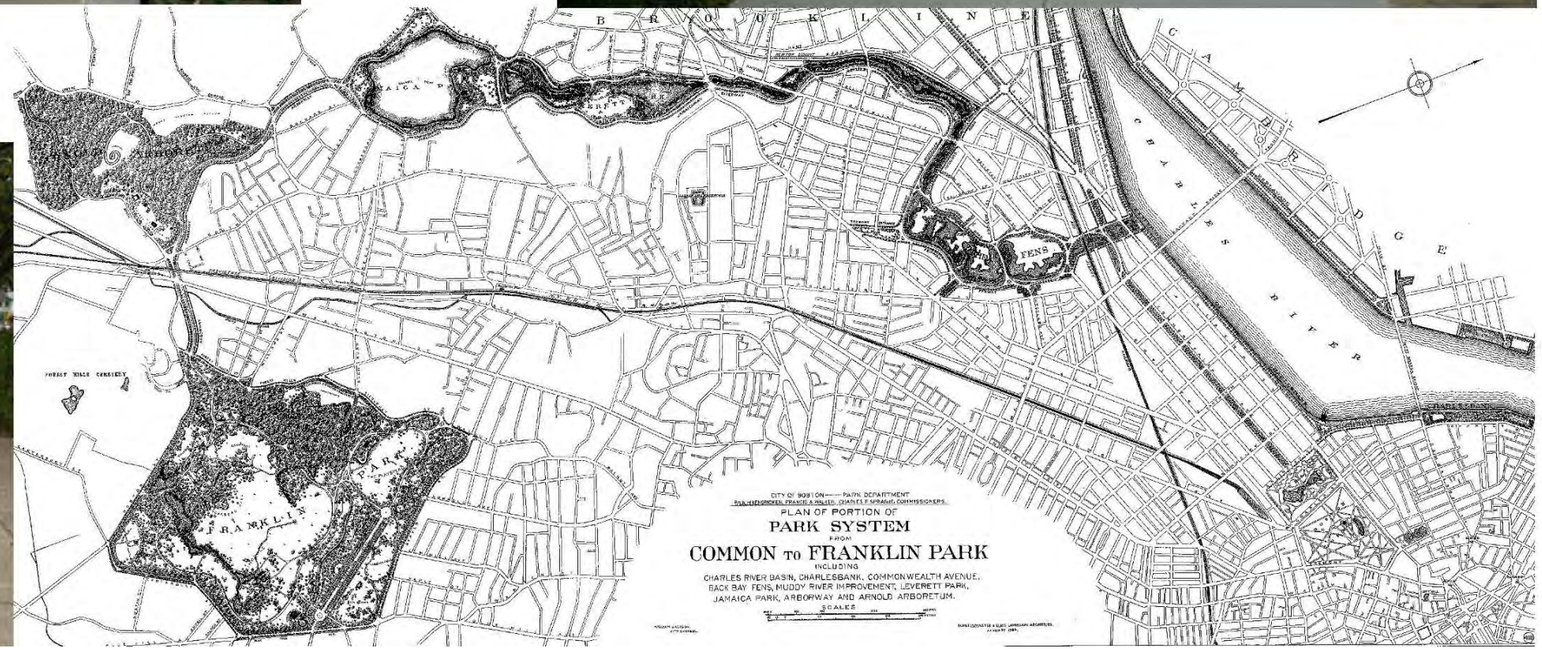
B R O O K L I N E
CHARLES RIVER
FENS
FRANKLIN PARK
CITY OF BOSTON — PARK DEPARTMENT
PLAN OF PORTION OF
PARK SYSTEM
FROM
COMMON TO FRANKLIN PARK
INCLUDING
CHARLES RIVER BASIN, CHARLESBANK, COMMONWEALTH AVENUE,
BACK BAY FENS, MUDDY RIVER IMPROVEMENT, LEVERETT PARK,
JAMAICA PARK, ARBORWAY AND ARNOLD ARBORETUM.
SCALE2

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Figure 46.

Gateway Park Area Project Study Report

Role of a Park: Access to Water

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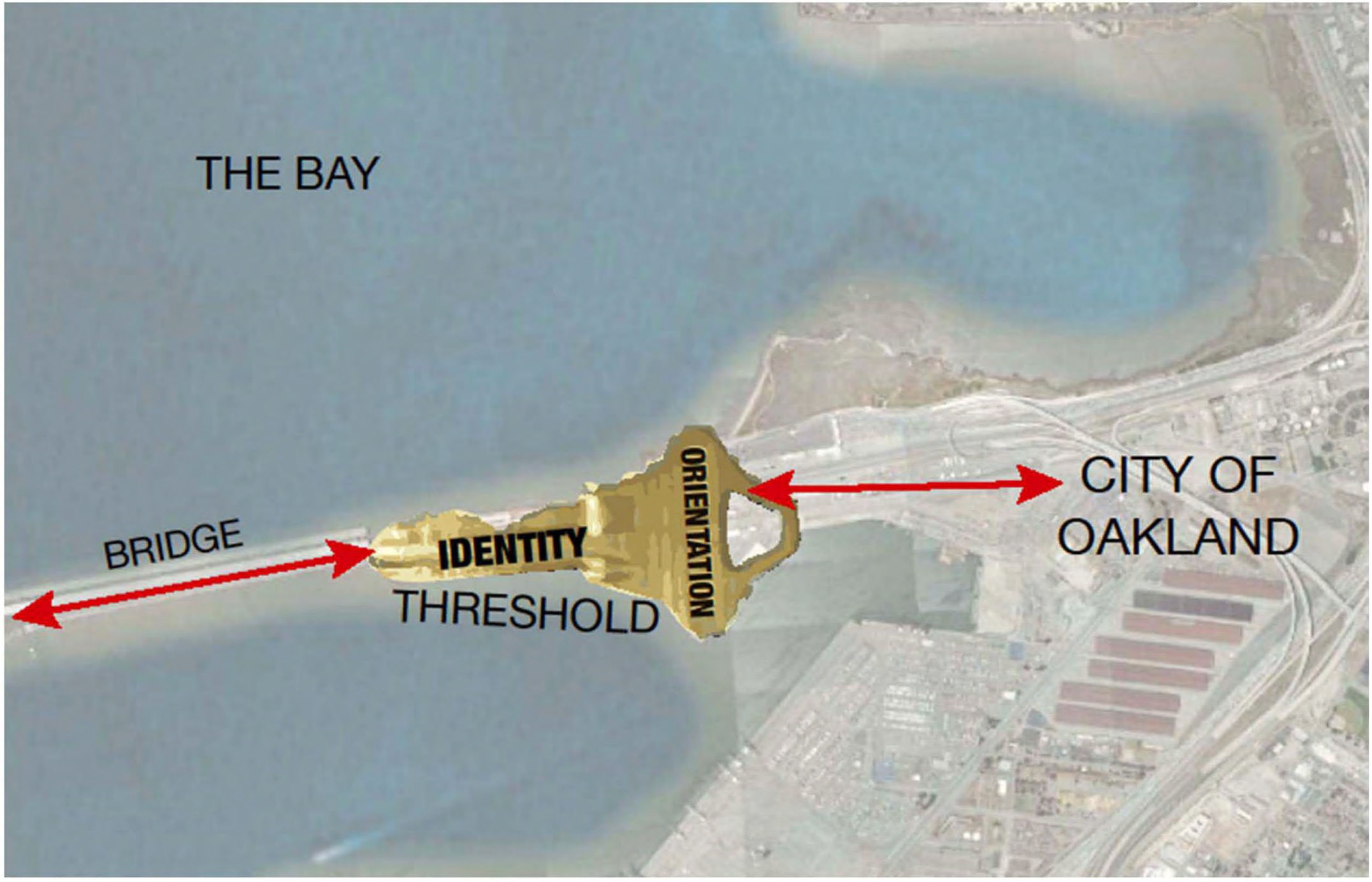

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Figure 47.

Gateway Park Area Project Study Report

Gateway to Oakland

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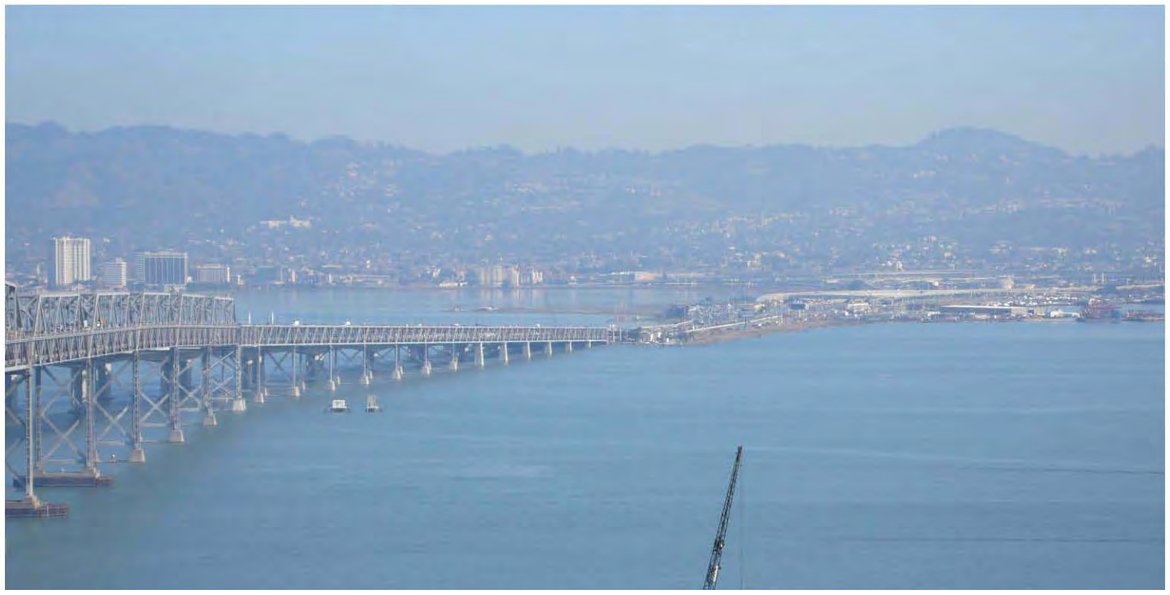

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Figure 48.

Gateway Park Area Project Study Report

The Bridge

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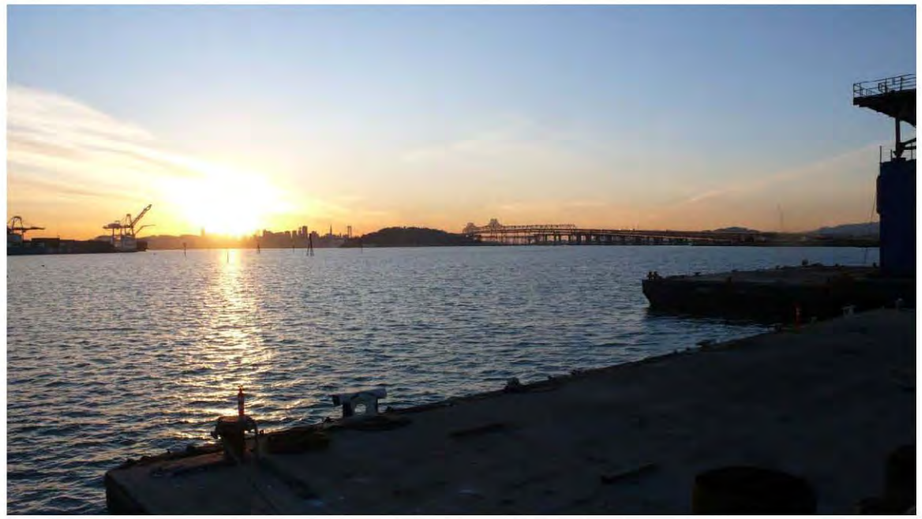

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Figure 49.

Gateway Park Area Project Study Report

Seeing the Bridge

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Figure 50.

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Port of Oakland

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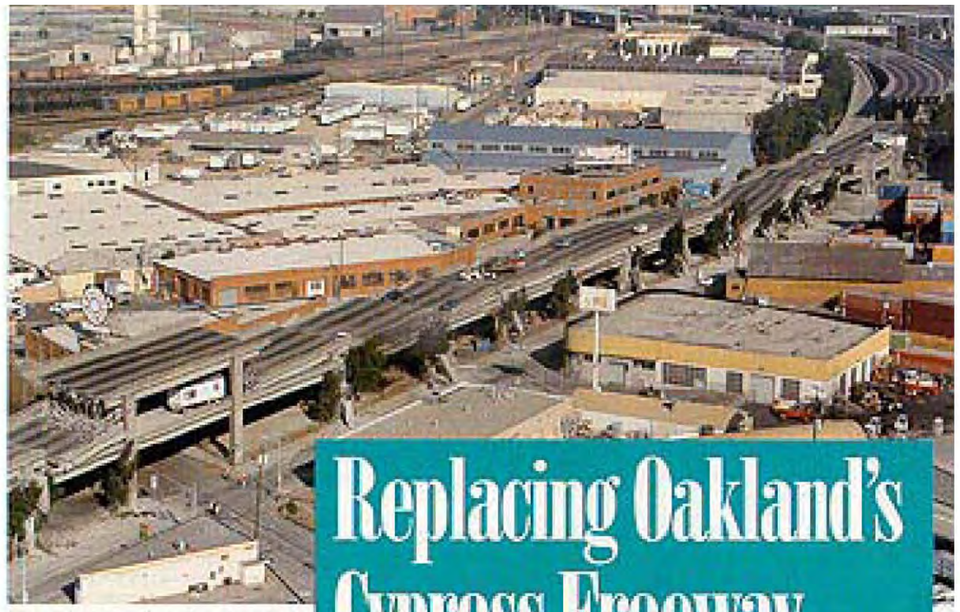
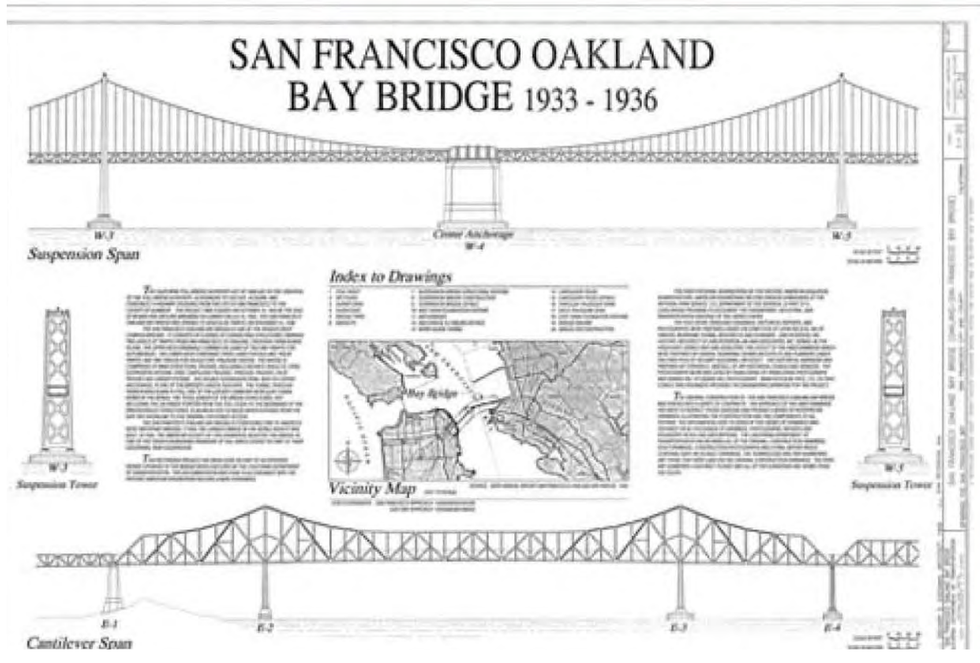
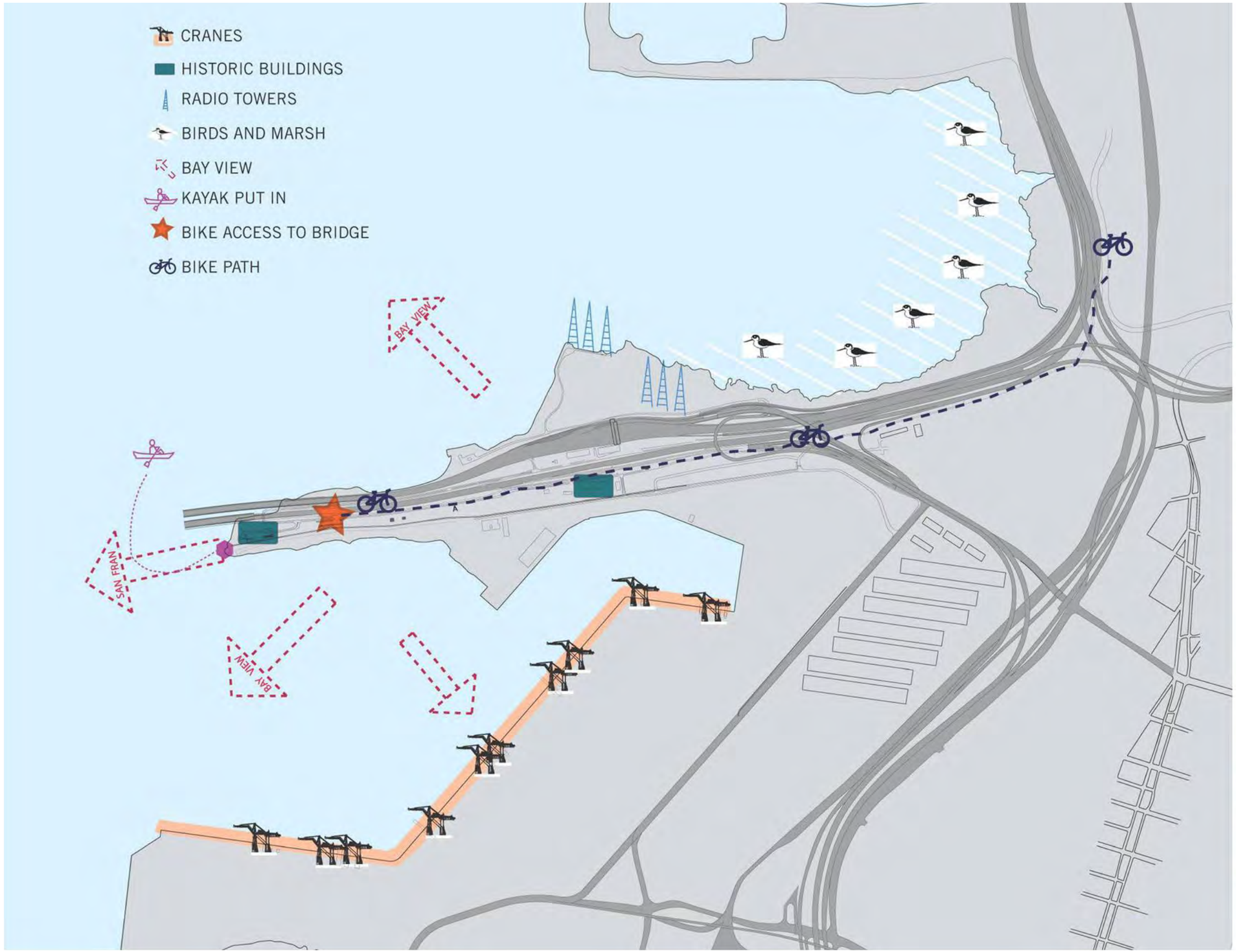


During the Loma Prieta Earthquake on Oct. 17, 1989, almost a mile of the double-decked Cypress Freeway collapsed.

Replacing Oakland's Cypress Freeway

by Brett Jackson





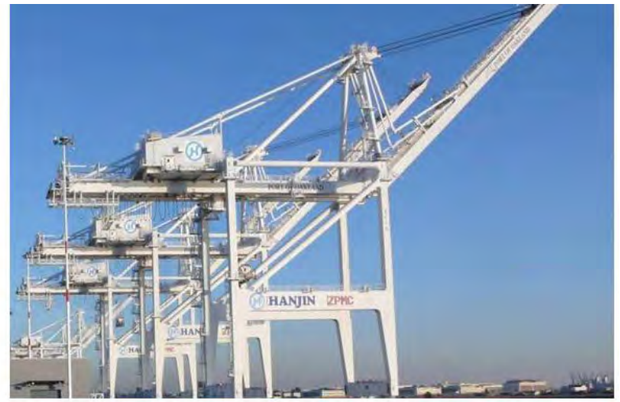


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Figure 52.

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Features

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Existing Buildings

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Figure 54.

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Existing Vegetation and Wind

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Light

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Under Freeway and Vacant Lands

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Figure 57.

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Under Freeway and Vacant Lands

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112 ACRES
or
85 FOOTBALL FIELDS

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Under Freeway and Vacant Lands

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West Oakland

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Edge

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Figure 61.

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Connections: Over and Under

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Figure 62.

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Connections: Over and Under

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Access

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Reach

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Reach

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Figure 66.

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Scale Comparison

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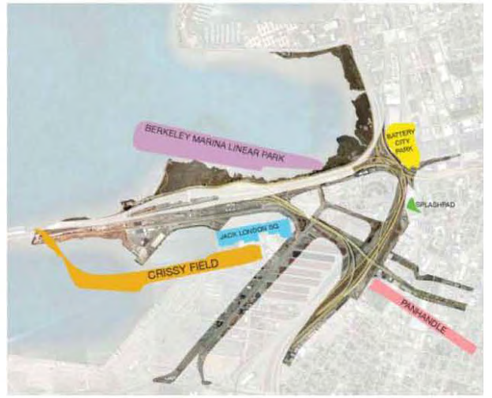

CRISSY FIELD
100 ACRES
1"=500'-0"

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Figure 67.

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Scale Comparison: Crissy Field

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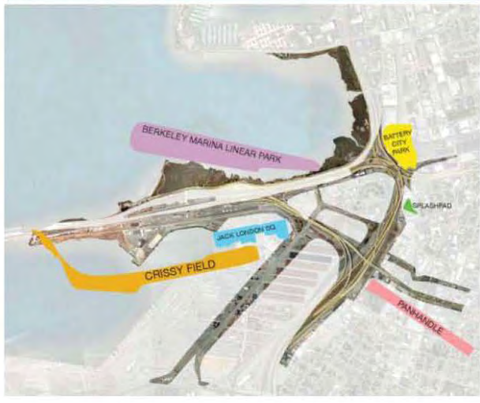

BERKELEY MARINA LINEAR PARK
99.9 ACRES
1"=500'-0"

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Figure 68.

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Scale Comparison: Berkeley Marina Linear Park

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BATTERY PARK
22.1 ACRES
1"=500'-0"

JACK LONDON SQUARE
23.5 ACRES
1"=500'-0"

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Figure 69.

Gateway Park Area Project Study Report

Scale Comparison: Battery Park and Jack London Square

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SPLASHPAD PARK
1.3 ACRES
1"=500'-0"

GOLDEN GATE PARK PANHANDLE
23.4 ACRES
1"=500'-0"

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Figure 70.

Gateway Park Area Project Study Report

Scale Comparison: Splashpad Park and Golden Gate Park

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Procession - Infrastructure

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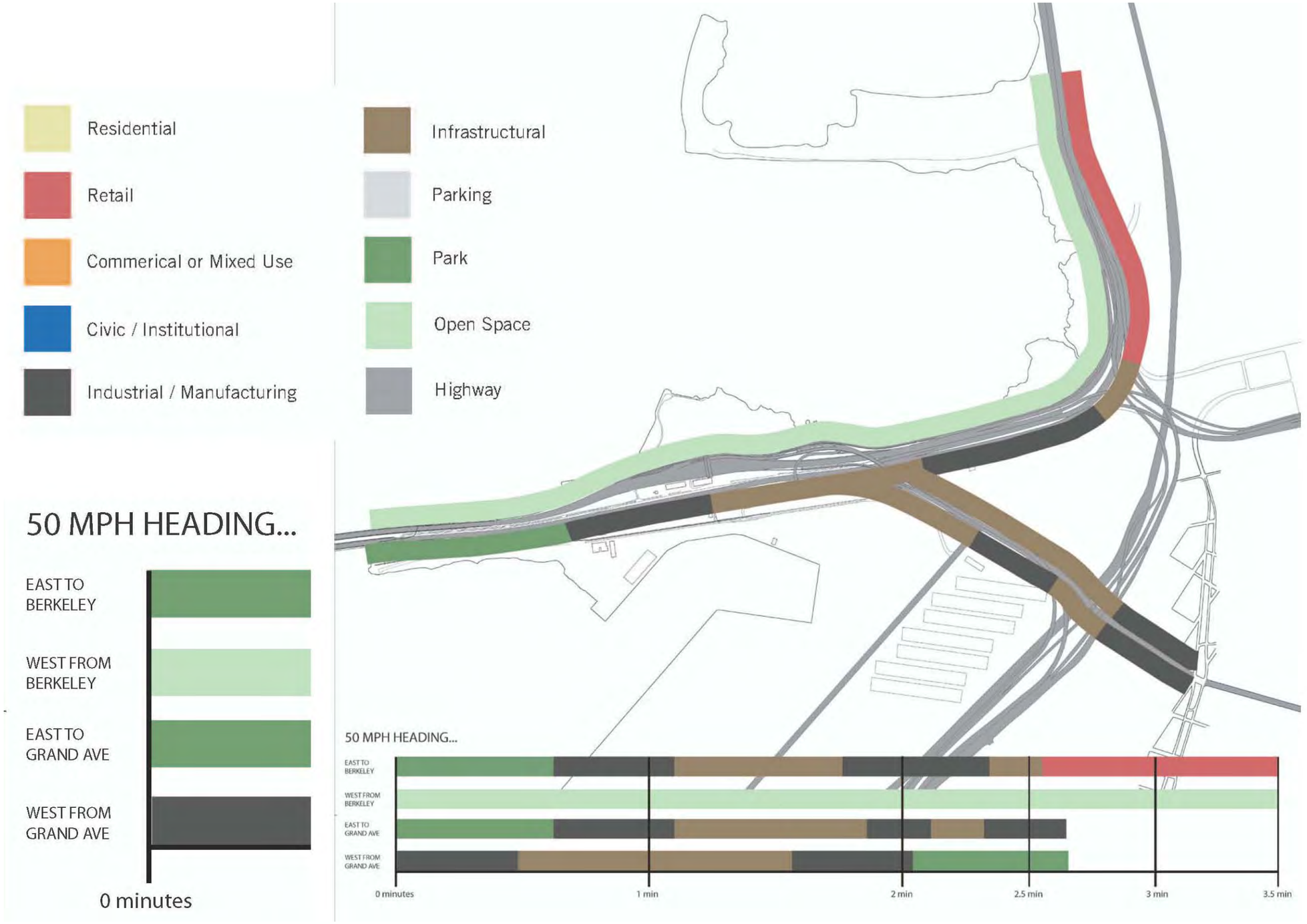

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Figure 72.

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Procession - Vehicular Experience

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Procession - Limited Vehicular Access

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Residential

Retail

Commerical or Mixed Use

Civic / Institutional

Industrial / Manufacturing

Infrastructural

Parking

Park

Open Space

Highway

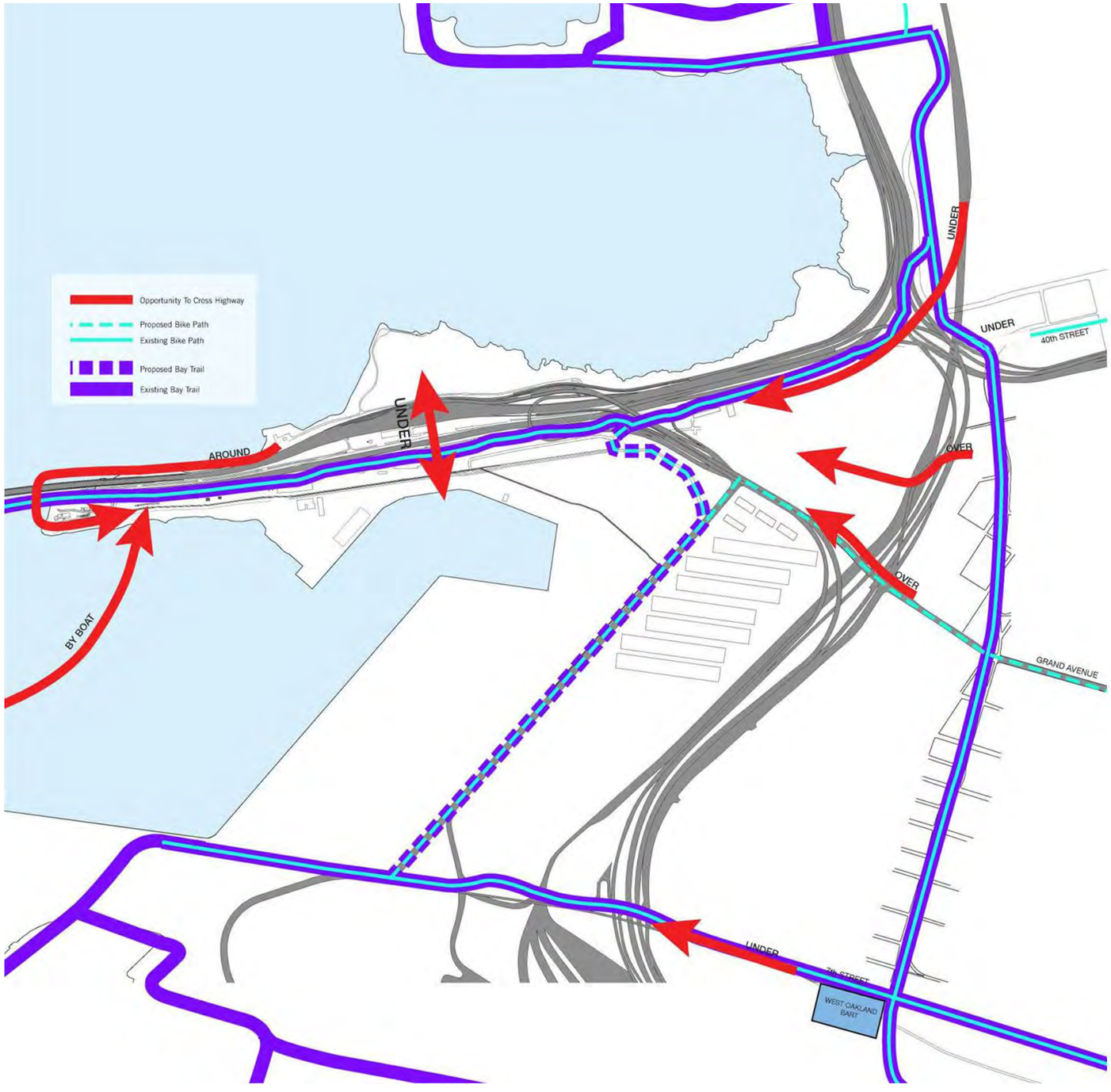

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Figure 75.

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Procession - Existing and Proposed Trails

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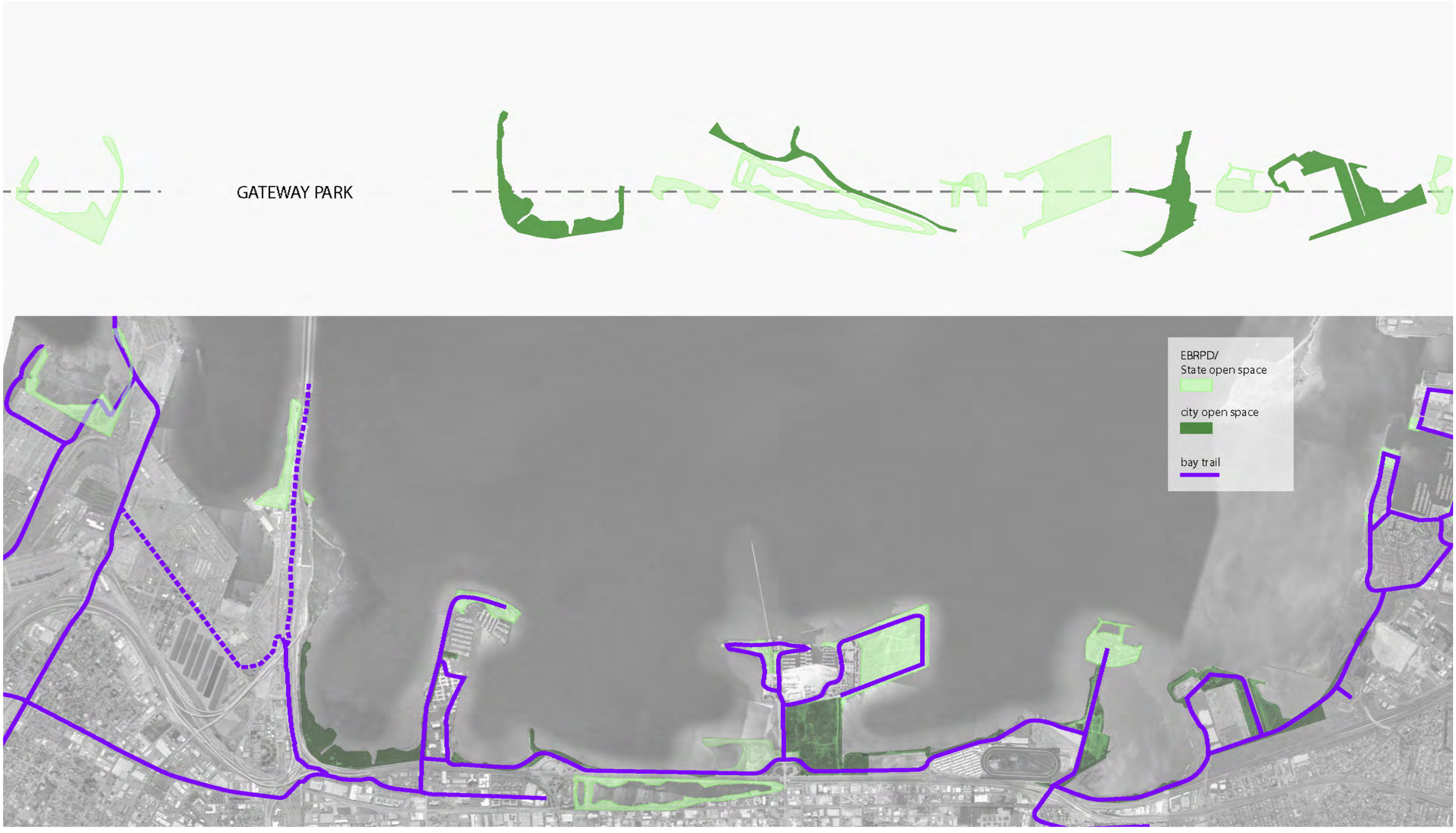

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Figure 76.

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Procession

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Water

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Water - Historic Water Level

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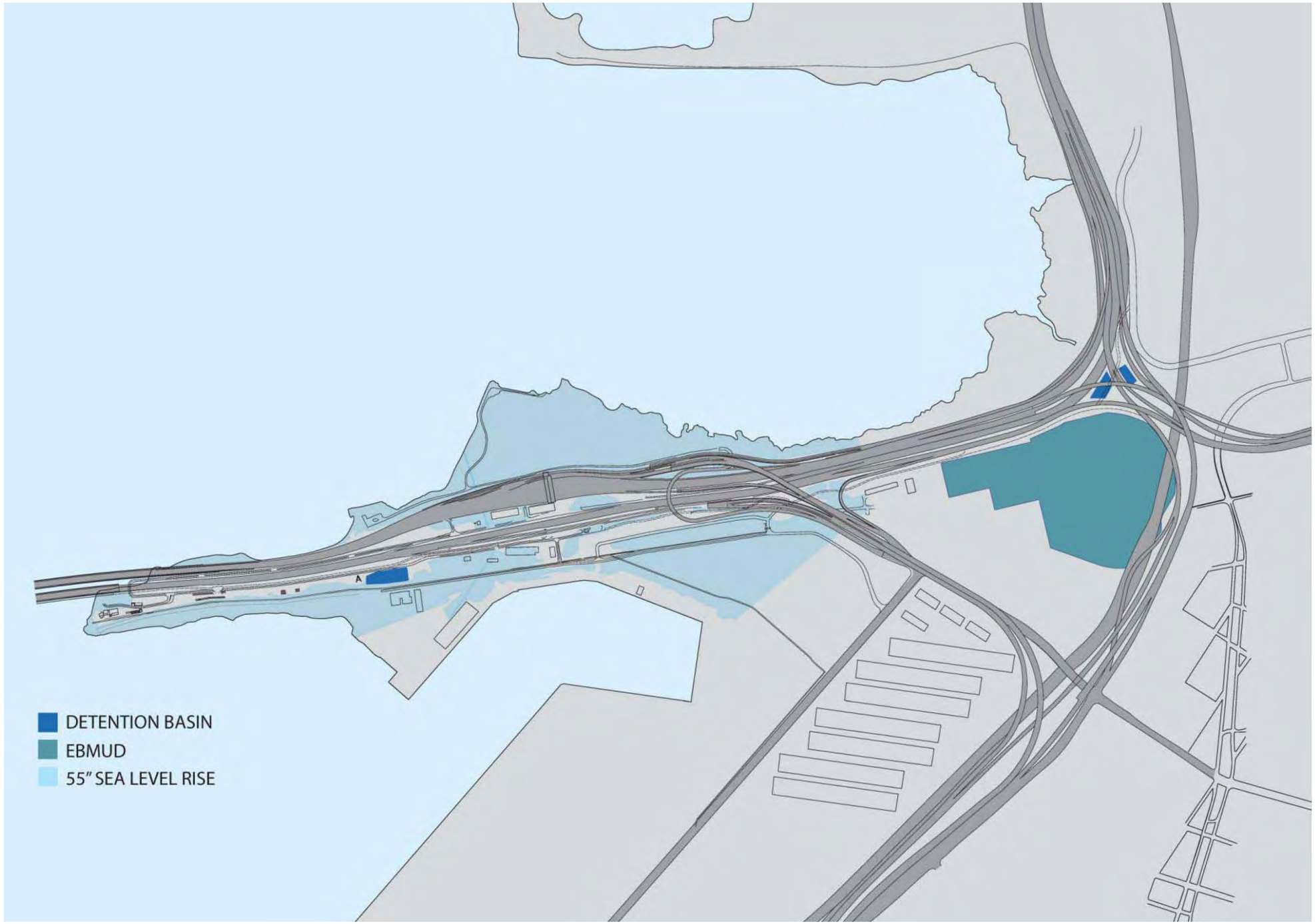

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Figure 79.

Gateway Park Area Project Study Report

Water - Sea Level Rise

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VOL. 94 NO. 8 NOVEMBER 2009

THE GULL

THE NEWSLETTER OF THE GOLDEN GATE AUDUBON SOCIETY

FOUNDED 1917

Sanderlings, one of many species that rely on the Emeryville Crescent during winter and migration.

City Council Votes to Protect Emeryville Crescent

On October 6, the Emeryville City Council voted 4-1 to remove provisions in the proposed Emeryville General Plan that called for the construction of a portion of the San Francisco Bay Trail along the Emeryville Crescent. Golden Gate Audubon and other organizations and agencies became concerned about the plan in August after learning that it included plans for a Bay Trail spur but lacked an adequate assessment of potential environmental impacts from the plan.

After reviewing the draft General Plan and the associated Environmental Impact Report (EIR), we submitted comments and public testimony urging that the Bay Trail provisions be removed from the General Plan. Other organizations and agencies, such as the Sierra Club, Citizens for East Shore Parks, East Bay Regional Park District (EBRPD), and California Department of State Parks also submitted comments opposing the Bay Trail spur along the crescent.

Concern for the project was so great because the Emeryville Crescent has long been recognized as an important area for wildlife. The crescent provides critical habitat for Bay Area birds, particularly shorebirds and waterfowl, throughout the year. It has also been recognized as potential habitat for the endangered California Clapper Rail and the Salt Marsh Harvest Mouse. In the Eastshore State Park General Plan,

EMERYVILLE CRESCENT continued on page 10

Sign Up for the Christmas Count

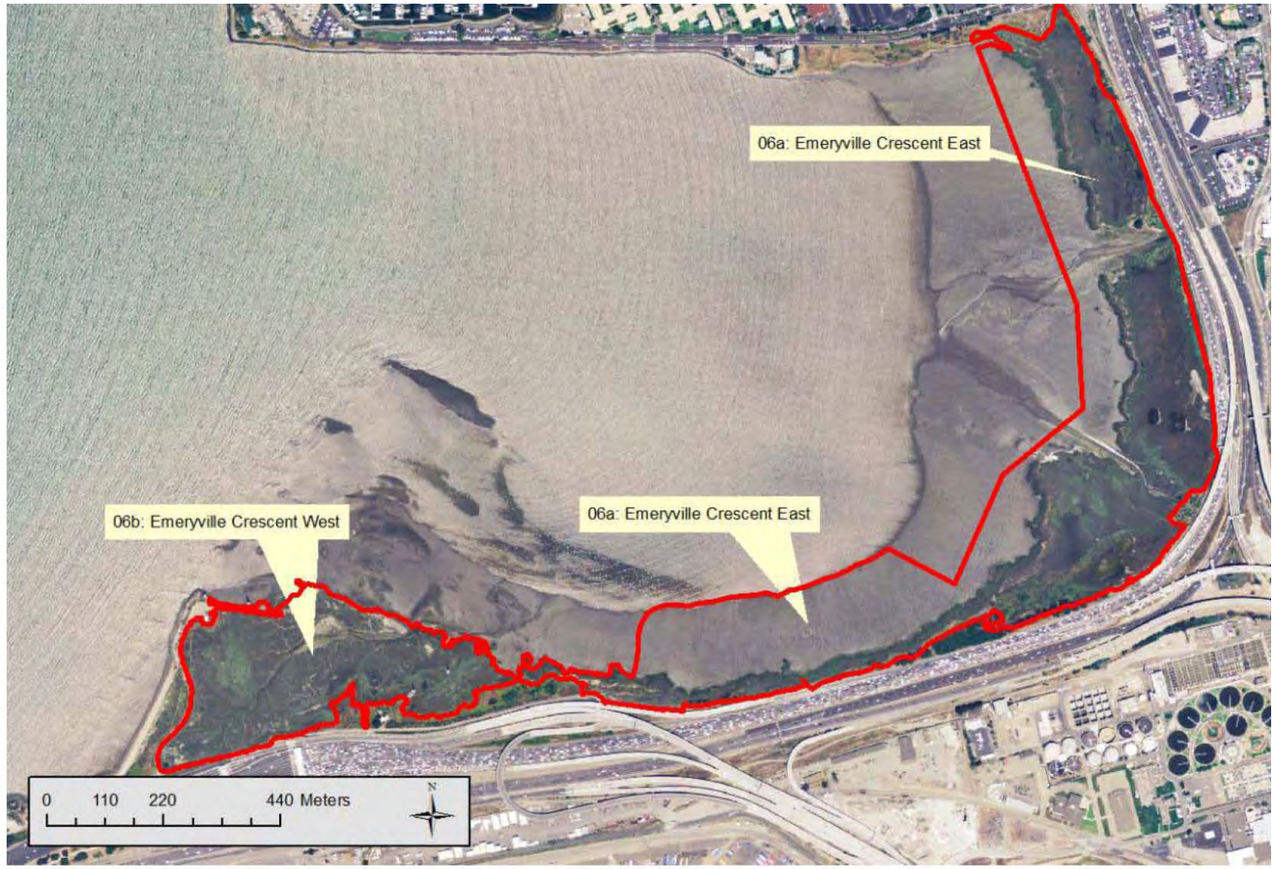
Join your friends—or meet new ones—by taking part in Golden Gate Audubon's 2009 Christmas Bird Counts: in Oakland on Sunday, December 20, and in San Francisco on Tuesday, December 29. Not only will you have an enjoyable day of birding, but you can cap it off with a delicious dinner where area leaders report results from the field, including the whereabouts of unusual species found that day.

Invitations to both counts have been sent to everyone who participated recently in either count. San Francisco co-compiler Dan Murphy urges prompt replies. "Christmas season is a busy time for all of us, so it really helps if you sign up online, and do it early," he says. "Remember, we welcome birders of every experience level."

This season marks the 110th year of Christmas Bird Counts. Each count attempts to identify and tally the birds within a defined 15-mile-diameter circle during one calendar day. Last year, thousands of volunteers counted nearly 60 million birds across the Americas and beyond. The National Audubon Society has made the results of all counts since 1900 accessible to everyone at www.audubon.org/bird/cbc/hr/index.html. Researchers and birdwatchers alike use the data to study changes in resident bird populations.

The Oakland count circle extends from Treasure Island northeast to the San Pablo Reservoir

CHRISTMAS COUNT continued on page 11



Gateway Park Area Project Study Report

Regeneration - Emeryville Crescent

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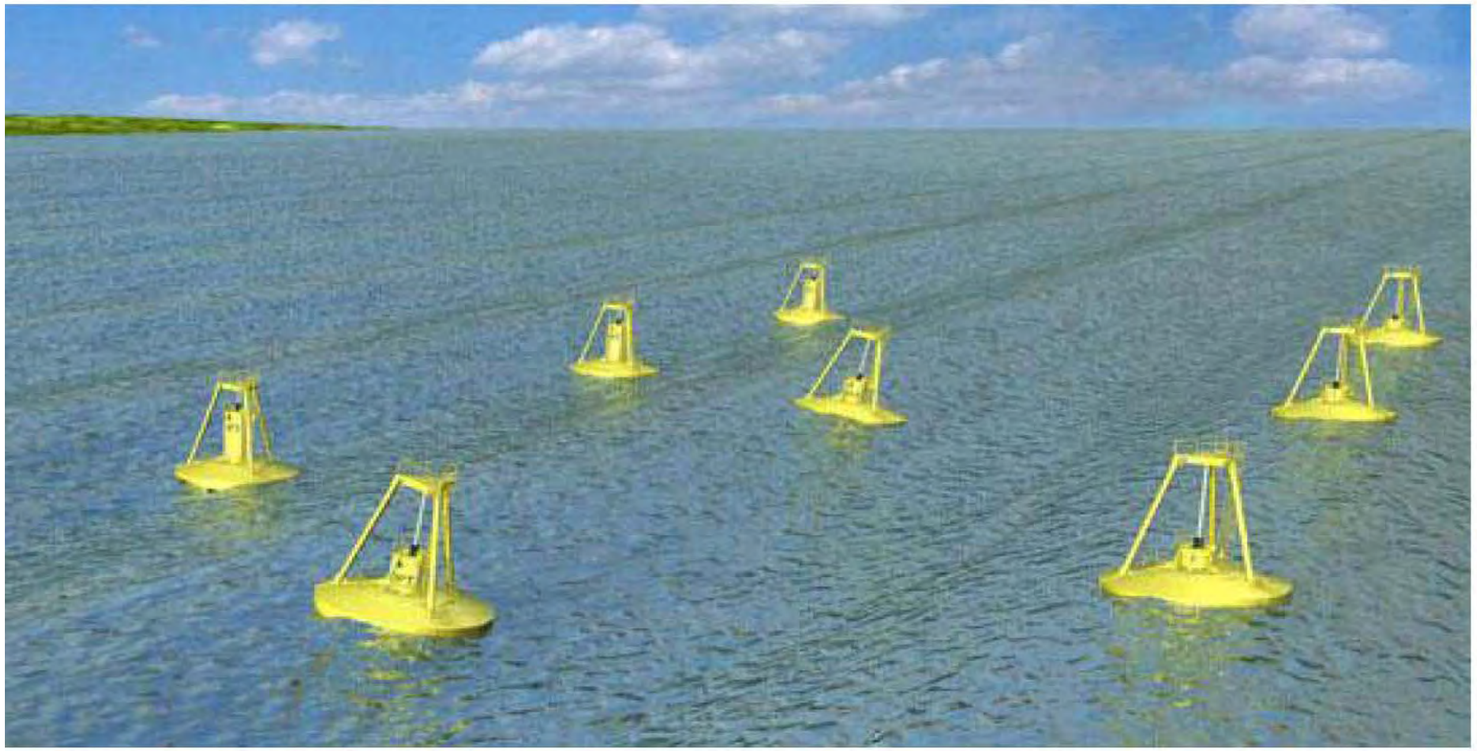

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Figure 81.

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Regeneration

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Site and Land

Water

Waste

Biodiversity

Energy

Materials

Transportation

Economy

Community

Education & Art

Food

Achievement

OPPORTUNITIES

THE SUSTAINABLE SITES INITIATIVE

LEED
LEADERSHIP IN ENERGY & ENVIRONMENTAL DESIGN

BAY-FRIENDLY
LANDSCAPING & GARDENING

METRICS

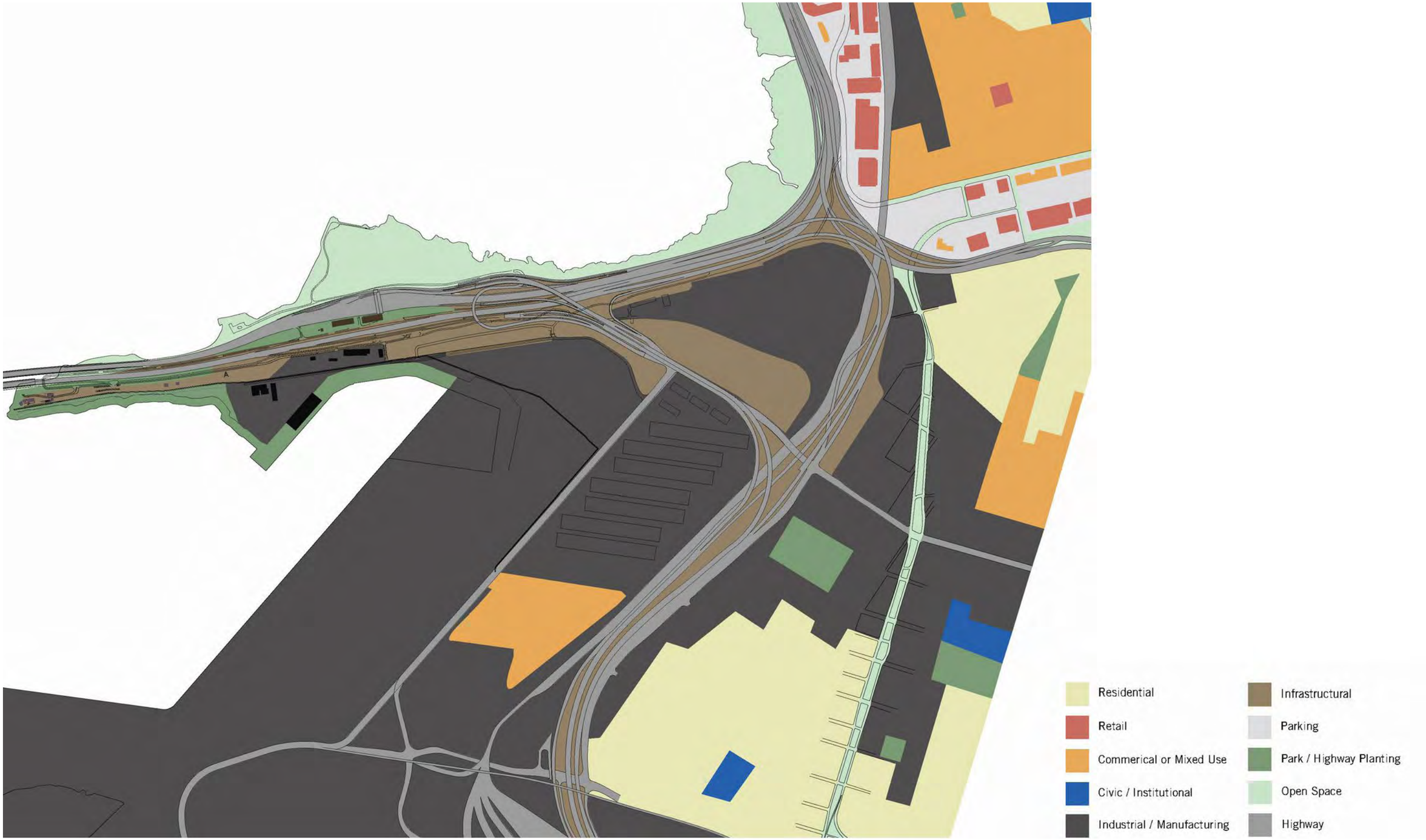

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Figure 83.

Gateway Park Area Project Study Report

Greening

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Greening

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PERMITTING CONDITIONS

1. INTRODUCTION

This permitting summary is designed to outline the potential permitting process for the Gateway Park project. The purpose of the section is to describe the permit and regulatory requirements for environmental compliance leading to the construction phase of the project. This section is organized to guide the project team through the regulatory process by introducing each regulatory agency, describing permitting requirements that could be applicable to the project and outlining the timing, sequence, and other requirements of permit compliance. While the permitting for this type of project can be complex and is not necessarily a linear process, this summary introduces the key agencies whose approval this project would most likely require first, followed by the permits that depend on their approval:

- California Environmental Quality Act (CEQA) compliance
- National Environmental Policy Act (NEPA) compliance
  - Section 106
  - Section 7
- U.S. Army Corps of Engineers
  - Section 404
  - Nationwide Permits
- Bay Conservation and Development Commission
- Regional Water Quality Control Board-San Francisco
  - Section 401
  - Section 402
- State Lands Commission
  - General lease Right-of-Way

2. CALIFORNIA ENVIRONMENTAL QUALITY ACT

Regulatory Authority

The basic goal of the California Environmental Quality Act (CEQA) (Pub. Res. Code §21000 *et seq*.) is to develop and maintain a high-quality environment now and in the future, while the specific goals of CEQA are for California's public agencies to: (1) identify the significant environmental effects of their actions; and, either (2) avoid those significant environmental effects, where feasible; or (3) mitigate those significant environmental effects, where feasible. All public agencies are required to comply with CEQA. For projects where there are multiple agencies involved, CEQA requires that a lead agency be selected.

CEQA applies to "projects" proposed to be undertaken or requiring approval by State and local government agencies. "Projects" are activities which have the potential to have a physical impact on the environment and may include the enactment of zoning ordinances, the issuance of conditional use permits and the approval of tentative subdivision maps.

Permitting Requirements

The most basic steps of the environmental review process are to: determine if the activity is a "project" subject to CEQA; determine if the "project" is exempt from CEQA; and perform an Initial Study to identify the environmental impacts of the project and determine whether the identified impacts are "significant". Based on its findings of "significance", the lead agency prepares one of the following environmental review documents: (a) Negative Declaration if it finds no "significant" impacts; (b) Mitigated Negative Declaration if it finds "significant" impacts but revises the project to avoid or mitigate those significant impacts; or (c) Environmental Impact Report (EIR) if it finds "significant" impacts.

Resource Area Concerns

- Aesthetics
- Air Quality
- Biological Resources
- Cultural Resources
- Geology and Soils
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Noise and Vibration
- Public Services and Utilities
- Recreation
- Transportation
- Growth

Timing, Sequence and Review of Other Required Permits

- If both a NEPA and CEQA document are required for this project, it is likely they will be prepared jointly.
- NEPA/CEQA documents will be prepared in advance of all other permits and will require approximately 1-2 years for completion.

Permit Checklist for joint NEPA/CEQA filing

- Review for exemptions/exclusions
- Initial Study/Environmental Assessment
- EA/EIR or EIS/EIR
  - Notice of Preparation/Intent
  - Scoping
  - Draft EA (or EIS)/EIR
  - Public and Agency Review
  - State Clearinghouse/EPA filing: Federal Register
  - Final EA (or EIS)//EIR
  - Review of Response by commenting agencies
  - Agency Decision
  - Findings/Record of Decision

3. NATIONAL ENVIRONMENTAL POLICY ACT

Regulatory Authority

The National Environmental Policy Act (NEPA) requires federal agencies to integrate environmental values into their decision making processes by considering the environmental impacts of their proposed actions and reasonable alternatives to those actions. Compliance with NEPA is required for a project that includes a federal permit or entitlement; federal funding; or on a project that a federal agency will undertake.

Permitting Requirements

NEPA

The NEPA process consists of an evaluation of the environmental effects of a federal undertaking including its alternatives. There are three levels of analysis depending on whether or not an undertaking could significantly affect the environment. These three levels include: categorical exclusion determination; preparation of an environmental assessment/finding of no significant impact (EA/FONSI); and preparation of an environmental impact statement (EIS).

At the first level, an undertaking may be categorically excluded from a detailed environmental analysis if it meets certain criteria which a federal agency has previously determined as having no significant environmental impact. A number of agencies have developed lists of actions which are normally categorically excluded from environmental evaluation under their NEPA regulations.

At the second level of analysis, a federal agency prepares a written environmental assessment (EA) to determine whether or not a federal undertaking would significantly affect the environment. If the answer is no, the agency issues a finding of no significant impact (FONSI). The FONSI may address measures which an agency will take to reduce (mitigate) potentially significant impacts.

If the EA determines that the environmental consequences of a proposed federal undertaking may be significant, an EIS is prepared. An EIS is a more detailed evaluation of the proposed action and alternatives. The public, other federal agencies and outside parties may provide input into the preparation of an EIS and then comment on the draft EIS when it is completed.

If a federal agency anticipates that an undertaking may significantly impact the environment, or if a project is environmentally controversial, a federal agency may choose to prepare an EIS without having to first prepare an EA.

After a final EIS is prepared and at the time of its decision, a federal agency will prepare a public record of its decision addressing how the findings of the EIS, including consideration of alternatives, were incorporated into the agency's decision-making process.

Section 106

The National Historic Preservation Act (NHPA) of 1966 (Public Law 89-665, as amended) and the National Environmental Policy Act of 1969 (Public Law 91-190) define the responsibilities of the federal government regarding preservation of cultural resources. The mandate to preserve cultural resources applies to both public and private lands.

Section 106 of the NHPA and the NHPA regulations contained in 36 CFR Part 800 require federal agencies for any federally-funded projects to consider the impacts on properties included in or potentially eligible for the National Register of Historic Places (NRHP). According to Sections 106 and 110 of the NHPA, it is necessary to evaluate all cultural resources within an Area of Potential Effects (APE) to assess their National Register eligibility. This evaluation process involves:

- Identifying all National Register-listed properties that might be affected by the proposed activity, as well as those that appear to meet eligibility criteria;
- Evaluating the potential eligibility of each property for inclusion in the NRHP, using 36 CFR 60.4. (Determinations of eligibility are based on a consultation process involving the lead federal agency, the State Historic Preservation Office (SHPO), and the Keeper of the National Register of Historic Places);

- Determining whether the proposed activity will affect historic properties that have been found to meet National Register criteria, defined in consultation with the SHPO; and
- Finding acceptable ways to reduce the harm (avoid or mitigate the adverse effect) to historic properties, in consultation with the SHPO.

Part 60.4 of Chapter I of Title 36 of the Code of Federal Regulations outlines the criteria for evaluating properties for possible inclusion in the NRHP as follows:

The quality of significance in American history, architecture, archeology and culture is present in districts, sites, buildings, structures, and objects of state and local importance that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and that:

- a. Are associated with events that have made a significant contribution to the broad patterns of history;
- b. Are associated with the lives of persons significant in the past;
- c. Embody the distinctive characteristics of a type, period, or method of construction, or that possess high artistic value, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- d. Have yielded, or may be likely to yield, information important in prehistory or history.

Under NEPA, the significance of historic and prehistoric cultural resources is judged in accordance with the criteria for eligibility to the National Register of Historic Places as defined in 36 CFR 60.4.[1] If such resources are determined to be significant, and therefore eligible for National Register listing, they are afforded certain protection under the National Historic Preservation Act (16 U.S.C 470F). The Advisory Council on Historic Preservation (ACHP) must be given an opportunity to comment on any federally-funded or permitted undertaking which could adversely affect such resources.

Timing and Sequence

- During the completion of the environmental document (CEQA/NEPA) confirm the Area of Potential Effect with the SHPO
- Submit permit applications after DEIR released for public review
- If there is a USACE permit application, submit that first to initiate consultation
- Initiate SHPO consultation
- Section 106 concurrence takes 6 months to 1 year

1 The NHRP criteria are used when complying with NHPA Section 106 projects with federal permits, approvals, funding or oversight.

4. SECTION 7 – ENDANGERED SPECIES ACT

Permitting Requirements

Section 7 of the federal Endangered Species Act (FESA) of 1973 as amended requires federal agencies, in consultation with U.S. Fish and Wildlife Service (USFWS) and National Oceanic and Atmospheric Administration (NOAA) Fisheries, to ensure that their actions do not jeopardize the continued existence of endangered or threatened species or result in destruction or adverse modification of the critical habitat of these species (16 USC 1536, 40 CFR part 402). It has not yet been determined if there are endangered or threatened species within the project area because the area of impact needs to be defined. In accordance with NEPA requirements for FESA compliance, consultation with USFWS and/or NOAA will occur. If formal consultation is required, a Biological Assessment will need to be prepared.

Timing and Sequence

- Minimum of 145 days for Formal Consultation (informal consultation can often be done during the preparation of the environmental document)
- Should anticipate 6 months to 1 year for Formal Consultation
- 6 months for Programmatic Biological Opinion
- Some take substantially longer

5. U.S. ARMY CORPS OF ENGINEERS

Regulatory Authority

Federal interest in water resources development is established by law. Wetlands and other waters, e.g., rivers, streams and natural ponds, are a subset of "waters of the U.S." and receive protection under Section 404 of the Clean Water Act. The U.S. Army Corps of Engineers (USACE) has primary Federal responsibility for administering regulations that concern waters of the U.S. In this regard, USACE acts under two statutory authorities, the Rivers and Harbors Act (Sections 9 and 10), which governs specified activities in "navigable waters," and the Clean Water Act (Section 404), which governs specified activities in "waters of the United States," including wetlands.

Section 404 of the Federal Clean Water Act regulates discharge of fill material into "waters of the United States" which include wetlands. Although the EPA is the responsible agency for implementing the Clean Water Act, the USACE is responsible for authorizing (permitting) a project that proposes filling of wetlands or other waters of the U.S. under Section 404 of the Act. There are several small areas within the project site that could prove to be jurisdictional wetlands.

Permitting Requirements

Clean Water Act Section 404

A section 404 permit may be required for this project because of the potential jurisdictional areas. Permits can be issued either as an individual permit designed particularly for the project and the project construction. In cases of minor impact a nationwide permit (NWP) (or permits) could be issued in lieu of an individual permit. An NWP is a form of general permit that authorizes a category of activities throughout the nation. The USACE would make this determination when presented with project parameters.

Resource Area Concerns

- Water quality and wetlands protection

Timing, Sequence and Review of Other Required Permits

- NEPA/CEQA documentation to be competed prior to USACE permits.
- Nationwide Permits require 3 months to 1 Year

6. CALIFORNIA COASTAL COMMISSION

Regulatory Authority

The San Francisco Bay Conservation and Development Commission (BCDC) has regulatory responsibility over development in San Francisco Bay and along the Bay's nine-county shoreline. BCDC is guided in its decisions by its law, the McAteer-Petris Act, the San Francisco Bay Plan, and other plans for specific areas around the Bay.

It is necessary to obtain a BCDC permit prior to undertaking most work in the Bay or within 100 feet of the shoreline, including filling, dredging, shoreline development and other work. There are several different types of permit applications, depending on the size, location, and impacts of a project.

The BCDC is responsible for administering the Federal Coastal Zone Management Act within the Bay.

Project Permitting Requirements

The size, location, and impacts of a project determine which type of permit is appropriate for a particular project. In turn, the type of permit that is applied for affects the information that must be provided to complete a permit application. A brief description of each type of permit follows.

Regionwide Permit *Routine maintenance* work that qualifies for approval under an existing Commission regionwide permit can be authorized in a very short period of time by the Commission's executive director without Commission review or a public hearing.

Administrative Permit An administrative permit can be issued for an activity that qualifies as a *minor repair or improvement* in a relatively short period of time and without a public hearing on the application. Although an administrative permit application can be processed quickly, the proposed project must be reviewed against the same policies that are used to determine whether a major permit can approved.

Major Permit A major permit is issued for work that is more extensive than a minor repair or improvement. A public hearing is held on an application for a major permit and the application may be reviewed at hearings held by the engineers and designers who advise the Commission.

Local Coastal Programs

Coastal cities and counties develop LCPs as the primary means for carrying out the policies of the Coastal Act. An LCP is a local government's (a) land use plans, (b) zoning ordinances, (c) zoning district maps, and (d) within sensitive coastal resources areas, other implementing actions, which, when taken together, meet the requirements of, and implement the provisions and policies of, the Coastal Act at the local level.

LCPs are the basic planning tools used to carry out the partnership between the State and local government as stewards of California's coastline. LCPs identify the location, type, densities and other groundrules for future development in the coastal zone portions of the 73 cities and counties along the coast. Each LCP includes a land-use plan and its implementing measures (e.g., zoning ordinances). Prepared by local government, these programs govern decisions that determine the short- and long-term conservation and use of coastal resources. While each LCP reflects unique characteristics of individual local coastal communities, regional and statewide interests and concerns must also be addressed in conformity with Coastal Act goals and policies.

Review of Public Works and Public Works Plan

After certification of LCP, require a Coastal Development Permit from any public utility, government agency of special district wishing to undertake any development in the Coastal Zone, with the exceptions of State Universities and colleges and development on public trust lands or tidelands as described in Section 30519(b) of the Coastal Act.

Public Works Plan option: designated to streamline special districts.

Federal Consistency Determination

The Federal Consistency Unit of the California Coastal Commission implements the federal Coastal Zone Management Act (CZMA) of 1972 as it applies to federal activities, development projects, permits and licenses, and support to state and local governments. During the NEPA compliance phase, a Coastal Commission consistency determination may be required for this project.

Resource Area Concerns

- Public Access
- Water Quality
- Protection of environmentally sensitive species habitat
- Aesthetics and impacts to visual resources
- Shoreline erosion and sea-level rise

Timing, Sequence and Review of Other Required Permits

- Permits for the BCDC will be submitted after compliance with the CEQA/NEPA permitting requirements.
- BCDC will review documents prepared under CEQA/NEPA requirements.
- If a §404 permit application for the U.S. Army Corps of Engineers (USACE) is required, the BCDC will review
- Federal Consistency Certifications review period may be up to **6 months**.

7. REGIONAL WATER QUALITY CONTROL BOARD – SAN FRANCISCO REGION 2

Regulatory Authority

The Regional Water Quality Control Board (RWQCB) regulates activities in wetlands and waters of the state under the Porter-Cologne Act. Under Section 401 of the Clean Water Act, the RWQCB has review authority of the USACE Section 404 permits. The SWRCB, acting through nine RWQCBs, must certify that a USACE permit action meets state water quality objectives. The San Francisco Bay RWQCB regulates water quality in the project area.

The RWQCB has a policy of no-net-loss of wetlands in effect and typically requires mitigation for all impacts to wetlands before it will issue a water quality certification. Dredging, filling, or excavation of isolated waters not protected under Section 404 of the Clean Water may constitute a discharge of waste to waters of the State, and prospective dischargers are required to submit a report of waste discharge to the RWQCB and comply with other requirements of Porter-Cologne.

The RWQCB is responsible for the protection of beneficial uses and the water quality of water resources within the San Francisco Bay region. The RWQCB administers the National Pollutant Discharge Elimination System (NPDES) stormwater permitting program and regulates stormwater in the San Francisco Bay region. The RWQCB also issues 401 certifications for projects that require Section 404 permit from USACE.

Clean Water Act

Under the Clean Water Act (CWA) of 1977, the U.S. Environmental Protection Agency (EPA) seeks to restore and maintain the chemical, physical, and biological integrity in the nation's waters. The statute employs a variety of regulatory and nonregulatory tools to reduce direct pollutant discharges into waterways, finance municipal wastewater treatment facilities, and manage polluted runoff. The CWA authorizes the EPA to implement water quality regulations. The NPDES permit program under section 402(p) of the CWA controls water pollution by regulating stormwater discharges into the waters of the U.S. California has an approved state NPDES program. The EPA has delegated authority for water permitting to the State Water Resources Control Board (SWRCB).

Section 401 of the CWA requires every applicant for a federal permit or license for an activity that may result in a discharge of pollutants to the waters of the U.S. (including permits under section 404 of the CWA). The purpose of the permit application is to obtain certification that the proposed activity will comply with the state water quality standards.

Project Permitting Requirements

Clean Water Act section 401

A Clean Water Act §401 Water Quality Certification would be required if areas within the project are determined to be part of the "waters of the United States" (see USACE section) Preparation of the Section 401 Water Quality Certification applications will require an application and supporting materials including construction techniques, areas of impact, and project schedule.

Clean Water Act section 402

A Clean Water Act §402 NPDES permit would be required for discharge of stormwater into the Bay during both project construction and operation.

Resource Area Concerns

- Water quality

Timing, Sequence and Review of Other Required Permits

- CEQA permit review
- Approximately 6 months for Clean Water Act §402 NPDES permit
- 60 days after application for Clean Water Act §401 water quality certification is deemed complete; up to one year of additional time may be requested
- Contact RWQCB staff before starting CEQA documentation
- RWQCB representative will notify within 30 days of receipt of application form whether application is complete

8. STATE LANDS COMMISSION

Regulatory Authority

The State Lands Commission (SLC) has jurisdiction and management control over those public lands of the State received by the State upon its admission to the United States in 1850 ("sovereign lands") (California Public Resources Code-Division 6 Public Lands).Generally these sovereign lands include all ungranted tidelands and submerged lands, beds of navigable rivers, streams, lakes, bays, estuaries, inlets and straits. The SLC manages these sovereign lands for the benefit of all the people of the State, subject to the Public Trust for water related commerce, navigation, fisheries, recreation, open space and other recognized Public Trust uses. The Gateway Park project may or may not impinge of State Lands jurisdictional lands, but the project area certainly includes these lands.

The issuance of any lease, permit or other entitlement for use of State lands by the SLC requires review for compliance with the California Environmental Quality Act (CEQA). No proposed project will be approved until the requirements of CEQA have been met. Additionally, if the application involves lands found to contain "Significant Environmental Values" within the meaning of the PRC Section 6370, consistency of the proposed use with the identified values must also be determined through the CEQA review process. Pursuant to its regulations the SLC may not issue a lease for use of "Significant Lands" if such use is detrimental to the identified values.

Project Permitting Requirements

General Lease Right-of-Way

A General Lease Right-of-Way is required for any project within the California State Lands Commission's jurisdiction. Any work below the ordinary high-water mark in areas that are subject to tidal action would be within their jurisdiction.

Resource Area Concerns

- Land Use
- Public Access

Timing, Sequence and Review of Other Required Permits

- State Lands Commission Lease of state lands application will be terminated if an application becomes inactive for a period of 6 months.
- Fees for ROW or Public Agency Lease from SLC may be $2,500-$3,000
- Requires CEQA documentation
- The processing time for a State Lands Commission General Lease – Right-of-Way ranges from one to three years.